Article

Environment and Planning A

Environment and Planning A
2017, Vol. 49(2) 407–425

DOI: 10.1177/0308518X16673839
journals.sagepub.com/home/epn

SAGE

Neighbourhood cohesion under the influx of migrants in Shanghai

Zheng Wang, Fangzhu Zhang and Fulong Wu
Bartlett School of Planning, University College London, London, UK

Abstract
This study explores the current neighbourhood cohesion in Chinese cities and how it might be affected by the influx of migrants. Our multilevel analysis is based on a 1420 sized household survey conducted in Shanghai in 2013. The results reveal that the influx of migrants does not generate all negative results contrasting existing literature where migrants tend to reduce cohesion in the neighbourhoods. Neighbourhoods with a higher share of migrant residents between 20 and 50% have the strongest cohesion potentially because local residents have adjusted to their migrant neighbours. Neighbourhood cohesion is also stronger in migrant-dominated enclaves with more than 50% migrants as migrant residents may have formed their own in-group community. Comparatively, local-dominated neighbourhoods are still adjusting to the gradual influx of migrants and therefore residents tend to have lower levels of social solidarity, sense of belonging and informal social control. Nevertheless, the strongest deterrent of cohesion is the prospect of displacement and lack of resources since low-income areas and traditional courtyard neighbourhoods, which face demolition and redevelopment, have the weakest cohesion.

Keywords
Neighbourhood cohesion, migrant concentration, social solidarity, community participation, urban China

Introduction

In Chinese cities there is growing concern, in particular, that the influx of migrant residents has led to the decline of social cohesion. This worry is reflected in the government's attempt to strengthen social cohesion at the grassroots level through policies such as community construction (Shieh and Friedmann, 2008) or the 'urbanising' (*shiminhua*) of migrant residents (Wu, 2012). Existing studies on urban China often report conflicts between migrants and native residents (Cheng and Selden, 1994; Roberts, 2002; Solinger, 1999) and the increasing transience and anonymity of social relations in general (Forrest and Yip, 2007). Housing reforms and the subsequent proliferation of private commodity

Corresponding author:
Zheng Wang, Bartlett School of Planning, University College London, Central House, 14 Upper Woburn Place, London, WC1H 0NN, UK.
Email: zheng.wang2008@ucl.ac.uk

estates are said to have significantly altered interpersonal relations as neighbourhood-based ties are diminishing (Hazelzet and Wissink, 2012; Li et al., 2012; Wu and Logan, 2016; Yip, 2012). In the Global North, low-income neighbourhoods and areas with many minority residents have traditionally been associated with weaker neighbourhood cohesion although there is no clear consensus on their respective effects (Gijsberts et al., 2012; Mennis et al., 2013; Putnam, 2007; Stafford et al., 2003; Tselios et al., 2015; Twigg et al., 2010). Migrant-dominated neighbourhoods and migrant enclaves are also forming in many Chinese cities due to the privatisation of housing and *hukou* restrictions preventing migrants from accessing public housing (Liao and Wong, 2015; Li and Wu, 2008). Moreover, many migrants choose to live alongside low-income native residents in dilapidated neighbourhoods, which emerged due to the closure of numerous state-owned enterprises and the retreat of work-unit-based governance (Wu et al., 2010). Although scholars are aware of such spatial transformations in China, few have questioned whether and how these neighbourhood changes may affect the neighbourhood cohesion of residents.

The purpose of this paper is to fill this knowledge gap and explore how the share of migrant residents in a neighbourhood and area poverty may be associated with neighbourhood cohesion in China. We rely on a randomly sampled survey of 1420 migrant and local residents in Shanghai during the summer of 2013 and conduct a multilevel analysis to examine the significance of both neighbourhood and individual-level factors. To better assess the multifaceted concept of neighbourhood cohesion, our study measures neighbourhood cohesion from five different aspects, namely, social solidarity, common values, social networks, sense belonging and informal social control (Forrest and Kearns, 2001). The novel contribution of this paper is twofold. First, whilst most studies have paid little attention to the influx of migrants this paper is the first to directly assess how the share of migrant residents may affect neighbourhood cohesion in urban China. Second, using Poulsen et al.'s (2001) absolute thresholds of minority segregation we classified neighbourhoods with varying degrees of migrant concentration into three types: isolated host communities, non-isolated host communities and migrant-dominated neighbourhoods. Interpreting migrant concentration as different *types* of neighbourhoods rather than a continuous *rate*, which is the prevalent method, helps to shed a new light on the relationship between residential diversity and neighbourhood cohesion in terms of their underlying mechanisms.

The paper is organised as follows. The next section reviews the significance of social cohesion and its mechanism and then moves on to discuss cohesion in Chinese cities, its potential determinants and how the increasing number of migrant residents may be related. The fourth section reports on the data and research method and in the following section the results of the multilevel model are presented. Finally, sixth section discusses the key findings and concludes with a contribution towards the debate surrounding the effect of migrant diversity on cohesion.

Neighbourhood cohesion and neighbourhood characteristics

There is no consensus regarding the definition of social cohesion although it is universally accepted that cohesive societies perform better compared to societies that lack cohesion (Fukuyama, 1999). It usually refers to ingredients that allow a society to 'hang together' and enables everyone to work towards collective well-being (Kearns and Forrest, 2000: 996). Forrest and Kearns (2001: 2128) suggest that such ingredients include shared sense of morality and common purpose, social control and social order, social solidarity, social interaction within communities or families, and a sense of belonging to the locality.

Whilst Kearns and Forrest (2000) believe that the domains of social cohesion are associated with different geographic scales, many studies focused on the neighbourhood level as an important arena for measuring social cohesion (Mennis et al., 2013; Twigg et al., 2010). To avoid ambiguities, our study uses the expression of neighbourhood cohesion to refer only to cohesion at the neighbourhood level.

The current debate on neighbourhood cohesion revolves around whether it is residential diversity or neighbourhood deprivation or both that lead to its decline (Mennis et al., 2013; Putnam, 2007; Stafford et al., 2003; Tselios et al., 2015; Twigg et al., 2010). Increased competition for limited public resources and fears of being discriminated against or being exploited are the main reasons why residents in poor neighbourhoods feel less cohesive (Gijsberts et al., 2012; Putnam, 2007; Stafford et al., 2003). On the other hand, there are three explanations regarding the negative effect of ethnic diversity. First, native residents feel threatened from minority residents who they assume will compete with them for limited resources (Putnam, 2007) and second associate the increase of 'outsiders' with liabilities of increased crime, deterioration and instability (Gijsberts et al., 2012). Finally, residents in more diverse neighbourhoods tend to have stronger feelings of anomie due to lack of shared experiences and diversity in social norms and practices (Alesina and La Ferrara, 2002; McPherson et al., 2001). Although claims from different studies are often contradictory, the majority of studies found that both diversity and deprivation are negative determinants, whereby the effect of poverty is comparatively more detrimental (Stafford et al., 2003; Tselios et al., 2015; Twigg et al., 2010). In the UK, Twigg et al. (2010) found that social cohesion is negatively affected by higher ethnic diversity and stronger deprivation of a neighbourhood although poverty is of greater significance. Tselios et al. (2015), on the other hand, found that community engagement and sense of belonging are negatively affected by both ethnic diversity and poverty and that native residents are more affected compared to immigrants.

So far the majority of studies have examined minority concentration as a continuous variable focusing on the overall effect of minority concentration on cohesion. The outcome is often explained through one set of mechanism that is universally applicable to all neighbourhoods. A potential drawback of this approach may be that it ignores how the relationship between concentration and cohesion may be different in neighbourhoods with varying degrees of concentration. Increasingly some evidence signal that the relationship between minority concentration and cohesion may be fundamentally different depending on the *actual intensity* of minority concentration. For instance, studies on migrant enclaves, which have an extremely high share of migrant residents, suggest that enclaves do not necessarily lack cohesion amongst its residents as migrant residents have formed their own in-group community, which is more pragmatically oriented and based on solidarity and mutual support (Kempen and Özüekren, 1998; Logan et al., 2002). On the other hand, studies from countries with moderate levels of ethnic segregation such as the Netherlands reveal that the minority concentration of a neighbourhood hardly affects the social and economic integration of ethnic minorities, such as education level and labour market participation (Musterd, 2003). Such findings may signal that the absolute threshold of ethnic segregation (Poulsen et al., 2001) within a neighbourhood could play an important role in whether and how migrant concentration may affect neighbourhood cohesion.

Migrant influx and social cohesion in Chinese cities

The concept of social cohesion has not appeared much in the urban China literature but some of its indicators have been explored. For instance, as part of a neighbourhood's sense

of community Yip (2012) examined the sense of belonging and neighbourly relations of residents. Yip (2012: 233) found that middle-class residents in commodity estates have left state-governed neighbourhoods such as work-unit estates and formed a different kind of community. The purpose of such communities is often to defend against larger market actors such as private developers and property management agencies. Findings further show that commodity neighbourhoods have higher level of residential satisfaction and attachment (Breitung, 2012; Li et al., 2012; Zhu et al., 2012). This is usually fostered by a shared social identity as middle-class homeowners belonging to a 'civilised' neighbourhood (Pow, 2007). Neighbourly relations, on the other hand, tend be more frequent in older neighbourhoods such as traditional courtyard estates where residents still retain some habits from China's pre-transition era (Forrest and Yip, 2007; Li et al., 2012; Wang et al., 2016a). The general consensus is that China's abolishment of the work-unit system and the privatisation of housing provision have created communities that rely on a common social identity, attachment to the physical qualities of private estates and collective actions against other market actors (Breitung, 2012; Li et al., 2012; Xu et al., 2010; Yip, 2012; Zhu et al., 2012). Social cohesion therefore continues to exist in a commoditised China but simply in a different form. Aspects such as neighbourly relations are diminishing with the demolition and redevelopment of old neighbourhoods (Wu and He, 2005) and will naturally fade away along with the socialist legacy of the work-unit system.

Whilst we agree with the existing literature, we contend that community studies so far have not paid enough attention to the influx of migrant residents as a form of neighbourhood change that may affect social cohesion. The emergence of commodity estates has freed middle-class residents from neighbourhood-based communities governed by the state (Li et al., 2012) but also led to a residential segregation based on tenure and socio-economic status (Li and Wu, 2008). Recent evidence from the sixth census indicates that the demolition of poor and old settlements in inner cities has considerably reduced the number of affordable migrant accommodation and has led to the emergence of migrant-dominated neighbourhoods (Liao and Wong, 2015). Although so far no study on urban China has examined how cohesion may vary across neighbourhoods with different levels of migrant concentration, some initial studies conducted in urban villages show a less straightforward relationship between migrant influx and social cohesion. Migrants living in urban villages tend to have very close relations with other migrant neighbours due to the need for self-help whilst being isolated from the native population (Chung, 2010; Liu et al., 2012). However, despite poorer intergroup relations migrants living in urban villages have fairly high residential satisfaction (Li and Wu, 2013). Local villagers in urban villages, who are the landlords and make up the other major resident group, tend to have a very close-knit relationship with fellow villagers but have little interaction with migrants (Chung, 2010). Other research (Cheng and Selden, 1994; Roberts, 2002; Solinger, 1999) also suggest that urban residents feel the city has become more dangerous due to the influx migrants, which is why migrants are actively being discriminated against by native residents. Such evidence may signal that the influx of migrants has negatively affected the cohesion in Chinese neighbourhoods. Consequently, *our first hypothesis assumes that neighbourhoods with higher shares of migrant residents have weaker neighbourhood cohesion*.

However, similar to multiethnic societies, it is important to take into account the often intertwined factors of migrant concentration and neighbourhood poverty (Mennis et al., 2013; Stafford et al., 2003; Tselios et al., 2015; Twigg et al., 2010) since in Shanghai migrants often live in low-income settlements. The retreat of the state as a service provider meant that numerous work-unit-owned estates deteriorated due to lack of housing maintenance (Wu et al., 2010). The resulting lower rents in low-income neighbourhoods attracted a substantial

share of rural migrant residents to live alongside natives who cannot afford to move out (Wu and He, 2005). Using data collected in low-income neighbourhoods from six different Chinese cities, Wu (2012) found that compared to the working population, unemployed residents are significantly less likely to feel attached to the neighbourhood, signalling that poverty reduces the sense of belonging of residents. In addition, migrants are also less likely to feel attached to the neighbourhood although they express the wish to stay in the locality. Similar to empirical evidence from the Global North (Tselios et al., 2015; Twigg et al., 2010), Wu's (2012) findings indicate that neighbourhood poverty is a negative indicator of social cohesion in urban China. Based on international and Chinese findings, *our second hypothesis is that low-income neighbourhoods are negatively associated with the neighbourhood cohesion*.

Data and methods

Our analysis relies on a survey conducted in 2013 in Shanghai, which is amongst the cities most challenged by the large influx of migrants as more than 40% of the total population are migrants (NBS, 2010). Furthermore, Shanghai's diverse neighbourhood types such as traditional courtyards and commodity estates accommodate varying shares of migrant residents (Migrant Population Commission, 2012) and are thus useful for the purpose of this study. Professionally trained former staff members of the Shanghai Statistical Bureau (SSB) carried out the household survey and were led by a former survey officer of the SSB urban livelihood survey team. The survey adopted a *two-stage sampling strategy* so as to maximise the representativeness of the sample. For the first stage, all sub-districts (both jiedao and zhen) were categorised into three areas for stratified sampling: the inner city (inside the inner ring road), the inner suburb (between inner and outer ring roads) and the outer suburb (outside the outer ring road). The number of sub-districts selected in each category was proportional to the size of each area's population (the data are based on the 2010 Shanghai population census). In each category, sub-districts were sorted according to their *income per capita*, *population size* and the *proportion of local hukou population*. We used the probability proportionate to size method to select sub-districts. Our final sample of 35 sub-districts was chosen out of a total of 225 sub-districts from 12 districts in Shanghai (see Figure 1). In each sub-district, one juweihui was chosen out of the total number of juweihuis of the respective sub-district. For the second stage, we sampled households in each selected juweihui at a fixed interval, beginning from a random street number in order to approximate the sample's distribution to the locality's actual population. We used an address-based selection approach instead of the official registration list because the official registration list does not include temporary and migrant residents.

Forty questionnaires were distributed for each neighbourhood. Although the population of each juweihui is fairly similar, there are still outlier cases. Therefore, to avoid any biases due to varying population sizes of juweihuis, our analysis weighted for the total population in each respective neighbourhood. The head of household answered the survey and members of the residential committee helped introduce surveyors to interview households, resulting in a high success rate (95%). A total of 1420 valid samples were produced in total whereby 1046 are residents holding an urban *hukou*, 128 Shanghai rural *hukou* holders (i.e. rural villagers) and 244 migrant residents amongst which 86 were urban migrants and 158 were rural migrants. Due to irregular and long working hours, surveyors were unable to interview sufficient migrant households. To ensure that there is no systemic lack of any migrant group, we revisited several neighbourhoods where the share of migrant respondents was considerably lower than the official data and interviewed 100 extra migrant respondents.

A comparison of our sample with the official statistics (Appendix 1) shows that our survey sample is still fairly representative and that this drawback does not significantly impede on our objective to examine whether the influx of migrants has affected the social cohesion of local residents.

We employ a mixed effects linear regression also known as multilevel modelling. Multilevel modelling is preferred over an OLS model as it decreases correlation errors and biased estimates of parameter caused by the grouping of variables at higher levels (Raudenbush and Bryk, 2002). Furthermore, a multilevel model allows the exploration of both individual and neighbourhood variances (Raudenbush and Bryk, 2002). Previous studies researching contextual determinants have also adopted the multilevel approach due to these substantial advantages (Mennis et al., 2013; Tselios et al., 2015). Our study's purpose is to explore how the share of migrant concentration and neighbourhood deprivation therefore calls for a multilevel approach. The mixed effect linear model used in this study can be expressed as the following equation

$$y_{ij} = \beta_{0ij} + \beta_1 x_{1ij} + \beta_2 x_{2j} + u_j + e_{ij}$$

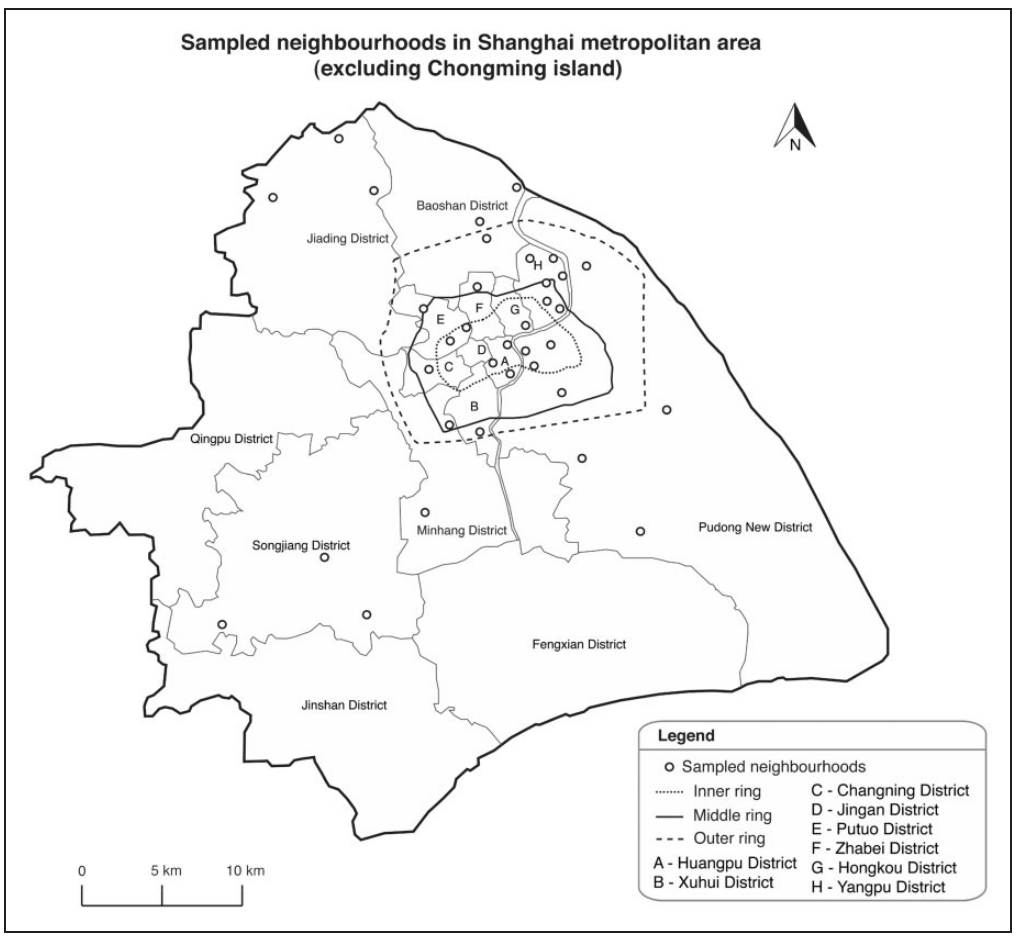

Figure 1. Distribution of sampled neighbourhoods in Shanghai.

where i denotes that variable varies between individual (level 1) and j denotes that variable varies between juweihui (level 2) and is constant for all respondents within a given neighbourhood. $\beta_1 x_{1ij}$ are individual predictor variables such as age or income.

$\beta_2 x_{2j}$ are neighbourhood level predictors such as the poverty rate of the area or the migrant concentration of an area. u_j is the level 2 residual and e_{ij} is the level 1 residual.

Defining neighbourhood cohesion

We adopted Buckner's (1988) list of neighbourhood cohesion to the Chinese context and asked 12 questions to residents measured on a scale from 0 to 5 whereby 1 is highly disagree, 5 is highly agree and 0 is not applicable. Contrasting to the conventional approach of grouping all indicators together into one continuous variable (Mennis et al., 2013; Yip, 2012), we divided cohesion into several more nuanced domains. The rationale for doing so is because some scholars contend that social cohesion consists of various positively interlinked aspects, which differ in terms of their underlying dynamics (Forrest and Kearns, 2001). The grouping of the variables is largely based on Kearns and Forrest's (2000) five dimensions of social cohesion and partly on Twigg et al.'s (2010) research on informal social control (see Table 1). We conducted a reliability test (Cronbach, 1951; Twigg et al., 2010) to ensure that the grouping of the indicators into five domains is statistically justified. The Cronbach alpha values (Table 1) show that the grouping is acceptable as all values are above the 0.6 level (Saleem and Bobak, 2005; Setbon and Raude, 2010; Sturmey et al., 2005).

Table 1. Dependent variables: The domains of neighbourhood cohesion.

	Cronbach's α	Mean	S.D.	min	max	Questions
Common values	0.70	10.06	2.10	3	15	People in this neighbourhood have the same values and habits I care about how my neighbours think of me Being a part of the community is important to me
Informal social control	0.73	6.35	1.41	2	10	My family and I participate in community activities If there are problems, residents solve them together
Social Solidarity	0.73	10.77	1.75	3	15	People in this neighbourhood treat my family very well I can receive help from my neighbours Members of the community care about each other
Social networks	0.91	6.89	1.81	2	10	I know many people in this neighbourhood Many people in this neighbourhood know me
Sense of belonging	0.64	7.31	1.52	2	10	I feel that I belong to this place I want to live in this neighbourhood for a long time

Common values refers to how much residents share similar values and belief, which in turn helps local communities to work towards shared goals and to foster a civic culture (Kearns and Forrest, 2000: 997). Questions related to similar values, caring of one's reputation amongst neighbours and the importance of being a part of the community were thus assigned to this section. *Informal social control* refers to residents' willingness to act collective and solve problems together (previously adopted by Twigg et al. (2010)). Variables concerned with community participation and perceived collective action taking were grouped together. *Social solidarity* relates to a resident's interest in their neighbours' well-being and willingness to provide assistance when necessary (Kearns and Forrest, 2000: 999), thus we grouped questions on mutual care, support and friendliness. In our study *social networks* refer to the number of people a respondent knows and how many neighbours know the respondent as an indication of one's local network size. The assumption is that the more people one knows, the more likely the individual is to feel social solidarity towards their neighbours and participate in collective actions (Kearns and Forrest, 2000: 1000). Finally, we asked respondents about their sense of belonging and willingness to stay in the neighbourhood to represent sense of belonging. The general assumption is that a stronger sense of belonging contributes positively towards common values and willingness to invest into the neighbourhood (Kearns and Forrest, 2000: 1001).

Neighbourhood attributes

The three neighbourhood variables used in this study were acquired from the respective juweihui, which is the de facto local government and in charge of collecting local statistics. To explore neighbourhood poverty, we follow Wu et al. (2010) and measure the number of minimum living standard support (MLSS) recipients in each juweihui. The variable neighbourhood type was included as earlier studies showed that they are significantly associated with social cohesion and neighbourly relations (Li et al., 2012; Yip, 2012) and is categorised into the following: traditional courtyard housing, relocation settlements, work-unit housing, urban villages and commodity neighbourhoods. A further purpose of including neighbourhood type is because the number of MLSS does not fully reflect urban poverty, as only residents with a Shanghai *hukou* are eligible for MLSS. Using urban villages as a proxy for the poverty of rural migrants is therefore necessary (Wu et al., 2010: 140). Finally, to measure the influx of migrant residents we use the percentage of migrant residents in the juweihui. It is important to note that the neighbourhood type refers to the actual residential neighbourhood (xiaoqu) visited whilst the other two are at the juweihui level. The reason is because data regarding migrant concentration and MLSS recipients were only available at the juweihui level. Our final sample yielded 35 housing types (i.e. one housing type per juweihui). In most cases, the housing type of juweihuis is relatively homogeneous and it is relatively rare that one juweihui is in charge of several neighbourhood types. For instance, new commodity housing estates usually require a new juweihui to be created. Consequently, we believe that the housing type we collected is representative of their respective juweihuis and that in statistical terms there is no significant difference between the three contextual variables. Nevertheless, future studies can aim to acquire even finer resolution data. To analyse how neighbourhoods with different levels of migrant concentration may affect neighbourhood cohesion, we adopt Poulsen et al.'s (2001) classification of ethnic segregation to the Chinese context. Since our primary interest is the influx of *domestic* migrants, we altered Poulsen et al.'s classification and divided neighbourhoods according to three levels of migrant segregation. Neighbourhoods with a migrant share between 0 and 20% are *isolated host communities*, 20 and 50% are *non-isolated*

host communities and from 50% onwards we classify them as *migrant-dominated enclaves* (Poulsen et al., 2001). The rationale to divide neighbourhoods into three categories is based on earlier studies which suggest that migrant enclaves in China such as urban villages differ greatly from mainstream neighbourhoods in various aspects including its residential composition and neighbourly relations (Chung, 2010; Forrest and Yip, 2007).

Individual level control variables

Individual level variables include demographic (age, gender; number of family members) and socio-economic characteristics (education, income, tenure, *hukou* status) and the length of residency. All variables have been standardised. *Hukou* status is categorised as native urban (local non-agricultural), native rural (local agricultural), rural migrant (non-local agricultural) and urban migrant (non-local non-agricultural). We defined migrants as those who do not hold a local hukou although we also differentiate between urban and rural hukou migrants. However, we distinguish between urban migrants from other cities and rural migrants due to their potentially different socio-economic status. For our analysis, we also added interaction terms between *hukou* status, income, area poverty and migrant concentration. This is to take into account the possibility that migrant residents may have different underlying dynamics with regards to social cohesion.

Multilevel modelling results

We conducted two sets of modelling whereby migrant concentration was treated both as a continuous variable (Table 2) in order to determine the overall migration effects and as an ordinal variable following Poulsen et al.'s (2001) classification (Table 3) so as to explore the nuanced differences of cohesion between neighbourhoods with varying degrees of migrant concentration.[1] To ensure that Poulsen et al.'s classification is statistically justified, we ran the multilevel models using migrant concentration as an ordinal variable with different threshold levels and compared their relative model fit using Akaike's Information Criteria (AIC) and Bayesian Information Criteria (BIC). Poulsen et al.'s (2001) classification performed the best except for the common values model, where migrant concentration as a continuous variable was the best fit. We excluded any interaction terms that did not significantly contribute to the goodness of fit of the model including income and migrant concentration. We tested all models for multicollinearity by running an OLS model first and assessing the VIF value. The results suggest that there is no multicollinearity issue as no variable exceeded the critical VIF threshold of 10. Using a likelihood ratio (LR) test, we assessed whether using a multilevel approach is more suited than a standard OLS regression. The LR test reveals that the multilevel model performs better than the OLS model since the result significantly rejects the null hypothesis ($p < 0.001$).

Individual determinants

Most of the significant individual determinants of neighbourhood cohesion conform to existing studies. Older age and homeownership are associated with more cohesive communities (Mennis et al., 2013; Tselios et al., 2015; Twigg et al., 2010). Female residents tend to feel stronger social solidarity (Mennis et al., 2013), whilst native residents generally have stronger social cohesion compared to rural migrants (Wu, 2012). Length of residency is positively related to social network whilst the rest have insignificant and negative values. Earlier studies found that length of residency is either negative (Twigg

Table 2. A mixed effects linear regression of determinants of neighbourhood cohesion (migrant concentration as a continuous variable).

	(M1) Social solidarity B	(M2) Common values B	(M3) Sense of belonging B	(M4) Social network B	(M5) Informal social control B
Constant	−0.409**	−0.385*	0.041	−0.312	−0.231
Neighbourhood level					
Area poverty	−0.263**	−0.564***	−0.263**	−0.079	−0.542***
Migrant concentration	0.178	0.350*	0.164	0.186	0.611***
Neighbourhood type (base: traditional courtyards)					
Work unit	0.395***	0.163	−0.311*	−0.031	−0.078
Urban villages	0.320***	0.060	−0.015	0.565**	−0.254***
Relocation housing	0.205	0.170	−0.231	−0.090	−0.117
Commodity housing	0.309***	0.136	−0.297*	0.0268	−0.091
Individual level					
Age	0.079*	0.056	0.141***	0.066	0.057
Gender (base: Male)					
Female	0.129**	0.061	0.043	−0.019	−0.047
Length of residency	−0.003	0.003	−0.007	0.158***	0.013
Hukou status (base: Rural migrant hukou)					
Local urban hukou	0.094	0.285*	0.266*	0.323**	0.486**
Local rural hukou	0.199	0.303*	0.434***	0.480***	0.532*
Urban migrant hukou	0.124	0.168	0.208	0.103	0.280
Head education level	0.035	0.005	0.023	−0.039	0.005
Head income (log)	−0.098*	−0.024	−0.063	−0.058	−0.138***
Tenure (base: Owner)					
Tenant	−0.078	−0.072	−0.374***	−0.075	−0.063
No. of family members	0.027	0.045	0.078**	0.079**	0.057*
Interaction: Hukou and area poverty (base: Rural migrant hukou)					
Local urban hukou	0.153	0.269***	0.202***	0.183***	0.201***
Local rural hukou	0.154*	0.286***	0.210***	0.133**	0.170**
Urban migrant hukou	0.052	0.228	0.191	−0.002	0.077
Within area variance	0.707	0.571	0.596	0.602	0.784
Between area variance	0.210	0.484	0.219	0.188	0.320
Observations	1336	1307	1340	1346	1309
AIC	399,746.9	353,233	372,122	376,512.4	409,274
BIC	399,861.3	353,346.9	372,236.4	376,626.9	409,360.9

AIC: Akaike's Information Criteria; BIC: Bayesian Information Criteria.
Notes: *$p < 0.1$; **$p < 0.05$; ***$p < 0.01$; significance $p < 0.001$.

et al., 2010: 1431) or insignificant (Yip, 2012) signalling that longer residency only ensures a wider social network but not necessarily stronger sense of belonging or collective action taking. Higher income is negatively associated with neighbourhood cohesion, contradicting with some recent studies in America and Britain (Mennis et al., 2013; Twigg et al., 2010) but confirming studies on urban China (Li et al., 2012). The reason could be that affluent Chinese residents tend to be less involved in the locality due to their existing citywide social network and their stronger preference for privacy when at home. Our finding on affluent Chinese residents resembles (Baumgartner, 1989: 8) observation of American suburbanites who tend to be of higher social class and less locally involved.

Table 3. A mixed effects linear regression of determinants of neighbourhood cohesion (migrant concentration as an ordinal variable).

	(M6) Social solidarity B	(M7) Common values B	(M8) Sense of belonging B	(M9) Social network B	(M10) Informal Social control B
Constant	−0.681***	−0.597*	−0.149	−0.511*	−0.599**
Neighbourhood level					
Area poverty	−0.239***	−0.431***	−0.185**	0.001	−0.343***
Migrant concentration (base: 0–20%)					
50–76%	0.614***	0.473	0.269*	0.447*	0.904***
20–50%	0.595***	0.490	0.495***	0.748***	0.789**
Neighbourhood type (base: Traditional courtyards)					
Work unit	0.295**	0.062	−0.396**	−0.151	−0.238
Urban villages	0.066	−0.127	−0.234	0.231	−0.520*
Relocation housing	0.133	0.077	−0.303*	−0.185	−0.269
Commodity housing	0.249***	0.061	−0.361***	−0.057	−0.239
Individual level					
Age	0.082*	0.057*	0.143***	0.071	0.058
Gender (base: Male)					
Female	0.127**	0.060	0.042	−0.020	−0.035
Length of residency	−0.014	−0.008	−0.015	0.145***	−0.005
Hukou status (base: Rural migrant hukou)					
Local urban hukou	0.102	0.276*	0.270*	0.329**	0.479**
Local rural hukou	0.157	0.207	0.395***	0.430**	0.361
Urban migrant hukou	0.110	0.146	0.196	0.078	0.245
Head education level	0.034	0.005	0.019	−0.032	0.002
Head income (log)	−0.095*	−0.027	−0.062	−0.053	−0.134***
Tenure (base: Owner)					
Tenant	−0.091	−0.066	−0.385***	−0.073	−0.050
No. of family members	0.026	0.046	0.078**	0.079**	0.056*
Interaction: Hukou and area poverty (base: Rural migrant hukou)					
Local urban hukou	0.157	0.285***	0.205***	0.184***	0.235***
Local rural hukou	0.174**	0.331***	0.229***	0.151***	0.255***
Urban migrant hukou	0.034	0.226	0.176	−0.023	0.082
Within area variance	0.704	0.571	0.593	0.596	0.787
Between area variance	0.288	0.508	0.293	0.301	0.236
Observations	1336	1307	1340	1346	1309
AIC	399,103.6	353,385.9	371,413.5	374,819.2	409,137.6
BIC	399,223.1	353,504.9	371533.1	374,938.9	409,256.7

AIC: Akaike's Information Criteria; BIC: Bayesian Information Criteria.
Notes: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$; significance $p < 0.001$

Migrant concentration and neighbourhood cohesion

Overall, the association between migrant concentration and neighbourhood cohesion is positive as models 2 and 5 (Table 2) reveal that the overall impact of migrant concentration is positive for common values ($p < 0.1$) and informal social control ($p < 0.01$). Moreover, models 6 and 8–10 show that concentration threshold is also highly significant as compared to isolated communities (0–20%); non-isolated host communities with a migrant resident share between 20 and 50% have the most significant association with

higher neighbourhood cohesion. Models 6 and 8 show that living in a non-isolated host community neighbourhood increases social solidarity amongst residents by 0.595 unit ($p < 0.01$) and the sense of belonging by 0.495 unit ($p < 0.01$). Model 9 reveals that the likelihood that most residents know each other is highest in non-isolated host neighbourhoods ($p < 0.01$) whilst higher informal social control is also positively associated with non-isolated communities (Table 3). We speculate that the higher presence of migrant residents in non-isolated neighbourhoods may have increased the interaction between local and migrant residents due to higher chances of encounter. Moreover, the high share of migrant residents indicates that the influx of migrant residents must have taken place over a longer time period and allowed local residents to adjust to their migrant neighbours. In contrast, residents in isolated host neighbourhoods may have just begun to experience the influx of migrant residents and therefore feel more threatened by the residential change in their neighbourhood. This in turn may have reduced the social solidarity and social network of existing residents.

On the other hand, compared to isolated host neighbourhoods, migrant-dominated enclaves (50–76%) are less significantly associated with higher neighbourhood cohesion, with the exception of social solidarity ($p < 0.01$) and informal social control ($p < 0.01$). Considering the high presence of migrants, this outcome may signal that migrant residents have created their own enclave community. Existing studies confirm this speculation as residents in migrant enclaves often rely on the social network with fellow migrant residents (Kempen and Özüekren, 1998; Logan et al., 2002). This would also explain why informal social control and social solidarity are significantly related to migrant enclaves since in China such neighbourhoods tend to be more informal and less controlled by the state. Consequently, the governance and day-to-day maintenance of such neighbourhoods require more collective input from residents who are also more dependent on local social relations.

Difference between migrant concentration as a continuous and as an ordinal variable

Overall Poulsen et al.'s (2001) classification of migrant concentration has a better fit than a continuous variable (except for common values) which can be seen by the smaller AIC and BIC values. Only informal social control ($p < 0.01$) and common values ($p < 0.1$) are significantly related with migrant concentration as a continuous variable (see models 2 and 5) whilst neighbourhood type plays a more significant and potentially inflated role in the continuous models (Table 1). Compared to traditional courtyards, urban village has a significantly positive relationship with social solidarity (model 1, $p < 0.01$) and social network (model 4, $p < 0.05$) and a significantly negative relationship with informal social control (model 5, $p < 0.01$). This significance drops considerably once migrant concentration is treated as an ordinal variable. We speculate that cohesion may be only stronger in urban villages that have a high concentration of migrant residents (50–76% migrants). Urban villages with fewer migrant residents and inhabited by other types of residents (i.e. students or white-collar residents) do not significantly differ from traditional courtyards. The reason could be because rural migrants are more likely to form local relations with fellow migrants than, for instance, students and white-collar residents who have a more dispersed social network. The same explanation may also apply to the change in significance of work-unit neighbourhoods on social solidarity (model 1) and sense of belonging (model 3) as well as commodity estates on sense of belonging. Finally, the significance of local rural hukou holder is also higher in the continuous models (models 2, 4 and 5), whereas their significance drops in the ordinal models (models 7, 9 and 10). The reason could be because most local rural hukou holders living in urban villages still have

a tight-knit community whilst relocated residents are less involved in the community (Liu et al., 2016).

Controlling for neighbourhood poverty and neighbourhood housing type

Almost all domains of social cohesion, apart from the social network of residents, are negatively associated with the poverty of a neighbourhood at a very significant level. The result confirms our *second hypothesis* since residents living in poorer areas are significantly less likely to feel a strong sense of belonging to the neighbourhood ($p < 0.05$) or share any common values and habits with their neighbours ($p < 0.01$). For instance, a 1 unit increase in the number of MLSS recipients in an area is significantly correlated with a 0.43 unit decrease of shared values amongst residents. Informal social control ($p < 0.01$) and feelings of mutual solidarity ($p < 0.01$) are also significantly lower in more deprived areas signalling that residents in poorer areas feel more isolated from their immediate surrounding possibly due to a heightened sense of competition for limited resources.

The interaction between *hukou* status and area poverty further reveals that in poor neighbourhoods rural and urban Shanghai residents tend to have higher levels of informal social control, shared common values and a sense of belonging to the locality compared to rural migrants. This is of little surprise when considering that migrants often choose to live in poor neighbourhood due to their affordability and proximity to work (Li and Zhu, 2014). Time and energy investments into the neighbourhood are thus scarce compared to local residents. Moreover, local residents in low-income neighbourhoods also tend to be poorer and are therefore more dependent on localised forms of social networks.

With regards to the neighbourhood types, overall, the relationship is significant although its effect differs considerably depending on the domain of cohesion. Sense of belonging tends to be considerably stronger in traditional courtyard neighbourhoods compared to work-unit and commodity estates (model 3) whilst informal social control is also stronger in traditional courtyards compared to urban villages. Results also show that social solidarity is the weakest in traditional courtyard neighbourhoods (model 6). The long existence of traditional courtyards and the high share of older long-term residents may explain why sense of belonging and the informal social control are strong in traditional courtyards. However, weak social solidarity may appear counter-intuitive as earlier studies (Forrest and Yip, 2007; Wu and He, 2005) found that older neighbourhoods tend to have the highest level of mutual support. A more recent study on Shanghai reported similar results and suggests that the new governance system in commodity neighbourhoods based on ideals of a 'civilised community' and collective actions of residents against poorly performing property management agents have strengthened its residents' sense of community (Yip, 2012: 231). For work-unit neighbourhoods, there may be other reasons as they still retain a strong work-unit governance system and residents tend to be co-workers from the same *danwei* therefore increasing the social solidarity of residents. Lastly, the prospect of redevelopment (Wu and He, 2005), particularly in the case of Shanghai (Zhu, 2016), may have led to a high residential turnover, which in turn led to the residents' unwillingness to invest more effort into the locality.

Conclusion

The purpose of this study was to explore how the influx of migrants has affected the social cohesion in urban neighbourhoods using the case study of Shanghai. Before discussing the implications of this study, some cautionary remarks are necessary. The cross sectional data

does not show the residential turnover of neighbourhoods although by including different neighbourhood housing types into the model, it was still possible to reveal some information in this respect. Nevertheless, for future studies it would be helpful to employ panel data to directly measure changes to the residential composition of neighbourhoods. Furthermore, in this study we focused only on the number of internal migrants of the Han ethnicity rather than ethnic minorities in Shanghai, which make up 1.2% of the total Shanghai population according to Shanghai's sixth population census (NBS, 2010). Unfortunately, our survey did not have access to the share of ethnic minorities in each juweihui but we believe it is important for future studies to explore inter-ethnic relations, which are becoming increasingly more influential in China.

Bearing in mind these caveats, our results show several important findings. Overall, traditional courtyards and low-income neighbourhoods appear to have the least cohesive communities. Both neighbourhood characteristics, which sometimes coincide with each other, suggest that residential instability and lack of resources are the main causes for the lack of neighbourhood cohesion. For traditional courtyards, the prospect of demolition and relocation (Wu and He, 2005) and fast residential turnovers due to the departure of affluent residents (Wu, 2012) may have reduced the willingness of residents to invest any further into the neighbourhood such as reaching out to new neighbours. The government's recent emphasis to construct a post-industrial globalising metropolis (Wu, 2015) has further accelerated the regeneration of old neighbourhoods such as traditional courtyards in inner city of Shanghai (Zhu, 2016). Compared to traditional courtyards, only urban villages fare even worse in terms of informal social control potentially because of the even higher residential turnover. Moreover, since urban villages belong to and are managed by the rural collective (Chung, 2010), there may be little incentive for tenants to participate in community affairs. Low-income communities often suffer from lack of resources such as limited living space and employment opportunities, which force residents who lost their job due to the restructuring of state-owned enterprises and work units (Wu et al., 2010) to compete with neighbours for jobs. Moreover, the dilapidated quality of shared facilities in Shanghai's low-income neighbourhoods such as the kitchen or other communal areas may lead to more neighbourly conflict. In contrast, neighbourhoods with a more organised governance system and a stronger shared social identity such as commodity estates and work-unit neighbourhoods tend to have higher levels of social solidarity. These findings would also confirm earlier studies that private commodity estates do not lack social cohesion amongst its residents (Li et al., 2012; Pow, 2007; Yip, 2012; Zhu et al., 2012; Wang et al., 2015, 2016b).

Returning to this study's key objective, our findings show that the impact of migrant influx on neighbourhood cohesion in Shanghai is more positive than evidence from multiethnic societies (Stafford et al., 2003; Tselios et al., 2015; Twigg et al., 2010). Previous studies on migrants in urban China (Roberts, 2002; Solinger, 1999) created the impression that urban neighbourhoods have become less cohesive due to the influx of migrant residents but our study reveals that the overall picture may be less bleak. Non-isolated host neighbourhoods with shares of 20–50% migrant residents are positively associated with social solidarity, sense of belonging and informal social control as compared to isolated host neighbourhoods (0–20%). Since non-isolated neighbourhoods must have experienced the influx of migrant residents over a longer period of time, local residents may have come to terms with living with migrant residents. Rather than isolating themselves, more frequent encounters and interaction may have improved neighbourhood cohesion. Moreover, the profile of migrants has changed considerably since Solinger's (1999) study in the 1990s. Younger migrants born since the 1980s have much more in common with urban residents in terms of lifestyle preferences but also in terms of socio-economic status (Yue et al., 2010). Native

residents may therefore feel less alienated from migrant neighbours. On the other hand, residents in isolated host neighbourhoods may be less cohesive due to the perceived threat of migrants who recently moved in and because many native residents are no longer bound to the local neighbourhood (Wu and Logan, 2016). In comparison, the higher level of cohesion in migrant-dominated enclaves (50–76% migrants) may be because migrants have formed their own community, which is strongly based on social solidarity. Informal social control is also higher in migrant enclaves partly due to the absence of a formal state governed system, which forces migrants to take matters into their own hands. The downside of migrant enclaves could be the lack of intergroup relations between migrants and locals, which may prevent migrants from further socially integrating into the host society (Kempen and Özüekren, 1998; Logan et al., 2002). It is important to note the difference between migrant enclaves and urban villages as can be seen from the positive effect of migrant enclaves and the negative effect of urban villages on informal social control. The increasing concentration of migrant residents in certain neighbourhoods within and outside the inner city of Shanghai indicates that migrant enclaves do not only emerge in urban villages but also in other types of low-income neighbourhoods (Liao and Wong, 2015: 117).

With respect to our study's contribution to the current theoretical debate, we found that in Shanghai interpreting migrant concentration as different types of neighbourhoods (Poulsen et al., 2001) instead of a continuous *rate* offers a more nuanced understanding of the relationship between migrant concentration and neighbourhood cohesion. Our analysis shows that the underlying mechanism between cohesion and minority concentration differs considerably between the three thresholds of concentration. Non-isolated host communities have the strongest level of cohesion potentially due to more frequent intergroup encounter and interaction. In contrast, migrant-dominated neighbourhoods may have stronger cohesion because its residents rely more on in-group social relations. Our empirical evidence therefore supports the often forgotten but crucial argument that the actual *intensity* of minority segregation plays a great role in affecting social cohesion (Musterd, 2003). Nevertheless, our approach does not mean the dismissal of the conventional approach of treating migrant concentration as a continuous variable. The conventional method's strength of revealing the overall effect of migrant concentration on cohesion remains important. Poulsen et al.'s (2001) classification should be treated as a complement to the existing method rather than a substitute.

In conclusion, our study reveals that in Shanghai, social cohesion tends to be higher in neighbourhoods with a more balanced mix of migrant and local residents as compared to neighbourhoods that just started receiving migrants and therefore have less experience in living with migrant neighbours. Cohesion also exists in migrant enclaves, which are more characterised by informality, since migrants have built up their own migrant community in order to provide mutual support. These results signal that the influx of migrant residents may initially reduce neighbourhood cohesion, but over time both local and migrant residents get used to each other's presence and are able to rebuild their cohesion. Furthermore, communities are forming in middle-class-dominated commodity neighbourhoods, while a strong state presence continues to hold together working class residents in work-unit compounds. These neighbourhoods are often characterised by strong common values and social solidarity due to a shared class belonging as either fellow work-unit colleagues or members of a private and 'civilised' community (Pow, 2007). Instead, it is the prospect of displacement and demolition coupled with a lack of local resources that leave a negative impact on the cohesion between residents (Liu et al., 2016; Wu and He, 2005). Future development policies therefore need to move away from demolishing older and poorer neighbourhoods to remedy the fear of displacement but also to prevent the intensification of migrant residential segregation.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This research is supported by the UK Economic and Social Research Council (ESRC) – Sustainable urban and village regeneration in China: implications for the Global South (ES/N015185/1), and a key project of the Ministry of Education of the People's Republic of China (11JJD840015).

Note

1. We also conducted a fractional polynomial mixed effects linear regression (Sauerbrei et al., 2006) in order to account for the possibility that there is a non-linear relationship between migrant concentration and neighbourhood cohesion. However, there is no indication that a non-linear function fits better than a linear function since the difference between a fractional polynomial and a continuous interpretation of migrant concentration is not significant at the 0.1 level (Sauerbrei et al., 2006: 3470).

References

Alesina A and La Ferrara E (2002) Who trusts others? *Journal of Public Economics* 85(2): 207–234.

Baumgartner MP (1989) *The Moral Order of a Suburb*. New York: Oxford University Press.

Breitung W (2012) Enclave Urbanism in China: Attitudes Towards Gated Communities in Guangzhou. *Urban Geography* 33(2): 278–294.

Buckner JC (1988) The development of an instrument to measure neighborhood cohesion. *American Journal of Community Psychology* 16(6): 771–791.

Cheng T and Selden M (1994) The origins and social consequences of China's Hukou system. *The China Quarterly* 139: 644–668.

Chung H (2010) Building an image of villages-in-the-city: A clarification of China's distinct urban spaces. *International Journal of Urban and Regional Research* 34(2): 421–437.

Cronbach LJ (1951) Coefficient alpha and the internal structure of tests. *Psychometrika* 16(3): 297–334.

Forrest R and Kearns A (2001) Social cohesion, social capital and the neighbourhood. *Urban Studies* 38(12): 2125–2143.

Forrest R and Yip N-M (2007) Neighbourhood and neighbouring in contemporary Guangzhou. *Journal of Contemporary China* 16(50): 47–64.

Fukuyama F (1999) *The Great Disruption: Human Nature and the Reconstitution of Social Order*. London: Profile Books.

Gijsberts M, Meer T van der and Dagevos J (2012) 'Hunkering down' in multi-ethnic neighbourhoods? The effects of ethnic diversity on dimensions of social cohesion. *European Sociological Review* 28(4): 527–537.

Hazelzet A and Wissink B (2012) Neighborhoods, social networks, and trust in post-reform China: The case of Guangzhou. *Urban Geography* 33(2): 204–220.

Kearns A and Forrest R (2000) Social Cohesion and Multilevel Urban Governance. *Urban Studies* 37(5–6): 995–1017.

Kempen R van and Özüekren A şule (1998) Ethnic segregation in Cities: New forms and explanations in a dynamic world. *Urban Studies* 35(10): 1631–1656.

Li S, Zhu Y and Li L (2012) Neighborhood Type, Gatedness, and Residential Experiences in Chinese Cities: A Study of Guangzhou. *Urban Geography* 33(2): 237–255.

Li Z and Wu F (2008) Tenure-based residential segregation in post-reform Chinese cities: A case study of Shanghai. *Transactions of the Institute of British Geographers* 33(3): 404–419.

Li Z and Wu F (2013) Residential satisfaction in China's informal settlements: A case study of Beijing, Shanghai, and Guangzhou. *Urban Geography* 34(7): 923–949.
Li SM and Zhu Y (2014) Residential mobility within Guangzhou city, China, 1990–2010: local residents versus migrants. *Eurasian Geography and Economics* 55(4): 313–332.
Liao B and Wong DW (2015) Changing urban residential patterns of Chinese migrants: Shanghai, 2000–2010. *Urban Geography* 36(1): 109–126.
Liu Y, Li Z and Breitung W (2012) The social networks of new-generation migrants in China's urbanized villages: A case study of Guangzhou. *Habitat International* 36(1): 192–200.
Liu Y, Wu F, Liu Y, et al. (2016) Changing neighbourhood cohesion under the impact of urban redevelopment: A case study of Guangzhou, China. *Urban Geography*. Epub ahead of print. DOI: 10.1080/02723638.2016.1152842.
Logan JR, Zhang W and Alba RD (2002) Immigrant enclaves and ethnic communities in New York and Los Angeles. *American Sociological Review* 67(2): 299.
McPherson M, Smith-Lovin L and Cook JM (2001) Birds of a Feather: Homophily in Social Networks. *Annual Review of Sociology* 27: 415–444.
Mennis J, Dayanim SL and Grunwald H (2013) Neighborhood collective efficacy and dimensions of diversity: A multilevel analysis. *Environment and Planning A* 45(9): 2176–2193.
Migrant Population Commission (Department of Services and Management of Migrant Population, National Population and Family Planning Commission of China) (2012) *Report on China's migrant population development*. Beijing: China Population Publishing House (In Chinese).
Musterd S (2003) Segregation and integration: A contested relationship. *Journal of Ethnic and Migration Studies* 29(4): 623–641.
NBS (National Bureau of Statistics) (2010) *Sixth National Population Census of the People's Republic of China*. Beijing: China Statistical Press.
Poulsen M, Johnston R and Forrest J (2001) Intraurban ethnic enclaves: Introducing a knowledge-based classification method. *Environment and Planning A* 33(11): 2071–2082.
Pow C-P (2007) Securing the 'civilised' enclaves: Gated communities and the moral geographies of exclusion in (Post-)socialist Shanghai. *Urban Studies* 44(8): 1539–1558.
Putnam RD (2007) E Pluribus Unum: Diversity and community in the twenty-first century The 2006 Johan Skytte prize lecture. *Scandinavian Political Studies* 30(2): 137–174.
Raudenbush SW and Bryk AS (2002) *Hierarchical Linear Models: Applications and Data Analysis Methods*. Newbury Park, CA: SAGE Publications.
Roberts KD (2002) Rural migrants in urban China: Willing workers, invisible residents. *Asia Pacific Business Review* 8(4): 141–158.
Saleem S and Bobak M (2005) Women's autonomy, education and contraception use in Pakistan: A national study. *Reproductive Health* 2: 8.
Sauerbrei W, Meier-Hirmer C, Benner A, et al. (2006) Multivariable regression model building by using fractional polynomials: Description of SAS, STATA and R programs. *Computational Statistics & Data Analysis* 50(12): 3464–3485.
Setbon M and Raude J (2010) Factors in vaccination intention against the pandemic influenza A/H1N1. *The European Journal of Public Health* 20(5): 490–494.
Shieh L and Friedmann J (2008) Restructuring urban governance. *City* 12(2): 183–195.
Solinger DJ (1999) *Contesting Citizenship in Urban China: Peasant Migrants, the State and the Logic of the Market*. Berkeley, CA: University of California Press.
Stafford M, Bartley M, Sacker A, et al. (2003) Measuring the social environment: Social cohesion and material deprivation in English and Scottish neighbourhoods. *Environment and Planning A* 35(8): 1459–1475.
Sturmey P, Newton JT, Cowley A, et al. (2005) The PAS–ADD checklist: Independent replication of its psychometric properties in a community sample. *The British Journal of Psychiatry* 186(4): 319–323.
Tselios V, Noback I, McCann P, et al. (2015) Local social engagement, satisfaction, and embeddedness in the Netherlands: Which effects matter and for whom? *Environment and Planning A* 47(5): 1132–1154.

Twigg L, Taylor J and Mohan J (2010) Diversity or disadvantage? Putnam, Goodhart, ethnic heterogeneity, and collective efficacy. *Environment and Planning A* 42(6): 1421–1438.
Wang Z, Zhang F and Wu F (2015) Social Trust Between Rural Migrants and Urban Locals in China – Exploring the Effects of Residential Diversity and Neighbourhood Deprivation. *Population, Space and Place*. Epub ahead of print. DOI:10.1002/psp.2008.
Wang Z, Zhang F and Wu F (2016a) Intergroup neighbouring in urban China: Implications for the social integration of migrants. *Urban Studies* 53(4): 651–668.
Wang Z, Zhang F and Wu F (2016b) Affective neighbourly relations between migrant and local residents in Shanghai. *Urban Geography*. Epub ahead of print. DOI:10.1080/02723638.2016.1206700.
Wu F (2012) Neighborhood Attachment, Social Participation, and Willingness to Stay in China's Low-Income Communities. *Urban Affairs Review* 48(4): 547–570.
Wu F (2016) State Dominance in Urban Redevelopment Beyond Gentrification in Urban China. *Urban Affairs Review* 52(5): 631–658.
Wu F and He S (2005) Changes in traditional urban areas and impacts of urban redevelopment: A case study of three neighbourhoods in Nanjing, China. *Tijdschrift voor economische en sociale geografie* 96(1): 75–95.
Wu F, He S and Webster C (2010) Path dependency and the neighbourhood effect: Urban poverty in impoverished neighbourhoods in Chinese cities. *Environment and Planning A* 42(1): 134–152.
Wu F and Logan J (2016) Do rural migrants 'float' in urban China? Neighbouring and neighbourhood sentiment in Beijing. *Urban Studies* 53(14): 2973–2990.
Xu Q, Perkins DD and Chow JC (2010) Sense of Community, Neighboring, and Social Capital as Predictors of Local Political Participation in China. *American Journal of Community Psychology* 45(3–4): 259–271.
Yip NM (2012) Walled without gates: Gated communities in Shanghai. *Urban Geography* 33(2): 221–236.
Yue Z, Li S, Feldman MW, et al. (2010) Floating choices: A generational perspective on intentions of rural–urban migrants in China. *Environment and Planning A* 42(3): 545–562.
Zhu Y, Breitung W and Li S (2012) The Changing Meaning of Neighbourhood Attachment in Chinese Commodity Housing Estates: Evidence from Guangzhou. *Urban Studies* 49(11): 2439–2457.
Zhu J (2016) Yangpu district mayor talks about the 13th Five year plan urban regeneration plan: Move at least 30,000 residents into new homes within five years. *Jiefang Daily*, 5 July 2016 (In Chinese).

Appendix 1

Table 4. Comparison of survey data and official statistics.

	Survey data in 2013	Official statistics
Educational attainment all survey respondents		
Below elementary	1.41%	1.0%[a]
Elementary	9.01%	9.0%
Junior secondary	34.44%	40.2%
Senior secondary	24.58%	21.5%
College or above	23.59%	28.3%
Average income per month	3638.21 Yuan	3654.25 Yuan[b]

Sources:
[a]Shanghai sixth population census in 2010.
[b]Shanghai Statistical Yearbook 2014.

Table 5. Descriptive statistics of predictor variables.

	N	%	min	max	mean	SD
Years of residence	1420	n/a	0	80	18.1	16.16
Gender						
Male	806	56.76				
Female	614	43.24				
Head of household income	1385	n/a	350	50,000	3638.21	3349.63
Education level						
Elementary or below	148	10.42				
Junior secondary	489	34.44				
Senior secondary	349	24.58				
Technical school	99	6.97				
College	144	10.14				
Undergraduate or above	191	13.45				
No. of family members	1420	n/a	0	6	1.76	1.08
Tenure						
Tenant	356	25.16				
Owner	1059	74.84				
Percentage of migrant residents						
0–20%	555	39.08				
20–50%	662	46.62				
50–76%	203	14.30				
Number of MLSS recipients in the area	1420	n/a	0	80	12.35	15.69
Neighbourhood housing type						
Courtyard housing	156	11.02				
Work unit	411	29.03				
Urban villages	205	14.48				
Relocation housing	252	17.80				
Commodity housing	392	27.68				