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Social Cohesion in Rapidly Urbanizing Peri-urban Neighbourhoods: an Examination of Panyu District, Guangzhou City, China

by

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Abstract

Socio-spatial features of the quality of neighbourhoods can have an impact on social cohesion. However, there is a lack of empirical evidence examining the impacts of neighbourhood planning, design and management on social cohesion for locals and migrants in peri-urban China. By examining three different neighbourhood types in peri-urban China (i.e., villages, redeveloped villages, and commodity housing), this study aims to determine the relationship between socio-spatial features of neighbourhoods and social cohesion and to identify socio-spatial features of neighbourhoods supporting social cohesion in different neighbourhood types.

This research uses data collected from 1116 valid questionnaires, site surveys, 54 walk-along interviews with residents, and 6 WeChat interviews with professionals in 9 neighbourhoods in Panyu's peri-urban areas. Furthermore, the nature and strength of relationships between socio-spatial features of quality of neighbourhoods and social cohesion are examined through statistical analysis.

This research finds that five socio-spatial features of neighbourhoods can improve social cohesion for both locals and migrants in all the three neighbourhood types, including the level of maintenance, accessibility, the quality of neighbourhoods, the perceived character of the neighbourhood, and attractiveness. Moreover, the level of legibility can contribute to social cohesion for locals and migrants in villages and commodity housing, but this socio-spatial feature is found to enhance social cohesion for locals only, not for migrants in redeveloped villages. In addition, neighbourhood boundaries are found to be a positive socio-spatial feature for creating cohesive neighbourhoods for locals and migrants in redeveloped villages and commodity housing only. Natural surveillance can positively impact social cohesion for locals and migrants in the redeveloped village only. However, this socio-spatial feature is not found to have an influence on social cohesion for locals and migrants in villages and commodity housing. This research provides recommendations to neighbourhood planners, designers and property managers in peri-urban areas in China regarding how to help create a socially cohesive neighbourhood in the three neighbourhood types.

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Chapter 1 Introduction

Over the last three decades, China's urbanisation has entered a new era of land redevelopment that encompasses built-up land in rural areas (Guo et al., 2017). Chinese urbanisation rate increased 22.3%, from 36.2% in 2002 to 58.5% in 2017 (Dong et al., 2021). It means that a growing number of new neighbourhoods are being created as older and less-dense areas are being redeveloped in Chinese cities (Forrest and Yip, 2007). In the peri-urban areas[1], a wide range of factories, the low cost of living and possible job opportunities attract a large number of rural-to-urban migrants, i.e. those who come from rural areas to find work in urban areas. The rural-to-urban migrants constitute a substantial labour force which has propelled the economic growth and industrial developments in Chinese cities (Tse, 2016). In the peri-urban areas, there are substantial differences between locals and migrants, such as their culture, value, status, custom and lifestyle. Therefore, these differences can result in clashes between migrants and locals in the peri-urban areas, such as the prejudicial attitude of locals toward migrants and employment discrimination against migrants from various backgrounds (Qian et al., 2012). The planning and design of existing, new and redeveloped[2] neighbourhoods may have an impact on social cohesion and relations between locals and migrants. According to the literature, good quality neighbourhoods may engender place attachment (Kamalipour et al., 2012; Lu et al., 2018), social bonding and social interaction among residents (Moulay and Ujang, 2016), the feeling of community (Nash and Christie, 2003; Zhang and Zhang, 2017), sense of safety (Latham and Clarke, 2013; Duchowny et al., 2020) and mutual trust between residents (Mulgan et al., 2006). However, there have been no studies examining the impacts of neighbourhood planning, design and management on social cohesion for locals and migrants in different neighbourhood types in peri-urban China, pointing to a need to explore social cohesion in various neighbourhood types, including villages, redeveloped villages and commodity housing.

1.1 The concept of socio-spatial features of neighbourhoods

Defining the socio-spatial[3] features of the neighbourhood is the main aim of this section. The term ‘feature’ refers to the contributory components of the definition of a high-quality

[1] The term ‘Peri-urban areas’ refers to the areas immediately adjoining a city or conurbation (Oxford English Dictionary, 2005).

[2] Redeveloped villages refer to new developments where original village residents have moved to newly redeveloped houses or apartment buildings, and the residents’ physical living conditions are improved dramatically (Fang, 2006).

[3] The socio-spatial perspective in urbanism research means the interaction between built infrastructure and society (Gottdiener and Hutchison, 2011).

neighbourhood. In the vast literature, the terms ‘feature’, ‘characteristic’ or ‘quality’ are often replaced by each other in the neighbourhood (Fang, 2006; Johnson-Lawrence et al., 2015; Zhang et al., 2018; Saghapour and Moridpour, 2019; Eterevskaya and Nazarova, 2020). In the literature review, the goal of the sustainable neighbourhood and the liveable neighbourhood is the same, which can create a high-quality built environment for residents (Li, 2012; Komeily and Srinivasan, 2015). In other words, the high-quality neighbourhood should be sustainable and liveable. As a result, socio-spatial features of neighbourhoods can be identified through the sustainability paradigm.

The concepts of the sustainable or liveable neighbourhood are piloting the direction of modern neighbourhood planning and influencing the trend of the urban development (see Choguill, 2008; Liu, 2009; Li et al., 2014; Komeily and Srinivasan, 2015; Clavin, 2016; Moulay et al., 2017; Paralkar et al., 2017; Zhang et al., 2018). Developing sustainable neighbourhoods is imperative because of environmental and social concerns (Li et al., 2014; Wang and Shaw, 2018; Ali et al., 2020). Therefore, the neighbourhood as an important basic unit of a city draws wide attention from both practitioners and academics regarding the sustainability of the urban development (Bosman, 2011; Dave, 2011; Bahadure and Kotharkar, 2015; Komeily and Srinivasan, 2015; Clavin, 2016; Moulay et al., 2017; Zhang et al., 2018; Wang and Shaw, 2018; Ali et al., 2020).

Socio-spatial features are not solely physical or tangible, they can be used interchangeably with the socio-spatial characteristics in this thesis. In this research, the socio-spatial features of the neighbourhood are mainly relevant at the street scale and the neighbourhood scale, and they are measurable by using indicators. Furthermore, the selection of the socio-spatial features of the neighbourhood should consider policy-making, because the recommendations relating to the socio-spatial features of the neighbourhood for neighbourhood planners, designers and managers aim to help enhance social cohesion in the peri-urban areas in China.

1.2 The concept of social cohesion

Over the last twenty years, social cohesion has gained enormous attention in the academic and political sphere internationally (Friedkin 2004; Chan et al. 2006; Hulse and Stone 2007; Raudenbush 2016; Delhey et al. 2018; Bottoni 2018; Miao et al., 2019; Boehnke et al. 2019; Bekalu et al., 2021; Ali et al. 2020; Martínez-Martínez et al., 2020; Yu et al., 2021; Avery et al., 2021; Qin et al., 2021). It is widely agreed that the kernel of social cohesion is ‘a cohesive

society ‘hangs together’; all the component parts somehow fit in and contribute to society’s collective project and well-being; and conflict between societal goals and groups, and disruptive behaviours, are largely absent or minimal’ (Kearns and Forrest, 2000, cited in Liu et al., 2016). Social cohesion is an important element of social sustainability (Burton and Mitchell, 2006; Cheung and Leung, 2011; Moulay et al., 2017). A society lacking social cohesion may display social disorder and conflict, social inequality, disparate moral values, less social interaction and low place attachment (Forrest and Kearns, 2001, cited in Lloyd et al., 2016).

1.2.1 Social cohesion and other related concepts

Social cohesion is discussed on non-physical (the societal scale) and physical (the neighbourhood, community, or city scale) levels (Huang et al., 2020). The neighbourhood is regarded as a key setting for social cohesion in the literature (Forest and Kearns, 2001; Mok et al., 2010). However, there is no consensus about the definition of social cohesion at the neighbourhood level both in political rhetoric and academic research (Delhey et al. 2018; Boehnke et al. 2019). Since the application of social cohesion is at various social scales, it is common that many concepts in urban sociology theory and sociological theory are overlapped with social cohesion, including social capital and social inclusion (Bramley et al., 2009; Dave 2011; Dempsey and Bramley, 2011). For the purpose of this research, the conceptual crossovers between these concepts and social cohesion will be discussed below.

1.2.1.1 Social cohesion and social capital

Social cohesion is frequently juxtaposed with social capital (Kawachi and Berkman, 2014; De Silva et al., 2005, cited in Ruiz et al., 2018; Kawachi and Berkman, 2000, cited in Ruiz et al., 2019). For example, Chipkin and Ngulunga (2008) argue that social cohesion is often defined as an affective bond between people at the neighbourhood level. Family, relationship and friendship are the social manifestations in people’s social lives (Gray, 2009; Bwalya and Seetha, 2016). According to this line of thought, social capital is consistent with the theory of social cohesion (Kawachi and Berkman, 2014). The interpretation of social capital focuses on the significance of particular social goods, including norms, networks and social trust, as social goods which facilitate cooperation and coordination for mutual benefit (Putnam, 1993, p. 35; Edwards et al., 2003; Mok et al., 2010). Moreover, social participation, civic participation, feelings of safety, sense of community, and friend networks are important aspects of social capital (Kearns and Forrest, 2001; Perkins and Long, 2002; Gray, 2009; Huang et al., 2020).

Therefore, elements of social capital can be encompassed within the concept of social cohesion (Kearns and Forrest, 2001; Mok et al., 2010). However, operating norms are not included because they would be difficult to collect and measure in a neighbourhood. For this reason, social networks, participation, trust and reciprocity, sense of community, and feelings of safety are examined in the concept of social cohesion in this research.

1.2.1.2 Social cohesion and social inclusion

Social inclusion has been identified as a key element of social sustainability (Kohon, 2018). A large number of research articles on social inclusion mainly focus on that fair access to education, housing and health services can have a positive impact on people's well-being in a society (Murray et al., 2004; Makarewicz and Németh, 2018; Houlden et al., 2018; Johnstone et al., 2019; Milakisn et al., 2020), which is associated closely with social cohesion. Moreover, Overmars-marx et al., (2014) argue that the accessibility of facilities and services can make opportunities for social inclusion, social participation and social networks (Cobigo et al., 2012). In this research, the accessibility to services and facilities is measured as a socio-spatial feature of the quality of the built environment, so it is not encompassed in dimensions of social cohesion in this study. Furthermore, this research mainly focuses on social aspects of cohesion, so the accessibility of employment opportunities is excluded in this study. Because the accessibility of employment opportunities is related to economic rather than social aspects of cohesion. Other explanations of social cohesion and social inclusion discuss some aspects (such as immigration policies and formal rules) about the integration of different groups in the neighbourhood (Shukra et al., 2004; Hickman and Mai, 2015; Craig, 2015; Koopmans and Schaeffer, 2016; Wei and Gao, 2016). While the relationship between locals and migrants is the one that is covered here, these other, wider aspects are not within the scope of this study.

1.2.2 The concept of social cohesion in the Chinese context

In Chinese societies, social cohesion is frequently regarded as social and moral order deriving from Confucianism (Baum, 2005; Legge, 2009). The process of social cohesion is dynamic, interactive, multi-dimensional and gradual in Chinese literature (Zhang et al., 2020). Social cohesion can be applied at various levels and settings. In the existing literature, the concept of social cohesion at the neighbourhood level in the Chinese context is similar to that in Western countries, although there is no consensus regarding the concept of social cohesion in China. For example, Bradley et al., (2020) argue that social cohesion at the neighbourhood scale includes

two dimensions, they are collective recreational activities (playing cards and going to a sport or social club) and altruistic activities (like providing help to neighbours). Lai et al., (2021) indicate that social cohesion embraces a broader notion, like social capital. They also argue that social cohesion can benefit social capital. This study uses four indicators to measure social cohesion, including community interaction, community belonging, community environmental satisfaction, and community participation (Lai et al., 2021). Huang et al., (2020) claim that social cohesion is often juxtaposed with social capital. The two concepts measure the level of engagement and social networks with neighbours, families and friends. This study explores social cohesion using three dimensions: civic participation, social participation, and friend networks. Social cohesion at the neighbourhood level, a vital aspect of neighbourhood social dynamics, is described as reciprocity, mutual trust, solidarity, as well as norms and shared values among neighbours (Zhang et al., 2019).

1.2.3 Defining social cohesion in this research

For the purpose of this study, the concept of social cohesion is defined as the ongoing integration of individual behaviours in a social setting (here, the neighbourhood) (Dempsey, 2008). Social cohesion is not considered as an outcome but as an ongoing process, indicating that it is a term describing the state of social behaviours and social activities in a given area (Amin, 2002; Han et al., 2017; Muhuri and Basu, 2018). This concept is adapted from a concept offered by Jary and Jary (1991) and from a study by Forrest and Kearns (2001). This all outlines the multidimensional nature of social cohesion (Kellerman, 1981, cited in Dempsey, 2008). The concept of social cohesion used in this research includes latent and manifest social behaviours and social activities at the neighbourhood level. In the existing literature, since the theory of social cohesion at the neighbourhood level in the Chinese context is broadly consistent with that in Western countries, the concept of social cohesion used in this research can be suitable in the Chinese context.

In Section 1.2.1.1, five dimensions are identified to examine social cohesion, including social networks, participation, trust and reciprocity, sense of community, and feelings of safety. Social interaction is closely and positively related to social networks (Weijs-perr, 2017). Bridge (2002, p.2) claims that the neighbourhood can foster the development of social networks by social interaction among people in open spaces. Social interaction is positively connected to social cohesion, so it is also regarded as an element of social cohesion in the existing literature

(Wickest al., 2019). Furthermore, place attachment is an essential component of residents' enjoyment of their neighbourhood (Nash and Christie, 2003). Residents' place attachment is positively related to social cohesion in the neighbourhood, which is also a necessary element of social cohesion in academic articles (Lu et al., 2018). Therefore, there are seven dimensions of social cohesion in this research, they are social interaction, social networks, sense of community, participation in organized activities, trust and reciprocity, sense of safety, as well as place attachment.

Although Dekker and Bolt (2005) and Stafford et al., (2003) argue that tolerance is also a dimension of social cohesion, it is implicit in concepts of social cohesion and the integration of different behaviours can involve the levels of tolerance of various behaviour types (Putnam, 1993). Moreover, it could be measured through other dimensions of social cohesion, including social interaction, social networks, a sense of community and trust. Therefore, tolerance is not regarded as a dimension of social cohesion in this research. Furthermore, other aspects of social cohesion are not included in this research, they are the accessibility of employment opportunities, immigration policies and formal rules.

1.3 Research aim and objectives

This study explores significant relationships between the socio-spatial features of peri-urban neighbourhoods and the social cohesion for locals and migrants in the peri-urban areas. The research aim of this study is addressed by achieving four objectives as follow:

1) To identify socio-spatial features of the quality of neighbourhoods in the peri-urban areas of Panyu District;
2) To define social cohesion in neighbourhoods in the Chinese peri-urban context;
3) To examine which socio-spatial features of the peri-urban neighbourhoods, if any, contribute to social cohesion;
4) To make recommendations for landscape planners, designers and property managers of new and existing neighbourhoods to enhance social cohesion in peri-urban China.

1.4 Thesis structure

This thesis is structured into eight chapters. The following chapters are summarised as follows:

Chapter Two consists of four sections, including the identification of socio-spatial features of

neighbourhoods, social cohesion at the neighbourhood level, the relationship between locals and migrants in China, and social cohesion concerning migrant influx.

Chapter Three includes five parts, including the research process, the site selection, the development of multiple indicators, the mixed methods of collecting data, and the methods of managing and analysing data.

Chapter Four discusses the indicators measuring socio-spatial features of the neighbourhood, indicators of social cohesion and intervening variables.

Chapter Five comprises the following three sections: socio-economic characteristics of the sample, socio-spatial features of the three neighbourhood types and individual dimensions of social cohesion in the three neighbourhood types.

Chapter Six firstly identifies the relationship between socio-spatial features of neighbourhoods and social cohesion in general and for villages, redeveloped villages and commodity housing separately. Then, this chapter determines the nature and strength of the relationship in general and for villages, redeveloped villages and commodity housing respectively.

Chapter Seven investigates the socio-spatial features of the quality contributing to social cohesion in villages, redeveloped villages and commodity housing using the sub-samples of locals and migrants, respectively. Moreover, this chapter explores detailed information about interviewees' perceptions of each socio-spatial feature of neighbourhoods enhancing social cohesion for locals and migrants in villages, redeveloped villages and commodity housing, respectively. Finally, this chapter discusses professionals' suggestions about how to create a cohesive village, redeveloped village and commodity housing.

Chapter Eight firstly shows the summary of this research and outlines the contributions to knowledge made by this thesis. Secondly, this chapter summarises the main findings on the impacts of socio-spatial features of quality of the neighbourhood on social cohesion for the whole sample (including both locals and migrants), as well as for the sub-samples of locals and migrants respectively in villages, redeveloped villages and commodity housing. This chapter also makes recommendations to neighbourhood planners, designers and property managers in peri-urban areas in China regarding how to create a socially cohesive neighbourhood in the

three neighbourhood types. Finally, this chapter also discusses the limitations of this research and the scope for future work.

Chapter 2 Literature Review

2.1 Introduction

In current policy and theoretical debates about social cohesion, the neighbourhood has been a key setting of shaping life chances and social identity. Concerns with social cohesion and neighbourhood have a very long history in sociology and social policy. Existing research discussed in this chapter suggests that high-quality built environments may engender a higher level of social cohesion, like a higher sense of safety, a higher sense of community, a higher level of trust, and a higher place attachment (Moulay and Ujang, 2016; Kamalipour et al., 2012; Zhang and Zhang, 2017; Lu et al., 2018; Duchowny et al., 2020). In the peri-urban areas in China, there are substantial differences between locals and migrants, which can result in clashes between migrants and locals (Qian et al., 2012). However, there is very little focus on how social cohesion may occur between different groups, such as locals and migrants. This chapter identifies socio-spatial features of the quality of the neighbourhood according to the existing literature in China and Western countries, as well as provides a review of the literature on socio-spatial features of the neighbourhood and dimensions of social cohesion. This chapter also shows the literature review on the relationship between locals and migrants in China, and social cohesion in relation to the migrant influx globally. Overall, this chapter offers the foundation for this study.

2.2 The identification of socio-spatial features of neighbourhoods

To provide the foundation for exploring the relationship between socio-spatial features of neighbourhoods and social cohesion, socio-spatial features of neighbourhoods need to be determined in this section.

According to the literature review, a high-quality built environment should be sustainable and liveable (Komeily and Srinivasan, 2015), so socio-spatial features of the neighbourhood can be identified according to the sustainability paradigm. In recent decades, there are increasing public concerns on sustainable development in China because of the environmental and social issues associated with rapid urbanization (Shi et al., 2017). However, in comparison to the research of building-level and city-level sustainability, neighbourhood-level sustainability is less studied in China (Zhang et al., 2018; Cheshmehzangi et al., 2020). In Chinese literature, some studies measure socio-spatial characteristics of neighbourhoods to explore many social

aspects. These include well-being (Qiao et al., 2019), residents' satisfaction with their neighbourhood (Dave, 2009; Zheng, 2011; Li and Wu, 2013; Wang and Wang, 2020; Wong and Siu, 2002), residents' participation in social activities (Xu et al., 2009; Wang et al., 2019) and sense of community (Yip, 2012; Sander, 2013). For example, Zhang et al., (2017) explore the associations between neighborhood characteristics and the well-being of older adults in Beijing. They find that public space and enough services are positively associated with the well-being of older adults in a neighbourhood. Yip (2012) argues that the gated nature of a residential area can enhance residents' feelings of safety, but cannot contribute to their sense of community. Zhang and Zhang (2016) show that the quality of the neighborhood environment is positively related to residents' life satisfaction. The list of socio-spatial features of the neighbourhood exploring the above social aspects from the literature review can be summarised in the following:

- Maintenance
- Accessibility
- Sense of safety
- Attractiveness
- Residential density
- The boundary (gated nature) of the neighbourhood

In Western countries, as the chapter will show, although numerous theorists explore the relationship between the support that the neighbourhood offers to people in their daily lives and socio-spatial features of neighbourhoods, no consensus has been agreed upon the socio-spatial features of high-quality neighbourhoods. Many recent articles discussing the high-quality neighbourhood are situated within the paradigm of sustainability (Sivam et al., 2012; Moulay et al., 2017). According to sustainability literature in Western countries (Mousavinia et al., 2019), socio-spatial features of neighbourhoods are listed in the following:

- Maintenance
- Mixed land uses
- Accessibility
- Character
- Sense of safety

- Connectedness
- Attractiveness
- Residential density
- Legibility
- The quality of the neighbourhood

In this research, six socio-spatial features of the neighbourhood are identified according to both Chinese and Western literature, including maintenance, accessibility, sense of safety, attractiveness, residential density, and the boundary of the neighbourhood. Furthermore, although the other five socio-spatial features of the quality of the neighbourhood are determined according to Western literature, not Chinese literature, including mixed land uses, character, connectedness, legibility, and the quality of the neighbourhood, these socio-spatial features should be also applicable in the Chinese context. This is because these socio-spatial features of the neighbourhood are identified according to sustainability literature. Both in Western literature and Chinese literature, the high-quality built environment should be sustainable and liveable. Therefore, socio-spatial features identified according to the sustainability paradigm in Western countries are also applicable in the Chinese context.

2.2.1 Socio-spatial features of neighbourhoods

In this section, eleven socio-spatial features of the quality of the neighbourhood are discussed, including maintenance, mixed land uses, accessibility, the perceived character, natural surveillance, connectedness, attractiveness, residential density, legibility, neighbourhood boundaries, and residents' perceptions of the quality of the neighbourhood.

2.2.1.1 Maintenance

Existing theory and practice suggest that high-level maintenance is a socio-spatial feature of a high-quality built environment (Carmona, et al., 2007; Dempsey, 2008; Cooper et al., 2014). The maintenance of the neighbourhood can influence how residents feel about their neighbourhood (Cooper et al., 2014). Cleanliness is an element encompassing local environmental quality, so it is an important part of the maintenance of a neighbourhood. In western countries, cleanliness has become an increasing concern for scholars and governments in recent years. For example, an environmental charity in England investigates local environmental issues using eight indicators, including dog fouling, litter, weeds, detritus, fly-

tipping, graffiti, fly posting and physical appearance. These indicators are collectively described as cleanliness (ENCAMS, 2005). Moreover, the Clean Neighbourhoods and Environment Act in the UK was created in 2005 and approved by politicians of all parties. It is clear that the cleanliness of the local environment is a vital issue for residents (Hastings et al., 2009). In Australia, Community-based Organizations (CBOs) have launched "Clean and green" campaigns in both large-scale and smaller neighbourhoods (Tapsuwan et al., 2018). Community-based Organizations are striving to generate neighbourhood resilience through cleaning efforts. However, maintenance is not included in Chinese policy, and few studies focus on how to improve the level of maintenance of a neighbourhood in China.

A large number of academics and practitioners recognize that the well-maintained neighbourhood is associated with numerous social outcomes, including reductions in violence and crime (Donovan and Prestemon, 2012), greater social cohesion (Cooper et al., 2014), increasing residents' feelings of safety (Ross and Mirowsky, 2001; Hill et al., 2005; Carver, et al., 2008; Franklin et al., 2008; Latham and Clarke, 2013; Duchowny et al., 2020), improving residents' feeling of community (Nash and Christie, 2003; Zhang and Zhang, 2017), positively linking to participation in community activities (King, 2008; Hand *et al.*, 2012), an increase of sense of place attachment (Nash and Chiristie, 2003; Kamalipour et al., 2012; Lu et al., 2018). Furthermore, Pasaogullari and Doratli (2004) argue that cleanliness has an important influence on the utilisation of public spaces, which impacts residents' outdoor activity (Burgoyne et al., 2008; Duchowny et al., 2020). They found that when residents' outdoor activities increase, their social interaction and social networks would increase as well in their neighbourhood.

2.2.1.2 Mixed land uses

Mixed land use, linked to high density, is widely identified as an important socio-spatial feature of sustainable neighbourhoods (Burton, 2002; Burton and Mitchell, 2006; Grant, 2005; Foord, 2010). The high-density neighbourhood has a positive effect on the extent of mixed uses (Hajna et al., 2015). The extent of mixed uses is an essential premise of the popular paradigms of sustainable development and new urbanism (Bernick and Cervero, 1997). A mixed-use neighbourhood can increase the opportunities of cycling and walking for residents (Grant, 2002), as well as encourage residents' access to, and use of, facilities and services (Bahadure and Kotharkar, 2015).

Existing literature studies mixed land uses from different aspects, such as concepts and

characteristics of mixed land uses (Hoppenbrouwer and Louw, 2005; Shi and Yang, 2015), the relationship between mixed land uses and social benefits (Browning et al., 2010; Foord, 2010; Wo and Kim, 2020), and the influence of mixed land uses on residential property values (Song and Knaap, 2004; Koster and Rouwendal, 2012; Wu et al., 2018). In Europe, the compact city concept has focused on high-density and mixed built environment in terms of land use (Burton, 2000; Koomen et al., 2008), and mixed land use has been included in policy (Shi and Yang 2015). In the southern hemisphere, countries (such as India) consider mixed land uses as a key part of urban development in recent years. In China, although mixing land uses is also an important planning strategy of land-use planning in recent years (Wu et al., 2018), the concept of mixed land use is not defined by the existing planning management system, and its corresponding management model is not included in policy (Shi and Yang, 2015).

2.2.1.3 Accessibility

The level of accessibility is frequently cited in many studies as a vital element of a good neighbourhood (Talen, 2000; Carmona et al., 2001, p. 8; Talen, 2003; Duany, 2003; Pasaogullari and Doratli, 2004; Alawadi et al., 2020; Tang et al., 2020; Abass and Tucker, 2020; Damurski et al., 2020). Accessibility of the built environment is defined as the ease with which residents can reach facilities and services on foot (Hewko et al., 2002; Lau and Chiu, 2003; Talen, 2003). However, there is a lack of international consensus relating to how accessible facilities and services should be defined. Table 2.1 shows many examples of this diversity. In China, although the central government developed technical planning regulations and rules intending to establish a robust urban form that takes into consideration general sustainability, more social problems occur within high-density development in many cities (Su et al., 2014). Such high-density development has led to poor access to local services and facilities, the deterioration in perceived life quality and reduced liveability of the neighbourhood in Chinese large cities (Chen et al., 2000; Ying, 2004). Furthermore, numerous studies show that accessibility is often linked to other socio-spatial features of the built environment, such as residential density, mixed land uses, and street connectivity (Badland and Schofield, 2005; Bauman et al., 2012; Sallis et al., 2016; Cerin et al., 2018). An accessible neighbourhood should provide both services and transport infrastructure to access facilities and services within and outside the neighbourhood (Talen, 2000; Carmona and Magahaes, 2007).

In addition, many studies explore the association between social aspects and the level of accessibility in China and other countries. The accessibility of a neighbourhood can be

considered as one important factor which contributes to social interaction (Talen, 2000; Handy and Clifton, 2001; Pasaogullari and Doratli, 2004; Azmi and Karim, 2012; Tsai, 2014; Sun, 2016). Sense of community is also found to be positively associated with the level of accessibility, according to a study of 19 neighbourhoods in Taipei's Beitou District (Lund, 2002; Tsai, 2014). Moreover, improving the level of accessibility can encourage residents to participate in physical activity (Giles-Corti et al, 2005; Næss, 2006; Wendel-Vos et al, 2007; Coombes et al., 2010; Tsai, 2014; Hooper et al., 2018).

Table 2.1 The accessibility of key services and facilities in a neighbourhood

Sources	key services and facilities	Countries
Department of Infrastructure and Transport (2013)	400-800m	Australia
Collins and Mayer (2015)	400-800m (or 5 to 20-minute walk)	Jamaica
Watson et al. (2015)	less than 10-minute walk	US
Barnett et al. (2015)	less than 15-minute walk	China
Lu and Wang (2012) Talen and Koschinsky (2011)	5 to 10-minute walk	US
Su et al. (2017)	5 to 10-minute walk	China

2.2.1.4 The perceived character of the neighbourhood

The perceived character of the neighbourhood is invariably described as a socio-spatial feature of the high-quality built environment (Yeang, 2000; Barton et al., 2003; Carmona et al., 2004; Dempsey, 2009; Davison and Rowden 2012). Defining the perceived character of a place is a complex mechanism (Tewari and Beynon, 2018). According to residents, the physical features of neighbourhoods, like parks, facilities and streetscapes, and so on, can determine the character of this area (Nielsen et al., 2007; Tewari and Beynon, 2018).

Many studies suggest that there is a positive association between social aspects and the character of the neighbourhood. For instance, Dempsey (2009) shows that a positive association exists between the character of the neighbourhood and sense of place attachment, sense of community and social networks in the UK. Zhang and Zhang (2017) find that residents living in new urbanist neighbourhoods with high-quality environments are more likely to express stronger place attachment than those residents living in traditional neighbourhoods in China. Kim and Kaplan (2004) argue that the architectural style and layout of the neighbourhood can play a vital role in strengthening residents' sense of community in Washington. Therefore, Burton and Mitchell (2006) suggest that building new developments needs to reflect the

character of the areas, for example, using local architectural designs, colours and materials can maintain the local character of these areas. Any regeneration or infill of existing places is argued to blend in with the character of these existing areas.

2.2.1.5 Natural surveillance

Natural surveillance can not only provide a sense of safety for the pedestrian because of feelings of 'eyes on the street' (Jacobs, 1961, p. 35; Jamme et al., 2018; Jacobs and Cherbonneau, 2019), but also can enhance the capability of territorialisation for residents and users (Newman, 1996). Newman (1972, cited in Dong, 2017) observes that some public housing projects emit a negative image that makes inhabitants living in these public buildings more vulnerable to crime. Newman's 'defensible space' theory spawns the development of the Secured by Design in the UK and Crime Prevention through Environmental Design (CPTED) in the US (Fujii et al., 2013; Dong, 2017).

In the Chinese context, there are very few studies that discuss natural surveillance. However, a vast literature states that there is a positive association between natural surveillance and safety in the Western contexts (Giles-Corti et al., 2012; Subbaiyan and Tadepalli, 2012; Foster et al., 2016; Dong, 2017; Mousavinia et al., 2019). Furthermore, many studies also point out that mixed land uses are associated with natural surveillance in Western countries. Mixed-use built environment combining commercial uses and residential uses can make streets safer through 'eyes on the street' (Jacobs, 1961; Duany et al, 2000, Zelinka and Brennan, 2001; Foster et al., 2016) because various urban activities promoted by mixed land uses can discourage criminal activity and enhance natural surveillance (Cozens, 2008; Subbaiyan and Tadepalli, 2012; Sohn, 2016).

2.2.1.6 Connectedness and permeability

Connectedness and permeability are described as a socio-spatial feature of the high-quality built environment (Aldous, 1992; Moughtin, C., 2003; Cozens, 2011). Connectedness is defined as the degree to which the routes are serviced by the pedestrian networks in the built environment (Hillier and Hanson, 1984; cited in Dempsey, 2009). Permeability refers to the concept that high-quality urban development offers 'democratic' alternatives for pedestrians, which allows them to go around easily on foot (Hoppenbrouwer and Louw, 2005).

Existing studies show that the level of neighbourhood connectedness and permeability is associated with social benefits. Over the last twenty years, there has been a surge of studies focusing on the impacts of the permeability of a neighbourhood on residents' sense of safety in policy and academic circles. Dong (2017) echoes previous research by suggesting that the level of street permeability can impact negatively residents' sense of safety (Newman, 1995; Taylor, 2002; Cozens and Hillier 2008; Johnson and Bowers 2010; Armitage et al., 2011; Cozens 2011). Because more connected and permeable streets can increase the number of potential offenders, which can undermine residents' feelings of safety. When residents feel a low sense of safety, they are more likely to constrain their social and physical activities (Doyle et al., 2006). Abdullah et al., (2018) assess the influences of neighbourhood permeability on the degree of social cohesion in Penang, Malaysia. They find that residents living in the cul-de-sac road pattern can perceive a higher level of social cohesion than residents living in other road patterns. In other words, residents living in more connected and permeable neighbourhoods tend to have a lower level of social cohesion. This is consistent with the results of the research of Brown and Werner (1985). On the contrary, Morrow-Jons et al., (2004) suggest that the permeable grid layouts can have a positive effect on residents' sense of community, suggesting a need for further research.

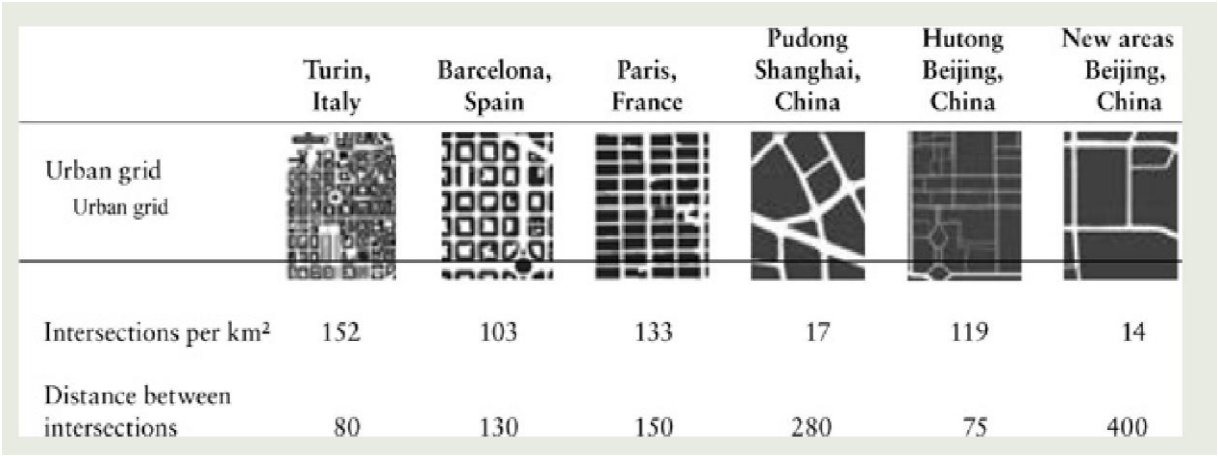

Figure 2.1 Comparison of connectivity in Chinese and other cities (World Bank Group, 2014)

In China, the reduction of block permeability has already become a key design problem due to the increase in both the number and the size of new neighbourhoods in major cities (Cheshmehzangi, 2018). World Bank Group (2014) reports that the block sizes in newly planned areas range from 400-800 meters in China. Even the 400-meter Chinese superblock, the report shows, equals 11 blocks in Paris, London, Manhattan, or Hong Kong SAR, China or

64 Japanese blocks. Figure 2.1 shows that the differences in connectivity for three cities in Europe and three in China are very big (World Bank Group, 2014).

Table 2.2 Preferred and maximum block length of local streets proposed by different scholars

Reference	Preferred block length (meters)	Maximum block length (meters)
Burton and Mitchell (2006, p.76)	60	100
T.G.M Guidebook, 2000)	90	180
World Bank Group (2014)	100	150
Australia (2012)	120	140
Siksna (1997)	60-70	<200
Charlotte Department of Transportation (2007)	120	300
Song and Knaap (2004)	300	550

Many proposals of urban block size support small blocks. For instance, Carmona et al., (2010) state that small block sizes provide pedestrians with more route choices through the layout of paths, streets and roads. However, other academics prefer larger blocks. For example, Vialard (2012) shows that smaller blocks can produce less diversity in terms of buildings size and shape. Besides, Australia (2011) suggests that larger blocks could be used midway between neighbourhood centers to avoid short intersection spacing. Larger blocks would be required in central-local streets and commercial local streets. Table 2.2 shows the preferred and maximum block length of local streets proposed by different scholars. However, there is not any research into this in China.

2.2.1.7 Attractiveness

The attractiveness of a neighbourhood as a socio-spatial feature of high-quality neighbourhoods is widely accepted by theorists and practitioners (Yeang, 2000; Barton et al., 2003; Carmona et al., 2004; Dempsey, 2009; Ettema and Schekkerman, 2016). In Western countries, a number of studies find that the attractiveness of a neighbourhood has an association with social benefits. For example, Cao (2015) finds that residents' life satisfaction is positively related to the attractiveness in the Minneapolis-St. Paul metropolitan area (Twin Cities), USA. Attractiveness is also considered to contribute significantly to residents' wellbeing (Erkip, 1997; Ettema and Schekkerman, 2016). The extent of the attractiveness is also claimed to have a positive and significant impact on residents' sense of pride (Yeang, 2000). The subjective indicator measuring attractiveness (rather than as an objective indicator, such as the extent of greenery)

is reported to influence residents' sense of safety, sense of place attachment and sense of community in English cities (Dempsey, 2009; Rogers and Sukolratanametee, 2009). In addition, the extent of attractiveness is found to impact residents' participation in physical activity for exercise and recreation, such as recreational walking (Handy, 1996; Ball et al., 2001; Giles-Corti et al., 2002; Humpel et al., 2004; Owen et al., 2004; Fahey et al., 2004; Giles-Corti et al., 2005; Michael et al., 2006; Tilt et al., 2007; Sugiyama et al., 2008; Sugiyama et al., 2009; Sugiyama et al., 2010; Beenackers et al., 2011; Giles-Corti et al., 2013; Deelen et al., 2016; Hoekman et al., 2017). However, there are very few studies regarding the extent of attractiveness in the built environment in China. Prasad et al., (2018) suggest that the number of public spaces in a neighbourhood can create an attractive environment, providing more opportunities for social interaction for residents in China.

2.2.1.8 Residential density

Residential density is a key socio-spatial feature of the built environment (Forsyth et al., 2007; Wang et al., 2019). Density is also crucial in terms of developing a sustainable urban environment (Mousavinia et al., 2019). Sivam et al., (2012) argue that sustainability could be achieved through a high-density form of residential developments. A high-density built environment has potentially more diverse land uses and a larger number of easily accessible services and facilities, such as recreational facilities, restaurants and shops (Saelens and Handy, 2008; Forsyth et al., 2009; Saelens et al., 2012; Hajna et al., 2015) in addition to schools and health services, which can encourage residents to engage in social physical activity (Forsyth et al., 2007).

In rapidly developing Asian countries, like China, most neighbourhood planners and local governments endorse a compact city approach associated with the high-density built environment. In fact, at the city scale, it is considered to be the most sustainable choice due to population growth and land scarcity (Zhu, 2012; Bardhan et al., 2015; Shi and Yang, 2015; Wang and Shaw, 2018). The high-density urban form can create an efficient public transport system and enhance the mixed use of urban lands (Shi and Yang, 2015; Chen et al., 2016). However, there is an increasing concern that high density in China is leading to negative social consequences (Wang and Shaw, 2018). According to Wang et al., (2019), residential density is negatively related to the participation of residents' social activity. Initially Chinese neighbourhood planners indicated a very cautious attitude towards high-density development (Wang and Shaw, 2018). The national planning standards published by the Ministry of

Construction and Housing Development suggest that the neighbourhood developments with a floor area ratio of over 3.5 need to be considered as 'inappropriate' (Ministry of Construction, 2002, cited in Wang and Shaw, 2018). However, although these national planning standards have been published for many years, they have been locally reinterpreted during the rapid urbanisation processes. In western countries, whilst high-density development is seen to be more sustainable, this could not be confirmed in China (Wang and Shaw, 2018).

2.2.1.9 Legibility

Legibility is a socio-spatial feature of the quality of a successful place, including the neighbourhood (Shamsuddin and Ujang, 2008; Kelly and Kelly, 2008; Dempsey, 2009; Kamalipour et al., 2012; Shuhana and Ujang, 2012; Ujang et al., 2018). Legible spaces can encourage residents to stay for a longer time, which can enhance social interaction and ultimately achieve social sustainability (Moulay et al., 2017). Legibility is defined as 'the ease with which its parts can be organized into a coherent pattern' (Lynch, 1960, p. 2). Lynch (1960, p. 46) suggests that people's image of a city is included within five factors of the landscape, namely landmarks, districts, nodes, paths and edges. These elements enable observers to recognise the structure of a city in their minds. Lynch (1960)'s theory of legibility is still commonly applied in recent academic studies (Dempsey, 2009; Zmudzinska-Nowak, 2003; Parry and Hazel, 2004; Moulay et al., 2017). Furthermore, social aspects of the legibility are examined in different countries, which include social interaction (Bounds, 2008; Shamsuddin and Ujang, 2008; Karuppannan and Sivam, 2013; Moulay and Ujang, 2016; Moulay et al., 2017), sense of place attachment (Ujang and Shamsudin, 2012); social cohesion (Dempsey, 2008; Dempsey, 2009). However, very few studies focus on delving into the level of legibility in the Chinese context.

2.2.1.10 Neighbourhood boundaries

Gated neighbourhoods are enclosed by using boundaries like fencing, hedges or walls and suitable security infrastructures (such as guards, automatic barriers and video cameras) (Blakely and Snyder, 1997). Nowadays gated neighbourhoods have become a very popular form of urban housing in both developing and developed countries (Blandy and Lister, 2005), especially in China (Miao, 2003; Wu, 2005). Although neighbourhood boundaries are commonly criticised in Western contexts, gated neighbourhoods are regarded as the desirable housing form among habitants in the context of China (Yip, 2012). The main factor frequently discussed in

connection with neighbourhood boundaries is social segregation. In Western countries, particularly in European countries and the US, social segregation is widely viewed as a social problem (Massey and Denton, 1993; McKenzie 1994; Blakely and Snyder 1999; Atkinson and Flint, 2004; Breitung, 2012). Because segregation is viewed as a product of discriminatory filters and income inequalities that allocate people in an uneven concentration across the city (Atkinson and Flint, 2004). However, neighbourhood boundaries are regarded as normal and not as problems in Chinese cities, social segregation can increase residents' feelings of safety (Breitung, 2012; Lo and Wang, 2013; Dong, 2017; Wu, et al., 2017).

As the number of gated neighbourhoods increases, traffic congestion increases as well in Chinese cities. As a response to this issue, the State Council of China (2015) suggests that future neighbourhoods should be opened to the public, and the private streets of existing gated neighbourhoods should be integrated into the public streets. The Chinese government argues that this policy can ease traffic congestion and make better land uses. But residents living in gated neighbourhoods react strongly against this policy because mixed land uses may be detrimental, like decreasing their property values and feelings of safety (Dong, 2017; Wu, et al., 2017).

Studies on the population living inside and outside the neighbourhood boundaries deliver inconsistent results across different countries. In China, neighbourhood boundaries are widely accepted by residents living inside and outside neighbourhoods (Breitung, 2012). Similarly, Salcedo and Torres (2004) find that the perceptions and attitudes of both groups are positive toward each other in Santiago de Chile. In contrast, a study in Argentina shows that both groups express segregation and discrimination against each other (Roitman, 2005). In South Africa, the presence of neighbourhood boundaries is rejected by both groups in a poor village (Lemanski, 2006). Furthermore, social benefits of neighbourhood boundaries are also examined globally, including the feeling of safety (Blakely and Snyder, 1997; Ni, 2000; Wilson-Doenges, 2000; Jia and Wang, 2001; Wehrhahn, 2003; Raman, 2010; Roitman, 2010; Yip, 2012; Lo and Wang, 2013; Dong, 2017; Wu, et al., 2017), sense of place attachment (Breitung, 2012; Lu et al., 2018), social networks (Hazelzet and Wissink, 2012), social interaction (Tezel, 2011; Mousavinia et al., 2019) and sense of community (Wilson-Doenges. 2000; Sanche et al., 2002; Lister et al., 2003; Serife, 2007; Sakip et al., 2012; Breitung, 2012; Rafiemanzelat, 2017).

2.2.1.11 Residents' perceptions of the quality of the neighbourhood

Residents' perceptions of the quality of their built environment are regarded as a socio-spatial feature of high-quality neighbourhoods (Wong and Siu, 2002; Dempsey, 2009; Franci et Al., 2012; Kemperman and Timmermans, 2014; Su et al., 2014; Gao et al., 2016; Chen and Lin, 2016; Jing et al, 2020). This socio-spatial feature is significantly associated with the level of maintenance, the extent of attractiveness and natural surveillance of the built environment (Carmona et al., 2004, p. 25; Dempsey, 2009; Franci et Al., 2012; Su et al., 2014; Koohsari et al. 2013; Kemperman and Timmermans, 2014). Therefore, both improving residents' perceived quality and the physical quality of public spaces within a neighbourhood are important for urban planning and neighbourhood renewal (Austin et al., 2002; Dempsey, 2009).

Furthermore, users' opinions of the quality of public spaces are found to be positively related to social aspects in China and globally, including place attachment (Doeksen, 1997; Bonaiuto et al., 1999; Dempsey, 2008; Zhu et al., 2012; Anton and Lawrence, 2014; Sun, 2016; Zhang and Zhang, 2017; Wu et al., 2019), sense of community (Doeksen, 1997; Lund, 2002; Francis et al., 2012), sense of safety (Yeang, 2000; Wheeler, 2001; Austin et al., 2002; Van Lenthe et al., 2005; Bonaiuto et al., 2006; Weimann et al., 2017; Van der et al., 2019), social cohesion (Dempsey, 2009; Lloyd et al., 2016; Primož, 2017), social interaction (Nash and Christie, 2003; Lloyd et al., 2016) and community participation (Palmer et al., 2011; Anton and Lawrence, 2014).

2.3 Social cohesion

In this section, social cohesion in Western countries and China is discussed. Then seven dimensions which are identified as measuring social cohesion are discussed, comprising social interaction, social networks, sense of community, participation in organized activities, trust and reciprocity, sense of safety, and place attachment.

2.3.1 Social cohesion in Western countries and China

In Western literature, a large number of articles focus on social cohesion (Boehnke et al. 2019; Bekalu et al., 2021; Yu et al., 2021; Avery et al., 2021). Social cohesion is often regarded as the glue keeping the members of a social system together (like a family or a neighbourhood or a society) (Van Bergeijk et al., 2008; Sampson, 2012; Schmeets 2012: 128; Dekker and Bolt, 2005, cited in Bwalya and Seetha, 2016; Langer et al., 2017). Moreover, Western research shows how the concept of social cohesion is closely related to social equality (Cassiers and

Kesteloot, 2012), social isolation (Vergolini 2011; Wang et al., 2017), social policy (Mok et al., 2010; Novy et al., 2012; Avery et al., 2020), social interaction (Lloyd et al., 2016), economic sustainability (OCDE 2011; Cook and Swyngedouw, 2012; Rocha et al., 2020), neighbourhood improvements (Meegan and Mitchell, 2001; Esparcia et al. 2016; Liu et al., 2016), public safety (Lee 2000; Bjornstrom and Ralston, 2014; Ruijsbroek et al., 2016; Wang and Fowler, 2019; Bradley et al., 2020), individual wellbeing and health (Cagney et al. 2009; Cohen et al. 2005; Kim et al., 2013; Delhey and Dragolov 2016; Franzini et al. 2005; Miao et al., 2019; Cho, 2020; Yu et al., 2021), ethnic groups (Sampson and Groves 1989; Dekker and Bolt, 2005), as well as social, interpersonal and institutional trust (Han et al., 2017; Wang et al., 2017; Yu et al., 2019).

In recent decades, the Chinese government has paid attention to social cohesion in China. For instance, Cheng (2005), Vice-Chairman of the Standing Committee of the tenth NPC (National People's Congress), stated that social cohesion is a key element of a harmonious society. Cheng argued that the leadership of the Chinese Communist Party needs to be strengthened by enhancing the cultural and educational status of citizens, emphasizing the need for rule by law, and holding the flag of nationalism, to enhance social cohesion in China. Social cohesion has been explored at neighbourhood level in Chinese literature. For instance, scholars have focused on social cohesion associated with the influx of migrants (Liu et al., 2016; Wang et al., 2017), health and well-being (Wen et al., 2010; Cheung and Leung, 2011; Hoi et al., 2015; Hsieh, 2015; Miao et al., 2019; Wang and Fowler, 2019; Yu et al., 2019), social isolation (Yu et al., 2020), neighbourhood improvements (Wu and He, 2005; Liu et al., 2016), feelings of safety (Zhang et al., 2007), social trust (Jiang et al., 2012; Han et al., 2017; Wang et al., 2017) and social interaction (Fu et al., 2015). Furthermore, some studies address dimensions of social cohesion in Chinese neighbourhoods, including social networks (Hazelzet and Wissink, 2012), social interaction (Tian, 1997; He, 2005; Zhu et al., 2011), trust (Hazelzet and Wissink, 2012; Wang et al., 2016), neighbourhood attachment (Forrest and Yip, 2007; Zhu et al., 2011; Lu et al., 2018; Wu et al., 2019), social capital and neighbourhood participation (Zhu and Fu, 2017), sense of community (Li, 2007) and sense of security (Yip, 2013). However, these studies have not examined the concept as a whole or in relation to local-migrant relations.

2.3.2 Dimensions of social cohesion

According to the wide range of literature reviewed, there are seven emerging dimensions of social cohesion, which are social interaction, social networks, sense of community, participation in organized activities, trust and reciprocity, sense of safety and sense of place attachment. These dimensions of social cohesion are examined in the following sections.

2.3.2.1 Social interaction

Social interaction is regarded as one dimension measuring social cohesion (Muhuri and Basu, 2018; Yu et al., 2019; Bekalu et a., 2021). Social interaction in daily life between residents is positively connected to social cohesion (Oldenburg, 1982; Potapchuk et al., 1997; Marshall and Stolle, 2004; Kleinhans et al., 2007; Pendola and Gen, 2008; Rosenblatt et al. 2009, Kennedy and Buys 2010; Kolodinsky et al., 2013; Henriksen and Tjora, 2014; Fu et al., 2015; Gómez et al., 2018; Wickest al., 2019). It is also a key aspect of creating a livable city (Lloyd et al., 2016). The opportunities of social interaction not only have a positive influence on residents' physical and psychological aspects, but also create a sense of belonging and foster a sense of community for residents (Riger and Lavrakas 1981; Kearns and Parkinson, 2001). These claims assume that all social interactions are positive. However, there are two types of social interaction, including positive social interaction and negative social interaction (Krause, 2006). Negative interactions may include avoidance, annoyance and disturbance (Ebbesen et al. 1976; Rook, 1984; Skjaeveland et al., 1996). Forrest and Kearns (2001) argue that negative social interaction may affect social cohesion in a neighbourhood. Therefore, negative social interaction is also considered as a significant element measuring social cohesion (Buckner, 1988; Muhuri and Basu, 2018).

Social interaction can take place in any physical places, and the arrangement of physical places can manipulate social interaction among people through creating potential social activities and communication (Fainstein, 2005; Zhu, 2015; Howley et al., 2015; Roberts, 2015). This research focuses on social cohesion within a given neighbourhood, so social interaction is also measured within the defined neighbourhood. In China, there are some studies on social interaction in the neighbourhood. For example, Wang et al., (2016) suggest that a neighbourhood with low storey housing has more social interactions because of the provision of shared places where users have more chances to chat with each other in urban China. Social interaction is found to be positively related to the quality of life of elderly people in China (Sun et al., 2011; Feng et al., 2018). Social interaction also has a positive impact on social cohesion in a neighburhood (Wu and He,

2005). However, very few studies directly addressed social interaction between locals and migrants at the neighbourhood level. In China, social interaction is a new topic (Liu et al., 2012; Wu, 2012), as the influx of migrants to large cities has urged the Chinese government to pay attention to social interaction between locals and migrants.

2.3.2.2 Social networks

Social networks are considered as one of the key dimensions of social cohesion in the neighbourhood (Friedrichs and Vranken, 2001; Eastwood et al., 2003; Maloutas and Pantelidou, 2004; Dekker and Bolt, 2010; Windsor et al., 2012; Muhuri and Basu, 2018; Yu et al., 2019; Wickes et al., 2019； Bekalu et a., 2021). Social networks are closely and positively related to social interaction (Kawachi and Berkman, 2000; Peter et al., 2010; Wissink and Hazelzet, 2012; Weijs-perr, 2017). Bridge (2002, p.2) argues that the neighbourhood can foster the development of social networks by social interaction among people in public spaces. The opportunities of repeated interaction can help to build residents' social networks in a neighbourhood (Wissink and Hazelzet, 2012). Social interaction and social networks are vital to people's happiness and well-being (Pinquart and Sörensen, 2000; Kawachi and Berkman 2001; Helliwell and Putnam, 2004; Delmelle et al., 2013; Van den Berg et al., 2017). Moreover, social networks are also found to have a positive impact on place attachment and participation in social activities in the neighbourhood (Livingston et al. 2008; Weijs-perr, 2017).

Social networks can be defined as network ties with people's family members and close friends (Dekker and Bolt, 2006; Croezen 2010; Cornwell and Behler, 2015; Van Den Berg and Timmermans, 2015; Jayashankar and Raju, 2020). People's social networks may reside outside or inside of their neighbourhood, including the neighbourhood level, regional level, national level and international level (Cornwell and Behler, 2015). For the purposes of this study, this research focuses on social networks at the neighbourhood level, and having families and close friends living in the neighbourhood can provide access to proximal resources and support (Fischer 1982; Wellman and Wortley 1990; Van Eijk 2010).

This research focuses on social cohesion for locals and migrants, so the social network is also measured based on the two groups. In China, there is a lot of literature researching social networks among migrants. For instance, Li and Wu (2010) examine social networks among migrant residents in a migrant neighbourhood in Beijing. They find that social networks are

positively related to migrants' health in urban China. Wu and He (2005) argue that redevelopment is a destructive force in the traditional neighbourhood in Nanjing. They stress that the existing social networks are crucial in a neighbourhood as the mutual supports for migrant groups. Wu (2006) suggests that rural-to-urban migrants rely strongly on their friends, relatives, and "laoxiang" (which means people who are coming from the same hometown) to seek a job, conduct business, acquire loans with low-interest rates and exchange rental information in Chinese cities. Liu et al., (2012) suggest that income level, occupation structure, and educational attainment are key determining factors of the nature of new-generation migrants in Chinese urbanised villages. However, very few studies focus on social networks between locals and migrants in the Chinese context.

2.3.2.3 Sense of community

Sense of community is regarded as a necessary element of social cohesion (Buckner, 1988; Perkins and Long, 2002; Bhattacherjee, 2012; French et al., 2014; Cramm and Nieboer, 2015; Zhang and Zhang, 2017; Muhuri and Basu, 2018). Sense of community refers to members' sense of belonging, members' sense of mattering to a group, and a shared faith that their needs will be met (McMillan and Chavis 1986, cited in Boyd and Nowell, 2020; Rogers and Sukolratanametee, 2009; Sakip et al., 2012). In a neighbourhood, a sense of community is positively related to dimensions of social cohesion, including social interaction (Van Den Berg and Timmermans, 2015), residents' sense of safety (Austin et al., 2002; Rogers and Sukolratanametee, 2009; Sakip et al., 2012; French et al., 2014), neighbourhood attachment (Chavis and Wandersman, 1990; Perkins, et al., 1996; Jorgensen and Stedman, 2001; Sense of Community (Dallago et al. 2009; Francis et al., 2012) and participation in organized activities (Perkins, et al., 1996; Perkins and Long, 2002). Furthermore, Perkins and Long (2002) suggest that a sense of community is one component of social capital, and it is closely associated with other components, including people's participation, collective efficacy, and neighbouring.

In China, there are many empirical studies regarding the sense of community in a neighbourhood. The sense of community is found to contribute to residents' well-being in a neighbourhood (Yip et al., 2013; French et al., 2014; Zhang et al., 2018). It partially mediates the association between residents' life satisfaction and the neighbourhood environment and fully mediates the association between meaning in life and the neighbourhood environment (Zhang and Zhang, 2017).

2.3.2.4 Participation in organized activities

Participation in organized activities is cited as a dimension measuring social cohesion (Perkins and Long, 2002; Hulse and Stone, 2007; Kalolo et al., 2019; Bekalu et al., 2020; Kim et al., 2020). Participation is defined as people's satisfaction with participation in a life situation (World Health Organization, 2002), and can reflect an individual's value and preference (Law et al., 1996). Participation in organized activities includes socializing with others, caring for oneself, or doing volunteer work (Hand et al., 2012).

According to global literature, participation in organized activities is found to be positively related to not only social cohesion (Kim et al., 2020), but also other dimensions of social cohesion, like trust (Hsieh, 2015), sense of safety (Hovbrandt et al., 2007; Hand et al., 2012; Hsieh, 2015), sense of place attachment (Hays and Kogl 2007; Guest and Wierzbicki 1999; Wu, 2012), sense of community (Xu et al., 2010, Tsai, 2013), social interaction (Bekalu et al., 2020; Xu et al., 2010, cited in Tasi, 2014; Zhu and Fu, 2016) and social networks (Hand et al., 2012; Hsieh, 2015; Kim et al., 2020).

2.3.2.5 Trust and reciprocity

Trust is regarded as an essential dimension of social cohesion in social science (Sampson et al., 1997, cited in Zhang et al., 2020; Zoller, 2000; Forrest and Kearns, 2001; Perkins and Long, 2002; Young et al., 2004; Ohmer and Beck, 2006; Chan and Chan, 2006; Chung et al., 2009; Mok et al., 2010; Peters et al., 2010; Hand et al., 2012; Mennis et al., 2013; Putnam, 2013; Delhey and Dragolov, 2016; Dawson et al., 2019; Kalolo et al., 2019). Trust is defined as one's generalized expectation that other people behave with acceptance of vulnerability and goodwill involved in an act of social trust (Cho and Lim, 2019). Trust and reciprocity are positively and closely related to other dimensions of social cohesion. For example, Glanville and Paxton (2007) argue that the nature of social trust can be produced by various social interactions (Putnam, 2000; Takagi et al., 2020). This means that people's ability to trust other people is not innate, but it is meaningfully understood only relating to the social context wherein people can operate their daily lives (Cho and Lim, 2019). Also, people living in a neighbourhood trust and know each other, which is associated with increased participation in organized activities (Bowling and Stafford, 2007; Hand et al., 2012).

There are three mechanisms building social trust that operate at different scales (Zucker, 1986, cited in Cho and Lim, 2019). Firstly, process-based trust can emerge when repeated interactions

create a more generalized sense regarding other people's trustworthiness (Hardin, 2002, p. 113; Marschall and Stolle 2004; Takagi et al., 2020). Secondly, characteristic-based trust can occur in a neighbourhood when residents perceive that they are a part of the neighbourhood basing on cultural and social commonalities (Storper 2005, p. 45). Finally, the institutionally-based trust can operate in an institutional environment (Cho and Lim, 2019). Social trust does not only depend on cultural similarities and mutual acquaintances, but also is based on the proper functioning of formal rules provided by public institutions.

Since this study examines social cohesion for locals and migrants, social trust is also measured based on the two groups, i.e., locals and migrants. In China, there are many articles regarding social trust between locals and migrants in the neighbourhood. Wang et al., (2017) explore social trust between rural migrants and native Shanghai residents. They show that residents living in neighbourhoods with more migrants have higher social trust between the two groups, indicating that exposure to more migrants can foster tolerance for each other and remove preconceived stigmas in urban neighbourhoods. Wu (2012) suggests that social ties between locals and migrants are transient and scarce in the low-income neighbourhood, indicating that the level of social trust between locals and migrants is low. Hazelzet and Wissink (2012) argue that high residential mobility can cause a problem that the neighbourhood consists of strangers who do not trust each other in post-reform China. However, these studies mainly focus on studying social trust between locals and migrants in urban areas, not peri-urban areas.

2.3.2.6 Sense of safety

Sense of safety is regarded as a key and basic dimension of social cohesion (Baum et al., 2009; De Jesus et al. 2010; Hand et al., 2012; Ruijsbroek et al, 2016). It is the only dimension measuring social cohesion that should be positive in nature (Dempsey, 2006). Sense of safety is also residents' fundamental requirement to perceive feelings of safety in a neighbourhood. However, other dimensions measuring social cohesion may be negative in the given built environment and social cohesion can yet occur (Home Office, 2015). Thus, a sense of safety is an essential part of creating a cohesive neighbourhood for residents.

Within the context of social cohesion, one's sense of safety is related to other dimensions of social cohesion. For example, the sense of safety has a positive impact on the level of participation in physical activities (Van Lenthe et al., 2005; Bowling and Stafford, 2007;

Richard et al., 2009; Hand et al., 2012), then potentially contributes to residents' social interaction in a neighbourhood (Chiesura, 2004; Bedimo-Rung et al., 2005; Wolch et al., 2014; Foster et al., 2016). Perceived neighbourhood safety is also associated with the extent of trust and reciprocity between residents living a neighbourhood (Richard et al., 2009; Bowling and Stafford, 2007; Hand et al., 2012). Moreover, it can also enhance the sense of place and sense of community in the neighbourhood (Dempsey, 2006).

In China, many articles study the relationship between residents' sense of safety and the built environment. For instance, Feng (2016) suggests that the sense of safety is one criterion design a successful pedestrian network. Wu et al., (2015) argue that the newly-developed neighbourhoods are generally equipped with well-paved sidewalks and separate bicycle lanes, which can increase people's feelings of safety. Prasad et al., (2018) indicate that safe neighbourhoods are an essential element to achieving sustainable neighbourhoods. Moreover, many studies show that residents' sense of safety has a positive impact on their mental health in urban neighbourhoods (Chen and Chen, 2015; Cheng and Smyth, 2015).

2.3.2.7 Place attachment

Positive feelings of place attachment to a neighbourhood are regarded as a dimension measuring social cohesion (Riger and Lavrakas, 1981; Forrest and Kearns, 2001; Maloutas and Pantelidou, 2004; Dekker and Bolt, 2006; Dassopoulos and Monnat, 2011; Lu et al., 2018), because the sense of place attachment is an essential component of residents' enjoyment of their neighbourhood (Nash and Christie, 2003). A society lacking social cohesion may be the one that displays a low level of place attachment (Forrest and Kearns, 2001). Place attachment is identified as the positive and affective bonding between people and places lived by them (Scannell and Gifford, 2017; Zhang et al., 2018; Boley et al., 2021). It can be reflected in people's identity and their dependence on a place (Shamsuddin and Ujang, 2008). Place attachment can promote people's neighbourhood participation (Brown et al., 2013), feelings of safety (Brown et al., 2013; Kamalipour et al., 2012), social interaction between people (Casakin and Hernández, 2015), social networks (Dekker and Bolt, 2006), sense of the community (Rogers and Sukolratanametee, 2009).

In China, place attachment has been an important policy orientation and planning consideration in recent years. The Chinese government has focused on enhancing and preserving place attachment in urban development in 2013 (Lu et al., 2018). Many studies focus on studying

residents' sense of place attachment in a neighbourhood in urban China. Zhu et al., (2012) suggest that although residents living in commodity housing have weak social interactions than those residents living in traditional neighbourhoods, residents' sense of place attachment in commodity housing is not weaker than those residents from traditional neighbourhoods. Wu (2012) explores the relationship between place attachment, social participation, and residents' willingness to stay in the low-income neighbourhood. He suggests that migrants' sense of place attachment in their neighbourhood is low, but their willingness to stay in the urban neighbourhood is strong. This is because migrants can rely on their social networks of "laoxiang" due to their inability to be socially integrated and attached in their neighbourhood. Fan and Taubmann (2008) argue that migrants have strong attachments to their native spaces, they generally concentrate in a particular location of cities, creating lots of migrant neighbourhoods (Gu and Shen, 2003). However, very few articles explore residents' place attachment in peri-urban China.

2.4 Relationship between locals and migrants in China

Beginning in the 1980s, thousands of rural migrants (farmers-turned-workers) moved from rural to urban areas to improve their lives in China (Li and Li, 2007). The influx of these rural migrants into urban areas reached about 230 million people by 2012 (Wang and Fan, 2012). Rural migrants usually earn lower incomes, have lower education than locals, may communicate in different dialects and cannot speak Mandarin fluently (Jacka, 2014). As a consequence, they often take on the least appealing jobs to urban residents (Knight and Gunatilaka, 2010). These jobs can be physically exhausting, with a poor working environment and few welfare benefits, and have low status and low income (Jacka, 2014). Moreover, the hukou (household registration) system in China is still in effect. Under the household registration system, everyone is officially registered as either an urban or a rural resident. This system indicates that urban residents holding the urban hukou and rural migrants registered with the rural hukou receive differential institutional treatment regarding the provision of public services and goods. For example, rural migrants are given restricted rights in cities compared with residents registered with urban hukou, such as social security, admission for their children to urban schools, employment resources and housing benefits (Tse, 2016). It is difficult for rural migrants to obtain urban hukou. For example, holding urban hukou is frequently a prerequisite for buying urban properties. Most migrants work in cities for a period of time, then return to their rural areas, or they work in urban areas seasonally (Li et al., 2006). Alongside rural

migrants, a number of migrants from small-medium sized cities have also moved to the larger Chinese cities in recent decades (Wei and Gao, 2016). So far, there are three types of migrants in Chinese cities, which include **rural-to-urban migrants**, who are the majority of Chinese large cities' migrants to, in particular, the peri-urban areas; **urban-to-urban migrants**; and **university graduates** who moved from their birthplaces (Tong and Ma, 2008, cited in Wei and Gao, 2016).

Migrants' social integration has become a key challenge for Chinese cities because rural migrants still face discrimination from urban locals (Wang et al., 2017). Numerous studies discuss urban residents' discrimination against rural migrants due to various aspects, particularly hukou-based social exclusion and language prejudices, in China (Wong et al., 2008). For example, Tse (2016) explores the factors shaping urban residents' prejudice toward rural migrants and the influences of prejudice on rural migrants' integration into urban neighbourhoods. The findings indicate that urban residents with higher household incomes and higher education are more prejudiced toward rural migrants than other urban residents. This study also suggests that urban residents holding urban hukou at birth report stronger prejudice. Kuang and Liu (2012) argue that the Chinese rural-urban society system is instituted by the hukou system, which denies the right of migrants' permanent urban residency and associated social benefits. In other words, the hukou system is found to lead to inequalities in social status between rural and urban residents, discrimination against rural migrants and social segregation between rural and urban residents within Chinese cities (Zhao and Wang, 2018). This suggests that the abolishment of the hukou system could decrease discrimination against rural migrants (Kuang and Liu, 2012).

Cantonese is the native language spoken among locals in Guangzhou, Guangdong Province (Qian et al. 2012). However, most migrants cannot speak Cantonese, meaning that there may be difficulties in communicating with locals in Guangzhou or being understood. Thus, Tse (2016) argues that locals show prejudicial attitudes toward migrants because of cultural differences, including language. Furthermore, other studies show that the influence of discriminatory experience and perceived social inequity on mental health among rural migrants. For instance, Lin et al., (2011) indicate that reducing public discrimination against rural migrants and eliminating structural barriers (like the hukou system) could improve rural migrants' psychological well-being. Wang et al., (2010) find that urban residents' discrimination against rural migrants has a negative effect on rural migrants' quality of life and

psychological distress.

In conclusion, even though migrants play a crucial role in the economic growth and industrial development in Chinese large cities, their contribution may be often ignored. They are subject to discrimination from locals and excluded from the provision of public services. In addition, although recent hukou reforms in small cities enable rural migrants to register as urban residents and to obtain all social benefits, almost all large cities experience negligible influences of hukou reforms due to concerns that increasing the influx of migrants may decrease the level of services provided (Wu and Wang, 2014). Therefore, it is likely that locals' discrimination against rural migrants will continue for a long time in China, and could manifest itself as problematic in peri-urban neighbourhoods and negatively affect social interactions and networks between locals and migrants. This highlights the urgent need for studies on social cohesion in relation to the migrant influx.

2.5 Social cohesion in relation to the migrant influx

A large volume of literature explores how social cohesion is related to the migrant influx globally. In England, Andrews (2015) focuses on the influences of labour migration on social cohesion in urban areas. The statistical findings of this study indicate that post-enlargement migration can weaken residents' social cohesion. In the Netherlands, Dekker and Bolt (2005) demonstrate how differences between ethnic and socioeconomic groups relate to three dimensions of social cohesion (i.e. common values, social networks and place attachment). The conclusion drawn from their study is that the diversity of ethnic or socioeconomic groups in the worse-off urban areas is negatively associated with social cohesion. In Canada, Taylor and Foster (2015) study the Canadian Temporary Foreign Worker Program (TFWP) drawing on the conceptualisation of social cohesion. They argue that the TFWP can encourage a low sense of belonging and a low level of trust among migrants because it promotes exclusion and inequality. The inability of migrants to change employers, to bring families, to enroll in the training and education, which can discourage migrants' integration into the local neighbourhood. In Australia, public debates concerning the level of social cohesion spring up frequently in relation to ethnic diversity which is often regarded as problematic (Sharples and Colic-Peisker, 2020). In African countries, like Ghana, the low level of social cohesion among the non-rural migrant people is a contributory element to the severity of poverty among the non-rural poor people (Ofori-Boateng, 2017).

In China, existing literature also shows that the relationship between social cohesion and migrant influx exists. Improving migrant people's social cohesion is a key task for the Chinese government (Tian and Gen, 2013), which is beneficial for migrant people's health (Hong et al., 2014; Wang and Chen, 2015; Maleku and Lee, 2019; Zhang et al., 2020). Chung (2010) argues that locals in an urban village may have more interactions with other locals, but they have fewer social interactions with migrant people. This may contribute to migrants feeling low levels of social cohesion in their neighbourhood. Moreover, Wang et al., (2017) show that the migrant influx does not engender all negative influences on social cohesion in a neighbourhood. For example, the level of social cohesion is high in a neighbourhood with a share of migrants between 20% and 50%, because locals have adjusted to the influx of migrants in their neighbourhood. In a migrant-dominated neighbourhood, social cohesion is stronger because migrants may form their own groups. In a local-dominated neighbourhood, residents may show a low level of social cohesion, such as a low sense of belonging and low social solidarity, indicating that locals have not adjusted to the migrant influx in the local-dominated neighbourhood. This all points to the need to explore the effect that the ratio of locals to migrants may also have on social cohesion in Chinese neighbourhoods.

2.6 Conclusion

The reviews of the literature in this chapter (i.e., on socio-spatial features of the high-quality neighbourhood, dimensions of social cohesion, the relationship between locals and migrants in China, and social cohesion in relation to the migrant influx globally) provide a foundation for the next step of this research. In this chapter, socio-spatial features of the high-quality neighbourhood have been identified mainly through the sustainability paradigm because numerous recent articles exploring the concept of the high-quality neighbourhood are situated within the paradigm of sustainability (Sivam et al., 2012; Moulay et al., 2017). However, neighbourhood-level sustainability is less studied in Chinese literature. Some Chinese studies measure socio-spatial characteristics of neighbourhoods to explore social aspects (like residents' well-being, sense of safety, participation in social activity, and sense of community). Therefore, many socio-spatial features of the high-quality neighbourhood are identified according to these studies. Then, many socio-spatial features of the high-quality neighbourhood are also determined through sustainability literature in Western countries. Finally, eleven socio-spatial features of neighbourhoods are identified for the purposes of this research, including maintenance, mixed land uses, accessibility, character, natural surveillance, connectedness and permeability, attractiveness, residential density, legibility, the boundary of the neighbourhood

and the quality of the neighbourhood.

Furthermore, social cohesion is an intricate and complex concept. In Chinese literature, the concept of social cohesion at the neighbourhood level is similar to that in Western countries. So dimensions of social cohesion are identified according to Chinese and Western literature, including social interaction, social networks, sense of community, participation in organized activities, trust and reciprocity, feelings of safety, feelings of place attachment. These seven dimensions emphasize that social cohesion is not only related to social dimensions of everyday life, but also to its local, spatial setting.

Although the reviews of the literature identify socio-spatial features of neighbourhoods and dimensions of social cohesion at the neighbourhood scale, further steps of operationalisation are required. These identified socio-spatial features of neighbourhoods and dimensions of social cohesion can provide a basis for the selection of a variety of indicators to measure the quality of the neighbourhood and social cohesion. Establishing these indicators allows the researcher to explore the relationship between the quality of the built environment and social cohesion. The next chapter will discuss the research methodology employed in this study.

Chapter 3 Research Methodology

This chapter sets out the research methodology employed in this study, which is organised as follows. Section 3.1 outlines the research process which clearly illustrates the steps carried out to address the research objectives of this study. Section 3.2 describes the approach taken to selecting the neighbourhoods. Section 3.3 explores the development of multiple indicators. Section 3.4 explains the methods employed for data collection. Section 3.5 discusses the quantitative and qualitative research methods used for data analyses.

3.1 Research process

This study aims to examine the impacts of socio-spatial features of neighbourhoods on social cohesion for locals and migrants in the peri-urban areas in China. This research aim is addressed by achieving four objectives as follows: 1) To identify socio-spatial features of the quality of neighbourhoods in the peri-urban areas of Panyu District. 2) To define social cohesion in neighbourhoods in the Chinese peri-urban context. 3) To examine which socio-spatial features of the peri-urban neighbourhoods, if any, contribute to social cohesion. 4) To make recommendations for landscape planners, designers and property managers of new and existing neighbourhoods to enhance social cohesion in peri-urban China. To achieve the above research objectives, the following research process was taken with four steps as follows:

- Firstly, the literature review was used to achieve three goals: 1) To identify socio-spatial features of the quality of neighbourhoods in the peri-urban areas. 2) To determine dimensions of social cohesion. 3) To explore and identify the suitable methods of collecting and analysing data.

- Secondly, three research methods were employed to collect data regarding socio-spatial features of the quality of neighbourhoods, dimensions of social cohesion and intervening variables. These research methods include site survey, household questionnaire survey and walk-along interview.

- Thirdly, all data collected were analysed by employing descriptive analysis, correlation analyses, regression analyses and content analyses.

- Fourthly, the WeChat interview was used to discuss recommendations for landscape

planners, designers and property managers of new and existing neighbourhoods to enhance social cohesion for locals and migrants with 6 professionals in peri-urban China.

3.2 Site selection

3.2.1 Site selection rationale and criteria

In this research, two criteria are defined for the site selection. The first criterion is that the chosen city should be a large-sized city that is representative in China. The second one is that the selected city should have been built for a long time, and there are a large number of migrants in this city.

In China, there are five megacities: Guangzhou, Tianjin, Beijing, Shenzhen and Shanghai. According to the above two criteria to select a city, Guangzhou City is a suitable area to explore the relationship between socio-spatial features of the quality and the level of social cohesion for locals and migrants. Guangzhou City is the capital of Guangdong Province, and the third-largest city of China (Figure 3.1). It is situated in China's southern coastal area and is close to Macao and Hong Kong. This city is China's largest manufacture and industrial area in the Pearl River Delta (Qian et al., 2011). In 2015, there were more than six million internal migrants in this city, accounting for about half of the city's total population (Guangzhou Municipal Government, 2016). Guangzhou City is one of the most attractive destinations for migrants in China (Liu et al., 2012; Li and Wu, 2013; Hoi et al., 2015; Liu et al., 2017; Wu et al., 2019).

Panyu District is an important industrial area in Guangzhou City (Huang 2013). Most industries are located in the peri-urban areas of Panyu, which attracts numerous migrant workers to work and live in these areas (Huang 2013). Furthermore, Panyu is also an important region to implement the strategy of "southern extension" for Guangzhou's development, which is close to Guangzhou city centre (Qu et al. 2012). In order to reduce the population pressure on the city centre of Guangzhou, part of the available land of Panyu continues to be developed for large housing projects since the early 2000s (Qu et al. 2012). The peri-urban areas in Panyu are the areas under important urban development (Wei and Zhao, 2009). This means that more new neighbourhoods are being built, and more old neighbourhoods are being redeveloped in such peri-urban areas, which may attract more people to work or live in there in the near future.

The total area of Panyu District is 530KM^2 (Weijibaike, 2017). In 2017, there are about 1330000 locals and 1500000 migrants in Panyu (Weijibaike, 2017). The district includes ten sub-districts (like Shiqiao Sub-district, Qiaonan Sub-district, Donghuan Sub-district, Shatou Sub-district, Luopu Sub-district, Dashi Sub-district, Xiaoguwei Sub-district, Zhongcun Sub-district, Shibi Sub-district and Dalong Sub-district) and six towns (including Nancun Town, Shawan Town, Shiji Town, Shilou Town, Xinzao Town and Hualong Town). In the peri-urban areas of Panyu District, there are 5 towns and 5 sub-districts, including Luopu Sub-district, Xiaoguwei Sub-district, Shibi Sub-district, Shatou Sub-district, Shawan Town, Qiaonan Sub-district, Shiji Town, Shilou Town, Hualong Town and Xinzao Town (Figure 3.2).

Map of China Map of Guangzhou Map of Panyu

Figure 3.1 Geographical location of Panyu District

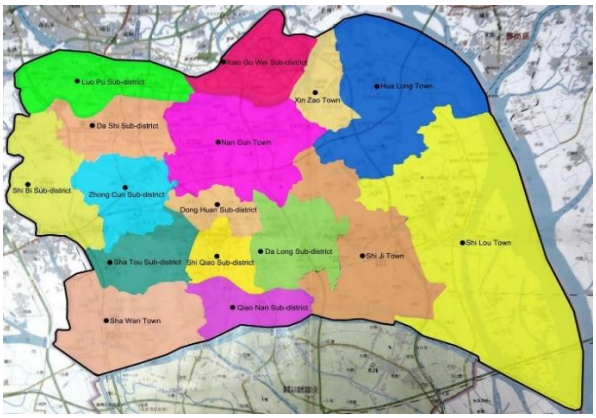

Figure 3.2 Towns and sub-districts in Panyu

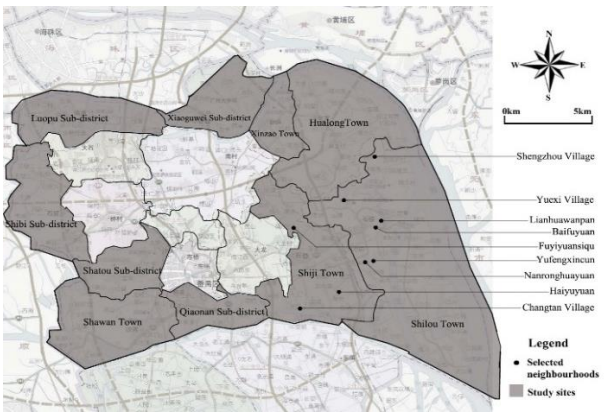

Figure 3.3 The selected neighbourhoods

3.2.2 The method of selecting the neighbourhoods

To ascertain the impacts that socio-spatial features of the quality of the neighbourhood have on the level of social cohesion in rapidly urbanizing peri-urban neighbourhoods, the neighbourhoods need to be selected in this research. There are three neighbourhood types in the

peri-urban areas of Panyu, which include i) villages, ii) redeveloped villages, and iii) commodity housing. Furthermore, social cohesion is surveyed based on two groups of residents (locals and migrants). According to the population data provided by Panyu government, locals and migrants live in villages, redeveloped villages and commodity housing in the peri-urban areas. So the three neighbourhood types lived in by both locals and migrants in the peri-urban areas of Panyu District need to be selected (Panyu Population Management Bureau, 2015). In this way, three villages, three redeveloped villages and three commodity housing are selected, according to the ratio of migrants (i.e. a high percentage of migrants, 50:50 migrants and locals, and a low percentage of migrants in each neighbourhood), housing types, age of neighbourhood and the number of households (Table 3.1). The different proportions of migrants in a neighbourhood may engender different impacts on the level of social cohesion (Wang et al., 2017), so various proportions of migrants need to be considered. Moreover, different housing types may also have an influence on residents' social aspects (like social interaction) in a neighbourhood. For example, Wang et al., (2016) investigate social interaction among residents living in various housing types, and find that residents living in low storey housing have more frequent interactions than residents from high storey housing in a neighbourhood. This is because residents living in low storey housing can more easily access shared facilities and services in their neighbourhood than residents from high storey housing. Neighbourhood age is also a factor to select neighbourhood sampling, because if a neighbourhood is built for only a few years, everything may be strange to residents in their neighbourhood, and residents' social interaction and social networks may not yet be engendered for a short time. The number of households in each neighbourhood should be as similar as possible in order to select similar-size neighbourhoods.

According to the above four criteria of selecting neighbourhoods, nine neighbourhoods are selected in this research. The distribution of the selected nine neighbourhoods is presented in Figure 3.3, and they are listed as follow (Table 3.1):

- 3 villages: Shengzhou Village, Yuexi Village, ChangtanVillage (Figure 3.4);
- 3 redeveloped villages: Yufengxincun, Nanrong huayuan, Haiyuyuan (Figure 3.5);
- 3 commodity housing: Baifuyuan, Lianhuawanpan, Fuyiyuansiqu (Figure 3.6).

Table 3.1 The selected nine neighbourhoods in the peri-urban areas in Panyu District

Types of neighbourhood	Neighbourhood name	Age of neighbourhood	Area (m^2)	No. of households	No. of Locals	No. of Migrants	Ratio of L and M
Villages	Shengzhou Village	Pre1900s	100800	415	1116	147	76:10
	Yuexi Village	Pre 1900s	243000	358	1407	4084	3:10
	Changtan Village	Pre 1900s	242000	411	1439	1598	10:10
Redeveloped villages	Yufengxincun	2010	88407	408	1250	150	10:1
	Nanronhuayun	2010	25300	257	700	200	10:3
	Haiyuyuan	2011	27810	228	750	50	100:6
Commodity housing	Baifuyuan	1996	17500	348	522	522	10:10
	Lianhuawanpan	2008	22300	337	404	607	10:15
	Fuyiyuansiqu	2000	39000	186	240	102	10:4

Figure 3.4 Villages (Shengzhou Village, Yuexi Village and ChangtanVillage)

Figure 3.5 Redeveloped villages (Yufengxincun, Nanronghuayuan and Haiyuyuan)

Figure 3.6 Commodity housing (Baifuyuan, Lianhuawanpan and Fuyiyuansiqu)

3.2.3 The characteristics of the selected neighborhoods

According to the site survey, there are three neighborhood types in peri-urban areas in Panyu district, including villages, redeveloped villages, and commodity housing. In this research, the characteristics of these three neighborhood types are discussed as follows.

3.2.3.1 Villages

The development of large cities in the post-reform era has seen diversity (Ma and Wu, 2004). The development of peri-urban villages is an example of this (Douglass et al., 2012). Peri-urban villages are surrounded by farmland converted by the government into urban uses (Wu et al., 2013). After the loss of agriculture, peri-urban villages often develop a productive economy. Migrants may work in the local area and live here for many years (Zacharias and Lei, 2016). Many basic services like pavements, roads, and water supply can be provided by villagers' committees (Wu et al., 2013). In most cases, peri-urban villages are outside the provision of municipal-government-supplied services (Wu et al., 2013). The houses in the peri-urban villages are built by villagers themselves, the quality of the housing is better than in typical slums or squatter areas in other countries (Wu, 2009). Most of the houses are two or three floors, at most four floors (Li and Wu, 2013), as shown in Figure 3.7 and Figure 3.8. The characteristics of these peri-urban villages include high building coverage and the lack of public goods and poor quality of open spaces (see Figure 3.9, Figure 3.10 and Figure 3.11), which make a physical contrast between these villages and other neighbourhood types in Chinese cities (Hsing, 2010; Liu et al., 2010).

Figure 3.7 Houses (1)

Figure 3.8 Houses (2)

Figure 3.9 Open space (1)

Figure 3.10 Open space (2)

Figure 3.11 Open space (3)

3.2.3.2 Redeveloped villages

A new stage of redeveloping villages began in 2008, the policy of these redeveloping villages was not uniform in China. Instead, the municipal government negotiates with each village under the one village, one policy (Wu et al., 2013). Redeveloped villages are regarded as a result of urban expansion, and they are surrounded by urban spaces in China now (Ong, 2021). To provide land for constructing infrastructure projects, like highways, shopping complexes, high-speed rail and so on, original villagers living in peri-urban villages are relocated to redeveloped villages and their original houses are demolished (Ong, 2014). Property rights over land in these redeveloped villages are in the collective ownership (Wu et al., 2013). The main way for original villagers to get new housing is to exchange their original houses for a new house or apartment unit in redeveloped villages (Ong, 2021). But unfortunately, migrants living in original villages can not get a new house or apartment unit in redeveloped villages, because migrants are not recognised as a local household (Jian and Kun, 2007). Thus these migrants need to find the next residence, including choices of resettlement in redeveloped villages, relocation to other villages, or return to their home. Furthermore, redevelopments of original villages can be implemented by the developer, government, or villager group, while the intensity of redeveloping these villages can be classified into low and high levels according to the amount of capital investment (Zhang, 2008). The quality of redeveloped villages is generally higher than original villages (Yun and Chang, 2006), and the quality of facilities and the open spaces (see Figure 3.12, Figure 3.13, Figure 3.14), etc. are also relatively good. So these redeveloped villages can provide a better residential environment for residents (Wilson and Zhang, 2019). According to the site survey, there are two main building types in commodity housing, including apartment blocks (Figure 3.15) and houses (Figure 3.16).

Figure 3.12 Open space (1)

Figure 3.13 Open space (2)

Figure 3.14 Open space (3)

Figure 3.15 Apartment blocks

Figure 3.16 Houses

3.2.3.3 Commodity housing

The emergence of these neighbourhoods is in China after the reform and opening up. Most commodity housing is characterised by an enclosed pattern (Wang and Shaw, 2018). Commodity housing is designed and planned according to the tastes of the urban middle class (Breitung, 2012), and the quality of these neighbourhoods is good (Wang and Shaw, 2018). The development of these neighbourhoods takes place within defined the physical boundary (Lu et al., 2018). People can buy a commodity apartment from the housing market (Zhao and Chai, 2013). Commodity apartments are appeared in the housing system and make up a very large percentage of the housing market in China (Zhao and Chai, 2013). Commodity housing has seen various degrees of private governance, with the setting up of the homeowners' associations and the provision of private services (Hendrikx and Wissink, 2017). Moreover, private governance can represent complicated state-market relationships and reshape the functional, symbolic and social dimension of everyday practices in commodity housing (Lu et al., 2018). This indicates that the physical boundary or gating is helpful to build residents' internal solidarity in these neighbourhoods (Wu, 2012). The homeowners' associations can ensure residents' property rights and the usage of public goods via self-governance (Gordon, 2004). According to the site survey, there is less rubbish on the street (Figure 3.17), and the quality of

facilities and open spaces (see Figure 3.18 and Figure 3.19) is relatively high in the selected commodity housing. Moreover, the main building types in commodity housing are apartment blocks (Figure 3.20) and houses (Figure 3.21).

Figure 3.17 Clean street

Figure 3.18 Open space (1)

Figure 3.19 Open space (2)

Figure 3.20 Apartment blocks

Figure 3.21 Houses

3.3 The development of multiple indicators

Lewis-Beck et al. (2003) suggest that multiple-indicator measures are more reliable than single-indicator measures, especially when the concept measured is abstract and is difficult to capture (Hagedoorn and Cloodt, 2003). Multiple-indicator measures are usually employed in social science research (Bryman, 2016). Furthermore, many studies indicate that using "good" indicators to measure a concept is very important (Mainz, 2003). "Good" indicators should address four main factors: validity, reliability, comparability and controllability (Gort et al., 2013).

Multiple-indicator measures are used in this study to capture a number of abstract concepts. For example, it would be insufficient to measure the level of maintenance completely if only a single indicator is used to capture the concept of maintenance in the neighbourhood (e.g., asking

residents' perceptions of the quality of facilities). By using a multiple-indicator approach, several other indicators, including the amount of litter, the quality of pavement, and some objective indicators of maintenance (such as the researcher's perceptions of the level of maintenance), are also utilised in this study to produce a more informative, reliable, and composite measure of the maintenance level. Moreover, most indicators measuring the quality of neighbourhoods and social cohesion are at different scales, such as at the neighbourhood scale, at the street level, at the household level and the individual level. However, potential challenges using multiple indicators should be considered (Burton, 2002). There is no acceptable common practice when indicators are selected for analytical use, so current practice can be regarded as piecemeal (Green and Chappion, 1991, p. 1398). Various approaches to selecting indicators may lead to differences in treatment through time and over space. Coombes and Wong (1994, p.1304) argue that selecting indicators can not be random or haphazard, and the practicability and value of each selected indicator can be structured according to five basic criteria: 1) Data availability. It is the most fundamental problem which can restrict the development of indicators. 2) Geographical specification. The geographical coverage of secondary data may not be complete within the available data series, which is closely related to the data availability. 3) Time-series prospects. The indicators should be regularly updated for possible dynamic analysis (Skoro, 1988). Time-series prospects are also closely linked to data availability. 4) Implementability. Potential indicators need to be considered according to how these indicators may be easily implemented. 5) Interpretability. Potential indicators also need to be considered according to how these indicators may be explained. The implementation of these above five criteria needs to be carried out within the structured schema. In this research, more detailed explanations of indicators measuring the quality of neighbourhoods and social cohesion are provided in Chapter Four.

3.4 The mixed methods of collecting data

This study employs mixed methods research, which is commonly used in social science (Docherty, et al., 2001; Stafford et al., 2003; Bryman, 2016; Zhu, et al., 2012; Lau and Chiu, 2013; Zhu and Fu, 2016; Zandieh et al., 2016). There are two reasons for using mixed methods research for this study. Firstly, mixed methods research can provide more detailed and rich data, and can be helpful to develop analysis (Bryman, 2016). Mixed methods research combines quantitative and qualitative research approaches, and enables the researcher to examine complex phenomena in more detail (Wisdom et al., 2012; Halcomb and Hickman, 2015; Shorten and Smith, 2017). Although mixed methods research is complex and takes more

resources and time to design and implement, it has strengths that overcome the weaknesses inherent to using, either wholly quantitative or wholly qualitative methods alone (Andrew and Halcomb 2009; Scammon et al., 2013). For example, quantitative methods use statistical and/or mathematical tools to analyse data collected and derive results. It has limitations in providing rich insights on the experiences and perspectives from respondents and producing in-depth information and understandings (Lee, 2014). Although qualitative methods can generate in-depth data and offer an opportunity for illuminating insights, they cannot collect numerical data to perform tests of statistical significance (Trafimow, 2017).

Secondly, mixed methods research is a well-employed method of data triangulation. Triangulation refers to the use of more than one research method or data source so that research findings may be cross-checked (Bryman, 2016). Multiple sources of collecting data are better than a single source in research because various sources of data can engender a more comprehensive explanation of the phenomena. The triangulation can be expanded by employing multiple researchers, multiple subjects, various theoretical methods in addition to various data-collecting techniques (Bogdan and Biklen, 1998, p.104). Patton (1990, p.467) suggests that triangulating data sources can consist of comparing the observational data with the interview data; comparing what individuals say in private with what they say in public; checking what individuals talk about the same thing is consistent over time, and comparing the perceptions of individuals from various points of view. The triangulation of sources can promote the validity of the qualitative data. In this research, mixed methods are used including interviews and surveys to develop the method triangulation. These chosen methods can complement each other, and develop a useful and comprehensive data collection and analysis that is not possible with a method only.

In this research, the cross-sectional research design is used. This method is appropriate because it explores the relationship between variables and the variation in them (Bryman, 2016, p. 59). The cross-sectional study is often used in social science (Francis et al., 2012; Murillo et al., 2020). It is frequently regarded as a survey design, and the idea of the survey is closely related to most individuals' perceptions with structured interviewing and questionnaires (Bryman, 2016, p. 59). The longitudinal design is little used in social research due to the cost and time involved (Bryman, 2016, p. 63), so it is not suitable in this research. However, cross-sectional research has limitations because of the lack of longitudinal data. If a relationship between two variables is found to be significant, the association may not be described with any causalities

because the cross-sectional method is designed to capture information based on data collected for a specific point in time and cannot be used to examine causal relationships (Weich et al., 2001; Gray, 2004; Bryman, 2016, P. 59). This limitation is considered here in the study when data are analysed, and it also is considered regarding the possibility that the anticipated relationship and the real causal relationship are opposite. Therefore, controlling for interfering influences is also hard in the cross-sectional design, which is addressed in this study because these intervening influences are examined and their relationships with the level of social cohesion are also measured alongside socio-spatial features of the quality of the neighbourhood.

Overall, six research methods of data collection are utilised in this study and are listed as follow:

- Literature review
- Secondary data analysis
- Physical site survey
- Household questionnaire survey
- Walk-along interview
- WeChat interview

3.4.1 Literature review and secondary data analysis

The review of existing literature represents a very important element in the process of social research (Bryman, 2016, P. 8). When a researcher alights upon a topic, a number of issues need to be addressed by conducting a review of relevant literature. In this study, the literature review is employed as one primary research method, mainly for the following four purposes:

- To identify socio-spatial features of the quality of neighbourhoods.
- To determine the definition of social cohesion and its dimensions.
- To explore the relationship between locals and migrants.
- To find appropriate research methods.

Another primary research method is secondary data analysis, which is the analysis of data previously collected by other sources. It can be a useful method of research where primary data collection is very costly and infeasible (Bhattacherjee, 2012). The secondary data provided by the Panyu District Planning Bureau are the selected nine neighbourhood maps, the number of

locals in each neighbourhood, the number of migrants in each neighbourhood, the number of households in each neighbourhood, and the area of each neighbourhood, etc.

3.4.2 Physical site survey

The physical site survey is employed to collect new data regarding socio-spatial features of the quality of neighbourhoods in this study because there are no existing data relating to these socio-spatial features identified in Section 2.2.1. This method is used in a number of studies to measure indicators capturing socio-spatial features of the quality of neighbourhoods (Weich et al., 2001; Burton and Mitchell, 2006; Dempsey, 2008; Raman and Dempsey, 2012; Mousavinia et al., 2019). Therefore, the physical site survey is a well-used method to collect data relating to these indicators. Many indicators employed in this research to measure these socio-spatial features are objective. The adoption of objective indicators in the physical site survey is advantageous because most objective indicators measuring the quality of neighbourhoods do not change over a short time (Dempsey, 2009), such as the quality of pavement and the quality of facilities. This means that the majority of data are likely to stay the same if/when the weather forces the postponement of the site survey.

3.4.3 Household questionnaire survey

The questionnaire survey is a data collection method that is very widely used in social research. Williams (2003) indicates that the self-completion questionnaire refers to respondents completing the questionnaire by themselves, and its main forms are the postal questionnaire survey, email-based questionnaire survey and online questionnaire survey (Bryman, 2016, p.232; Loomis and Paterson, 2018). With regards to the postal questionnaire, there is anonymity on sensitive topics and it has no risk of environmental and interviewer bias (Williams, 2003). The email-based questionnaire survey and online questionnaire survey are also widely used due to their speed, the absence of environmental and interviewer bias, and relative cheapness (no paper questionnaires needed) (Dochartaigh and Dochartaigh, 2001). However, the postal questionnaire survey, email-based questionnaire survey, and the online questionnaire survey have several disadvantages, such as poor response rates, greater risk of missing data and difficulty of asking lots of questions, etc (Bryman, 2016, P. 234). Also, the online questionnaire survey and email-based questionnaire survey can only be employed to survey a very narrow socio-economic group (those people who can afford internet access), and getting all the email addresses of residents living in a specific neighbourhood is a really big barrier. Therefore, the

postal questionnaire survey, email-based questionnaire survey and online questionnaire survey are not suitable in the Chinese context. In China, the face-to-face questionnaire survey is frequently used in a large number of studies (Hazelzet and Wissink, 2012; Wan, 2015; Breitung, 2012; Zhang and Lu, 2015), because it can enable the interviewer to encourage involvement and participation of respondents living in the selected neighbourhood (Robson and McCartan, 2016, p.249). Thus, the face-to-face questionnaire survey is used to achieve the following purposes:

- To collect data for indicators measuring socio-spatial features of the quality of the selected nine neighbourhoods.
- To collect data for dimensions of social cohesion in the selected nine neighbourhoods.
- To collect data for the socio-economic characteristics of the sample in the selected nine neighbourhoods.

Table 3.2 The number and proportion of questionnaires completed by locals and migrants

Neighbourhood types	Neighbourhood name	Percentage of locals	Percentage of migrants	Total
Villages	Changtan Village	46.3	53.7	175
	Yuexi Village	47.3	52.7	186
	Shengzhou Village	59.7	40.3	129
Redeveloped villages	Nanronghuayuan	54.2	45.8	96
	Haiyuyuan	57.6	42.4	92
	Yufengxincun	46.2	53.8	132
Commodity housing	Lianhuawanpan	44.2	55.8	104
	Fuyiyuansiqu	46.7	53.3	105
	Baifuyuan	50.5	49.5	97

The face-to-face questionnaires were administered by the researcher and a team of university students in the selected nine neighbourhoods over the period of three months in 2016, in Panyu District, Guangzhou City, China (see Appendix A). A simple random sampling approach was applied. All respondents in the selected neighborhoods needed to be above 18 years of age. For drawing a representative sample from the population, every participant has an equal chance to be included (Etikan et al., 2016). This therefore led to disparities in the sample at the neighbourhood scale of the local-migrant split which was not equal across the neighbourhoods. A total of 1116 valid questionnaires were achieved across the selected nine neighbourhoods. Table 3.2 presents the proportion of questionnaires completed by locals and migrants in each neighbourhood.

3.4.4 Walk-along semi-structured interview

The interview (Appendix C1) is employed in this study for the following purposes. The interview is an important method of collecting qualitative data (Hermanowicz, 2002; Cooper et al., 2006). This method is selected here, primarily for two reasons. Firstly, it can enable the researcher to understand each respondent's perceptions of socio-spatial features of the quality in depth, which the site survey and the household questionnaire survey can not provide. Secondly, this method is related to triangulation. Triangulation sources can corroborate results and complement each other (Flick, 2007). The interview is the best method to ask specific questions about the relationship between socio-spatial features of the quality and dimensions of social cohesion. This is impossible in the household questionnaire survey because of the closed nature of some questions and restrictions in the number of posed questions.

- To obtain residents' perceptions of socio-spatial features of the quality of neighbourhoods.
- To obtain residents' perceptions on the relationship between socio-spatial features of the quality of neighbourhoods and social cohesion.

According to the interview, there are three interview types, including the unstructured interview, the semi-structured interview and the structured interview (Gubrium and Holstein, 2003). The three interview types have their strengths and weaknesses respectively. Firstly, the unstructured interview has a low level of control during the interview conversation (Rowley, 2012). Because the interviewer provides only a set of issues or topics to interviewees, they can freely express their experiences and perspectives on a specific topic (Bryman, 2016; Farooq, 2015). This method is not employed because the question schedule has been established to examine interviewees' perceptions on the relationship between socio-spatial features of the quality of neighbourhoods and social cohesion. Secondly, in the structured interview, the interviewer provides all interviewees with the same context of questioning (Bryman, 2016, P. 209), which means that the asked questions are very specific (Babbie, 2004). However, these questions assume that the meaning of each asked question is equal to every interviewee (Lune and Berg, 2017). These assumptions remain mainly "untested articles of faith" (Denzin, 2017). Therefore, the semi-structured interview, rather than the unstructured and structured interviews, is employed in this study, because the degree of flexibility is required to probe residents further by asking questions.

Usually, the semi-structured interview is conducted face-to-face because personal contact is important in qualitative interviews (Vogl, 2013). Berg (2004) argues that it can enable the interviewer to establish a good relationship with interviewees and pick up non-verbal cues that the interviewer can employ to pace the interview. Furthermore, walking is considered as an intimate way to engage with the environment (Solnit, 2001; Ingold and Lee, 2008). Evans and Jones (2011) argue that the walk-along interview can access people's attitudes and knowledge about the surrounding environment. Also, the walk-along interview is the most appropriate method of providing rich qualitative data on the quality of neighbourhoods (Jones et, al., 2008; Evans and Jones, 2011). It aims to take the listening rather than the interviewing role, which enables interviewees to be more confident and more relaxed to express their opinions on the quality of neighbourhoods, and to provide more detailed and more meaningful information when they are walking in their built environment (Rishbeth and Powell, 2013; Zandieh et al., 2016). Thus, the walk-along semi-structured interviews (Appendix C1) were used in this research.

The walk-along interviews were administered by the researcher in the selected nine neighbourhoods for two months in 2016 and one month in 2018, in Panyu District, Guangzhou City, China. A stratified sampling approach was applied because the walk-along interviews were used to explore both locals' and migrants' perceptions of socio-spatial features of neighbourhoods. Therefore, the population was divided into two groups (locals and migrants). In each neighbourhood, 3 local interviewees and 3 migrant interviewees aged over 18 were invited to participate – having indicated their willingness to do so when they conducted the questionnaire. A total of 54 walk-along semi-structured interviews were conducted.

3.4.5 WeChat interview

The semi-structured interview (Appendix C2) is also used in this study for one purpose: to discuss recommendations for the planners, designers and managers of new and existing neighbourhoods to enhance social cohesion in peri-urban China with six Chinese professionals (two landscape designers, two landscape professors and two property management officers). The selected six professionals need to be familiar with Panyu District and have enough landscape practice experiences or management experiences of the neighbourhood. Considering the required flexibility to obtain six professionals' perceptions of the research results, the semi-structured interview is also used in this research.

Qualitative interviews are mainly conducted in a face-to-face manner (Lamnek, 2010), rather than using the telephone. Rubin and Rubin (2011) suggest that the telephone interview is not a well suitable method for qualitative interviewing. Both face-to-face and telephone interviews have their features. The obvious advantages of the telephone interview are the low cost and easier to conduct, but its distinctive disadvantage is the lack of visual contact between the interviewer and the interviewee (Vogl, 2013). The face-to-face interview can offer visual connectedness to capture the nonverbal language, which includes body language and expression (Oltmann, 2016). One weakness is that the face-to-face interview is more time-consuming to conduct, and it is subject to the restricted movement of people during the Covid-19 pandemic (Sutherland et al., 2020).

Therefore, the researcher uses a semi-structured interview with one innovation. This innovation is that the interview is conducted by using WeChat (Appendix C2). WeChat not only provides a free instant messaging service for the smartphone, but also it is a platform to transmit real-time video calls. (Xu et al., 2015). In this research, the method employed is called the WeChat interview. This method is not only less costly and easier to conduct, but also reduces the risk of Covid-19 spread during the Covid-19 pandemic in December 2020.

3.5 The methods of managing and analysing data

In this research, a large amount of data relating to socio-spatial features of the quality of neighbourhoods and dimensions of social cohesion in the nine neighbourhoods are collected through quantitative and qualitative research methods. These data are analysed in a database using SPSS (Statistical Package for the Social Science). SPSS is widely employed for analysing statistical data in social science research, which is a data analysis package for quantitative research. This package is very useful for analysing survey data because it covers a large range of statistical procedures (Pallant and Manual, 2013). There are other data analysis packages available, like SAS. Comparing SAS and SPSS, SPSS is the first choice for users doing the basic data management and statistical data analysis because SPSS is easier to learn than SAS (Alan and Acock, 2005). Moreover, SAS is developed before the first Mac or PC imagined, so a researcher using a Mac or PC will be frustrated (Alan and Acock, 2005).

Then, the composite variables[4] are created by transforming each indicator into a 'z-score' due to the use of the multiple-indicator measures to examine whether there is a relationship between overall 'headline' indicators. The 'z-score' is a very useful way of standardizing the values of all variables, which puts them on the same scale of reference and allows them to be analysed (Hinton, 2014). The 'z-score' is calculated by using the formula: Z-score= value – mean / standard deviation. This formula standardises the values of all variables to have a mean of 0 and a standard deviation of 1. If the value of a variable is above the mean, it is positive. If the value of a variable is below the mean, it is negative. In some cases, although the data collected by using different research methods measure the same concept, the summary variable cannot be created because these data are not compatible to combine them into an overall 'headline' indicator. Such indicators can be dealt with as a separate indicator in the analyses.

With regards to creating composite measures, using the z-scores is a well-established, simple and transparent method (Burton, 2002). It is also employed to create summary measures in all kinds of studies (Janicki-Deverts et al., 2007; Goderis et al., 2010; Pavlova and Silbereisen, 2015; Zhang et al., 2015). However, this method has disadvantages because it may over-simplify data 'by ignoring complex relationships between the issues which the indicators represent' (Coombes and Wong, 1994). The 'z-score' method assumes each indicator is equally important by applying the 'null weighting', and it also has a danger of the 'double-calculating' (or the indirect weighting of the indicators) (Coombes and Wong, 1994). Burton (2002) argues that using the average of the z-scores (rather than the sum of the z-scores) can avoid the double-counting of the variables.

In terms of statistical tests, descriptive analysis, correlation analysis, regression analysis and, for the qualitative data, content analysis is conducted. These analyses address the following three research purposes according to the nature of these collected data:

- To identify the relationship between socio-spatial features of the quality of neighbourhoods and social cohesion for locals and migrants in the three neighbourhood types individually.
- To determine the nature and strength of the relationship in the three neighbourhood

[4] Composite indicators are created by combining two or more individual variables into a single variable (Saisana et al., 2005). Each indicator alone cannot provide sufficient information, but combining these individual variables can represent the more complex concept.

types individually.

- To establish socio-spatial features of the quality of neighbourhoods that are most likely to contribute to social cohesion for locals and migrants in the three neighbourhood types separately.

3.5.1 Descriptive analysis

Descriptive analyses are conducted to provide basic information regarding socio-spatial features of the quality of the built environment and dimensions of social cohesion. Also, these analyses offer some information about the characteristics of residents who participated in the questionnaire survey and walk-along interviews, the selected nine neighbourhoods, and the six professionals who take part in the WeChat interviews.

Table 3.3 The guidelines for interpreting the value between 0 and 1 (Cohen 2013; Pallant, 2016)

The strength of correlation	Correlation coefficients
Small correlation	±.10 to ±.29
Medium correlation	±.30 to ±.49
Large correlation	±.50 to ± 1.0

3.5.2 Correlation analysis

Correlation analysis is employed to explore the direction and strength of the relationship between two indicators (Pallant, 2016, P. 132), which is a very important analysis method in this research. Spearman Rank Order Correlation is used for the ordinal data[5] and it is especially useful when the data does not meet the criteria of Pearson correlation[6] (Bryman, 2016, P. 368; Pallant, 2016, P.132). The analyses are conducted with a two-tail test of significance because there is no specific prediction regarding the direction of the correlation between the indicators. The Spearman Rank Order Correlation coefficients can take on the value from -1 to +1, and the signs '+' (or '-') indicate that there is a positive (or negative) correlation between two variables (Pallant, 2016, P. 137). The size of the value indicates the strength of the relationship between the two indicators. Cohen (2013, P. 79) suggests the guidelines regarding the interpretation of the value, they are listed in Table 3.3.

[5] Ordinal data refer to categories with an order, which represent different levels of the variable (Pallant, 2016, P.12). For example, education can be identified as ordinal as numbers can represent increasing levels of completed education.

[6] Pearson correlation is designed for continuous variables. It is also used for one continuous variable (e.g. age) and one dichotomous variable (e.g. gender: M/F) (Pallant, 2016, P.132).

3.5.3 Regression analysis

Regression analysis is used to explore the associations between one dependent indicator and a set of independent predictors. It allows a more complex exploration of the relationship among a number of variables. In this study, the dependent indicator (each dimension of social cohesion) is the indicator affected by independent indicators (socio-spatial features of the quality and intervening variables).

Table 3.4 Assumptions of the multiple regression (Pallant, 2016, p. 151- 152)

One continuous (or interval) dependent variable (or affected variable)
A number of continuous or dichotomous independent variables (or influencing variables)
Formula of calculating sample size required: N > = 50 + 8 m (m = the number of influencing variables)
There should be no multicollinearity[7] (r < .9)
Checking for extreme values to avoid outliers: standardised residual values should be below about 3.3 (or more than -3.3)
The variables should be normally distributed[8]
The variables should be associated in a linear way[9]
The variance of residuals[10] on the dependent indicator must be the same for all scores of the independent variables

According to the nature of the dependent indicator under scrutiny, linear stepwise regression (for use with continuous dependent variables) and stepwise binary logistic regression (for use with dichotomous dependent variables) are conducted in this research (Table 3.4 and Table 3.5). The stepwise method has been widely used in empirical research as an effective and fast tool for data analysis since it can automatically select the best set of independent variables to explain the dependent variable (Hosmer et al. 2013 p.116). Although this method is popular, it is criticised by many statisticians because it includes or removes the independent predictors from the equation on purely statistical criteria (Tabachnick and Fidell, 2013, p. 456). They argue that care should be taken not to misinterpret the exclusion of an influencing predictor. The excluded predictor may be strongly associated with the outcome, but it is not included in the model because it is 'bumped' out by other independent variables (2013, p. 456). For this reason, the regression analyses are conducted by employing both enter and stepwise regression methods in this research, which enter all indicators into the regression analysis without exclusion, and the findings are examined together.[11]

7 Multicollinearity can exist when the independent indicators are highly associated (r=.9 and above) (Pallant, 2016, P.152).

8 A normal distribution represents a form of continuous probability distribution for the real-valued random indicator, which are often employed in the social science (Casella and Berger, 2001).

9 The linear way refers to residuals should have a strignt-line association with predicted dependent variable scores (Pallant, 2016, P.152).

10 The variance of residuals is called unexplained variance, which is the variance of any errors (Garson, 2019).

8 By using the enter regression method, all independent variables are entered in one block into the regression analysis in a single step. This method is appropriate when a small set of independent variables are considered in

Table 3.5 Assumptions of the binary logistic regression (Pallant, 2016, p. 170)

One dichotomous dependent variable
A number of categorical, dichotomous or continuous independent variables
Recommended minimum number of cases per influencing variable is 50
There should be no multicollinearity (Tolerance values should be more than .1)
The variables are assumed to be related in a non-linear way
The variables should not be normally distributed
The relationship between the variables should not exhibit homoscedasticity

Table 3.6 Relevant information about statistical tests (Pallant, 2016 p. 221-277)

Statistical tests	The nature of variables	Guidelines of the effect size	Effect size
Independent samples t-test	One categorical, independent indicator with two different categories (e.g. yes/no) One continuous, dependent indicator	Small .01 Medium .06 Large .14	Eta squared = t^2 / t^2+(N1+N2-2)
One-way ANOVA test	One categorical, independent indicator with three or more different categories One continuous, dependent indicator	Small .01 Medium .06 Large .14	Eta squared=Sum of squares between groups / Total sum of squares
Two-way ANOVA test	Two categorical, independent indicators (one of the two categorical independent indicators should have three or more different categories) One continuous, dependent indicator	Small .01 Medium .06 Large .14	The effect size is provided in the labeled Partial Eta Squared.
Chi-square test	Two categories indicators with two or more types in each	Small .10 Medium 0.30 Large 0.50	For 2 by 2tables: the effect size of Phi coefficient should be reported; For tables larger than 2 by 2: the value of Cramer's V should be reported.

To look into more detailed information regarding the nature of the relationship between variables, other statistical tests are used in this research. For instance, these statistical tests can explore whether there is a difference in mean scores on the dependent variable (each dimension of social cohesion) with different categories (e.g. differences between locals and migrants, males and females). These statistical examinations include the independent samples t-test, one-way ANOVA test, two-way ANOVA test, and chi-square test. The relevant information on these tests is summarised in Table 3.6.

the model. However, the enter regression method may suffer from the problem of multicollinearity in which many highly correlated independent variables are included into the regression analysis and make it difficult to examine the relative importance of the independent variables in explaining the variations in the dependent variable. On the other hand, the stepwise regression method is a variable selection procedure which allows for the selection of best set of independent variables to explain the dependent variable (Hosmer et al. 2013). The method tests at each step for the independent variables to be included into or excluded out of the model. For example, starting with no independent variable in the model, the programme (SPSS) adds the strongest independent variable (e.g., with the smallest probability of F to entry <=0.05) into the model. It then continues to add the next strongest independent variable. When new independent variables are added into the model, SPSS may also remove some of the independent variables previously included into the model if they become statistically insignificant. The procedure terminates when no more independent variables are eligible for inclusion or removal.

The independent samples t-test is utilised when the mean scores on the continuous variable need to be compared for two different groups (Pallant, 2016, P. 137). For instance, when the mean scores on residents' feelings of safety between women and men are compared, the independent samples t-test needs to be used. The one-way ANOVA test is used when the mean scores on the continuous variable need to be compared for three or more categories (Park, 2009). For example, when the mean values on social interaction need to be compared for respondents from seven household compositions, the one-way ANOVA test can be used. The two-way ANOVA test allows to examine the effect of each independent variable on the dependent variable, and it also tests the interactive effect of two independent variables on the dependent variable, i.e. the effect of one independent variable on the dependent variable depending on the level of another independent variable (Gravetter and Wallnau, 2012). For example, the two-way ANOVA test needs to be used for ascertaining whether the association between tenure and sense of community can be affected by residents' local or migrant identity. The chi-square test is utilised when the linkage between two categorical variables needs to be explored. Each categorical variable can have two or more groups. It also compares the proportions and frequencies of cases occurring in each of the categories (McHugh, 2013). For example, the chi-square test can be used for ascertaining whether a difference exists between participation in sports groups according to the different household compositions.

3.5.4 Content analysis

In the walk-along semi-structured interview, both quantitative and qualitative data are generated. The quantitative data is analysed employing the frequency analysis rather than the same statistical analyses as the survey data, because of the nature of asked questions, like interviewees' perceptions on the relationship between socio-spatial features of the quality of neighbourhoods and dimensions of social cohesion. The qualitative data is subject to content analysis, which includes the coding, the counting phenomena, and contrasting and comparing relations between indicators (Bryman, 2016). Content analysis is commonly employed for analysing qualitative data, which can organise content according to predetermined categories and in a replicable and systematic manner (Elo et al., 2014). The coding and counting phenomena are examples of systematic and objective techniques which can suppress the researcher's personal biases as little as possible, but some explanations are involved in the analysis processes (Bryman, 2016, p. 289).

Coding is the "stuff of analysis" (Miles and Huberman, 1994, p.56), which is the first step that the raw data are organised and reduced into meaningful code types (Coffey and Atkinson, 1996, p. 26). During this stage, paragraphs or sentences are segmented into categories, and then those categories are labeled with a term (Creswell and Creswell, 2003, p. 192). Data coding is essentially about exploring and conceptualising the data (Coffey and Atkinson, 1996, p. 27). It is based on the grounded theory which is the discovery theory from the data (Ruona, 2005). This is an applicable approach to take about the open questions asked in walk-along semi-structured interviews and WeChat interviews. For example, what is the difference between your neighbourhood and other neighbourhoods? And what do you think about how to design or manage a well-maintained neighbourhood to improve social cohesion for locals and migrants in the peri-urban areas?

In this research, three main coding categories for the data from the WeChat interview are identified, which include experience in practice, personal life experience, and theoretical understandings (see Chapter Seven). These linked coding categories are organised into a hierarchical structure, which is essential to identify relationships, explore the patterns of their relationships, and assist in drawing inferences (Schreier, 2014).

3.6 Conclusion

This chapter provides detailed descriptions of the research methodology. Both quantitative and qualitative research methods were used in this research. To undertake the research efficiently, nine neighbourhoods were identified, and samples in the questionnaire survey and the walk-along interview were selected by using random sampling and stratified sampling respectively from the populations. The nine neighbourhoods in the peri-urban areas in Panyu were selected according to the ratio of migrants (i.e. a high percentage of migrants, 50:50 migrants and locals, and a low percentage of migrants in each neighbourhood), housing types, age of neighbourhood and the number of households. A large number of indicators were selected to measure the quality of the neighbourhood and social cohesion. The methods of collecting these data included the physical site survey, household questionnaire survey, walk-along semi-structured interview, and WeChat interview. Large amounts of qualitative and quantitative data were collected. In terms of quantitative data, descriptive analysis, correlation analysis, and regression analysis were used. Descriptive analyses were conducted to provide basic information regarding socio-spatial features of the quality of the built environment and dimensions of social cohesion. Correlation analysis and regression analysis were applied to explore the extent and nature of

relationships between socio-spatial features of the neighbourhood and dimensions of social cohesion. Content analysis was used to explore the qualitative data.

There are limitations to the indicators used in this research. The indicators are used to measure nebulous and complex concepts, so the indicators may not measure fully the concepts of quality of the built environment and social cohesion. This will be discussed in detail in the next chapter. Furthermore, this study is only carried out in the peri-urban areas in Guangzhou because of limited time, but this research methodology could easily be used in neighbourhoods in other areas (e.g. urban areas) of other cities in China.

Chapter 4 Indicators Measuring Socio-spatial Features of the Neighbourhood and Social Cohesion

4.1 Indicators measuring socio-spatial features of the neighbourhood in this study

To obtain the complete measures for socio-spatial features of neighbourhoods, both objective and subjective indicators are used at different scales, including neighbourhood scale, household scale, street level and individual level. Residents are the main stakeholders in the neighbourhood, their opinions provide insight into the current status and reveal what improvements are needed (Bahadure and Kotharkar, 2015). Following previous studies, residents' perceptions are also used to provide a robust understanding of multifarious aspects of sustainability, such as maintenance, accessibility, and social benefits, etc. (Brown et al., 2009; Chow, 2014). These indicators can effectively measure socio-spatial features of the built environment (Bryman, 2016), and are frequently used in the neighbourhood research and practices (see, e.g., Krause, 2006, Dempsey, 2009; Xu et al., 2010; Kamphuis et al., 2010; Bahadure and Kotharkar, 2015; Weimann et al., 2017).

4.1.1 Indicators measuring maintenance

A large body of research shows that a variety of indicators are used to measure the level of maintenance at the neighbourhood scale (Carmona et al., 2004), and these indicators include the level of graffiti and litter (Brown et al., 2003; Dempsey, 2009; Cutchin et al., 2011; Wilkerson et al., 2012; Prasad et al., 2018), the condition of pavement (Burton and Mitchell 2006; Dempsey, 2008; Dempsey, 2009; Zandie et al., 2016), the condition of homes (Brown et al., 2003; Dempsey, 2009), the quality of facilities (Pasaogullari and Doratli, 2004; Krellenberg et al., 2014; Cheshmehzangi et al., 2020).

According to existing studies, the condition of the pavement, the degree of litter and the quality of facilities are selected in this study to measure this socio-spatial feature of the built environment (Table 4.1). The condition of pavement and the degree of litter are measured at the street scale, and the quality of facilities is measured at the neighbourhood scale. However, some theorists argue that the measurement of maintenance is less objective (Pikora et al., 2003; Wilkerson et al., 2012). Therefore, the condition of the pavement, the degree of litter and graffiti, the quality of facilities and the condition of other homes are assessed by both residents and the researcher. This approach can provide a deeper account of these indicators (Mattocks et al.,

2019). Furthermore, the condition of homes within the neighbourhood is measured at the household scale (Table 4.1).

Table 4.1 Indicators measuring maintenance

Indicators	Objective or Subjective	Data sources	Scale of indicator
The researcher's assessments of pavement condition per street (Appendix B)	Objective	Site survey	Street
The researcher's assessments of the extent of litter per street (Appendix B)	Objective	Site survey	Street
The researcher's assessments of the quality of facilities per neighbourhood	Objective	Site survey	Neighbourhood
Residents' perceptions of pavement condition of neighbourhood	Subjective	Household survey	Household
Residents' perceptions of the extent of litter in their neighbourhood	Subjective	Household survey	Household
Residents' perceptions of the quality of facilities are in their neighbourhood	Subjective	Household survey	Household
Residents' perceptions of the condition of other homes within the neighbourhood	Subjective	Household survey	Household
Residents' perceptions of pavement condition of neighbourhood	Subjective	Interview with Residents	Individual
Residents' perceptions of the extent of litter in their neighbourhood	Subjective	Interview with Residents	Individual
Residents' perceptions of the quality of facilities in their neighbourhood	Subjective	Interview with Residents	Individual

4.1.2 Indicators measuring mixed land uses

The provision of services and facilities and the walking distance that they are from the built environment are frequently explored for existing mixed land uses (Barton et al., 2003; Isabelle, 2015; Wu et al., 2018; Jain and Tiwari, 2019). However, there is a lack of consensus regarding which services and facilities should be there or what distance those services are from the residential areas.

According to the literature on mixed land uses, it is unclear how to build a mixed-use neighbourhood, such as the reasonable types of land use in the neighbourhood. Mixing land uses beyond an appropriate proportion can cause unwanted effects, such as chaos and noise, traffic congestion, parking spill out, stressed infrastructure, etc. (Ramon and Roy, 2019). Moreover, land uses like prisons and heavy industry can be seen as locally-unwanted in the mixed-use neighbourhood (Grant, 2002, p.28; Downey and Hawkins, 2008; Sze, 2007; Mohai et al., 2009; Lerner, 2012).

In China, Li and Wu (2013) suggest that there are five suitable facilities and services listed below in the built environment. These facilities should be within walking distance in the

neighbourhood. Some theorists in other countries indicate that mixed land uses should base on relative proportions of education, recreation, food retail, health, cultural, financial, and other retail (Leyden, 2003; Leslie et al., 2007; Witten et al., 2011). Although there is no consensus on what makes up a mixed-use neighbourhood, Dempsey (2009) points out that the requirements of the population and the context of the built environment are very important relating to the extent of mixing uses.

Food markets
Small shops
Barbers
Nurseries
Pharmacies

Table 4.2 presents the indicators measuring mixed land uses in this study. The number of key services and facilities per neighbourhood, the average number of key services and facilities per hectare, and the ratio of residential to non-residential land are at the neighbourhood scale. Jain and Tiwari (2019) show that the ratio of residential to non-residential land is a conventional and important indicator measuring mixed land uses. The ratio of residential to non-residential land is calculated based on the data obtained from the Urban Planning Bureau of Panyu.

Table 4.2 Indicators measuring mixed land uses

Indicators	Objective or Subjective	Data sources	Scale of indicator
Number of key services/ facilities per neighbourhood	Objective	Site survey	Neighbourhood
Average number of key services per hectare	Objective	Site survey	Neighbourhood
Ratio of residential to non-residential land	Objective	Site survey	Neighbourhood

4.1.3 Indicators measuring accessibility

Accessibility not only refers to which services and facilities are available within walking distance from residents' home, but also the ways to get to services and facilities in a neighbourhood (Barton et al., 2003). The first concept of accessibility is used to measure the extent of mixed land uses, the indicators measuring this socio-spatial feature are the number of key services/facilities per neighbourhood, and per hectare. Pasaogullari and Doratli (2004) argue that the accessibility of open spaces is also important for residents (Blackman et al., 2003; Dempsey, 2009; Karuppannan and Sivam, 2012; Feng, 2016). Thus, the indicators measuring the accessibility of open spaces and various opportunities provided by open spaces are listed in

Table 4.3.

Besides, a large number of scholars argue that the accessibility of public transport is very vital in a neighbourhood (Duany, 2003; Higgs, 2004; Lotfi and Koohsari, 2009; Cerin et al., 2018; Zeng et al., 2019). The accessibility of public transport is measured only in villages because there is no public transport in selected redeveloped villages and commodity housing. Five indicators measuring access to public transport are employed in this section (see Table 4.3), which include the number of bus stops, number of buses per hour in average 9 am-5 pm weekday, frequency of bus stops, the spread of bus stops and accessibility of bus stops on foot in each village.

Having said all this, it would be difficult to get accurate data on the accessibility in a neighbourhood if the subjective indicators are not employed altogether. Therefore, the perceptions of residents about the level of accessibility are used in their neighbourhood (see Table 4.3).

Table 4.3 Indicators measuring accessibility

Indicators	Objective or Subjective	Data sources	Scale of indicator
Residents' perceptions of accessibility according to the following statements: 1. I can easily reach public transport services on foot (village) 2. I can easily access open spaces on foot 3. Public transport is frequent and reliable (village) 4. Public transport goes when and where I want it to go (village)	Subjective	Household survey	Household
Residents' perceptions of provision of facilities, such as shops, recreational facilities, parking, toilet etc.	Subjective	Household survey	Household
How adequately do you think your neighbourhood open space /parks provide opportunities for you to do the following opportunities: Sport, exercise, recreation, walking the dog, being in a natural environment, taking children to play etc.	Subjective	Household survey	Household
Amount of open spaces per hectare	Objective	Site survey	Neighbourhood
Number of bus stops in each village	Objective	Site survey	Neighbourhood
Number of buses per hr in average 9 am-5pm weekday	Objective	Site survey	Neighbourhood
Residents' perceptions of the level of accessibility	Subjective	Interview with Residents	Individual

4.1.4 Indicators measuring the perceived character of the neighbourhood

The perceived character of the neighbourhood is a nebulous concept. It can embody the complexities of a place (Tewari and Beynon, 2018), which is very hard to reduce into formal

elements (Dovey et al., 2009). Many academics suggest that some elements (like local architectural designs, colours and materials) are used in an area in order to reflect the character of the area (Burton and Mitchell, 2006). However, these elements measure the area at the individual building scale, they are outside the scope of the research. Also, the character of a place is measured depending on the representative extent of these materials and traditions, as well as local knowledge. It is not also possible to measure the character of a place through objective and specific indicators, for this reason, using subjective indicators may be reasonable. Therefore, three subjective indicators are employed to measure the character of a neighbourhood to capture more detailed data (see Table 4.4).

Table 4.4 Indicators measuring the perceived character of the neighbourhood

Indicators	Objective or Subjective	Data sources	Scale of indicator
Residents' opinions on the perceived character of the neighbourhood	Subjective	Household survey	Household
Residents' perceptions of whether their neighbourhood has its own character	Subjective	Interview with Residents	Individual
Residents' perceptions of what the character of their neighbourhood is	Subjective	Interview with Residents	Individual

4.1.5 Indicators measuring natural surveillance

Building facades constitute the surface of the surrounding built environment, the building openings (like doors and windows) are the most important element of measuring natural surveillance (Amiri et al., 2019). The interactions between neighbourhoods and buildings, in particular, the spaces between buildings, are vital for residents (Ahmed, 2003). Therefore, the proportion of active frontage per street is included in this research (Table 4.5). Moreover, Wilcox et al., (2007) measure natural surveillance using residents' subjective assessment. Residents are the key stakeholders in the neighbourhood, their opinions can provide more detailed information for the measure of natural surveillance (Bahadure and Kotharkar, 2015). Therefore, the subjective indicators measuring natural surveillance are also employed in this study (Table 4.5).

Table 4.5 Indicators measuring natural surveillances

Indicators	Objective or Subjective	Data sources	Scale of indicator
Proportion of active building frontage per street	Objective	Site survey	Street
Residents' perceptions of surveillance in their neighbourhood	Subjective	Interview with Residents	Individual

4.1.6 Indicators measuring connectedness and permeability

With regard to the measurement of connectedness and permeability, a number of studies provide methods measuring this socio-spatial feature of neighbourhoods at the city scale (Porta et al., 2006; Armitage et al., 2011; Lin et al., 2017; Pakzad and Salari, 2018). It is not necessary to measure the permeability and connectedness of neighbourhoods to the rest of the city due to the purpose of this research. On the basis of considering the neighbourhood scale, two indicators are used from existing studies to measure permeability and connectedness of neighbourhoods in Table 4.6.

Table 4.6 Indicators measuring connectedness and permeability

Indicators	Objective or Subjective	Data sources	Scale of indicator
Number of junctions according to the point system in each neighbourhood	Objective	Site survey	Neighbourhood
Number of junctions according to point system per hectare	Objective	Site survey	Neighbourhood

Table 4.7 Methods allocating points for different junctions

Intersection type	Methods allocating points
4 ways (crossroad)	4 points
T junction	3 points
Roundabout	Depend on the number of routes
Cul-de-sac	-1 points

In this study, the two indicators of connectedness and permeability are measured employing the points system developed by Porta and Renne (2005) at the neighbourhood level. If the count of the junctions is used, the method might miss the characteristics of the routes connecting junctions. So counting the number of routes emanating from different junctions, such as four-way junctions, T-junctions, Roundabout and Cul-de-sacs, is a good method. Table 4.7 shows the specific calculation methods for different junctions. For example, the 4-way junctions are allocated 4 points, T-junctions 3 points, a roundabout is allocated according to the number of routes, and cul-de-sac is allocated minus one point.

4.1.7 Indicators measuring attractiveness

There is a lack of consensus relating to the indicators measuring the extent of attractiveness. Many existing studies state that trees and greenery play a vital role regarding the attractiveness of the neighbourhood (Sugiyama et al., 2009; Dempsey, 2009; Sugiyama et al., 2010). The number of trees per street and the number of trees per hectare are employed by Dempsey (2009) to measure the attractiveness. These two indicators may not be suitable for this research. It is

because that the three neighbourhood types (village, redeveloped villages and commodity housing) are built at different times, and a lot of trees in redeveloped villages are planted for only one or two years while most trees in villages are planted for decades. The differences in tree size in the three neighbourhood types are very huge, so it may be difficult to collect meaningful data. However, the proportion of open spaces per neighbourhood is a reasonable indicator to measure this socio-spatial feature due to the purpose of this research (Table 4.8), which is also regarded as an indicator in Dempsey (2009) and Prasad et al., (2018)'s research.

If the subjective assessment regarding this socio-spatial feature of the neighbourhood is not included, it may be not an accurate account of the attractiveness of a neighbourhood. Thus, residents' opinions about the extent of the attractiveness of their neighbourhood are regarded as a subjective indicator of attractiveness (Table 4.8).

Table 4.8 Indicators measuring attractiveness

Indicators	Objective or Subjective	Data sources	Scale of indicator
Proportion of open spaces per neighbourhood	Objective	Site survey	Neighbourhood
Residents' perceptions of attractiveness in their neighbourhood	Subjective	Household survey	Household
Residents' perceptions of attractiveness in their neighbourhood	Subjective	Interview with residents	Individual

4.1.8 Indicators measuring residential density

Existing studies employ many different indicators to measure the residential density of neighbourhoods. For example, Wang et al., (2019) suggest that residential density is defined as the number of residents divided by neighbourhood area. Dempsey (2009) employs seven indicators to measure residential density including residents per hectare, households per hectare, the ratio of residential area size to open space per hectare, residents per hectare in a residential area, households per hectare in a residential area, the average number of family members per household and ratio of the number of households to the length of the street in each street. Mousavinia et al., (2019) measure residential density using residents' opinions of the residential density of their neighbourhood. Moreover, residential density cannot be accurately measured by a single measure in a given area (Jenks and Dempsey, 2005). To provide a complete measure for residential density, density indicators selected in this study are based on different aspects, such as residents, households and land. Most indicators measuring residential density are at the neighbourhood scale, and only street intensity is at the street level. Table 4.9 shows the indicators measuring residential density in this study.

Data obtained from the Urban Planning Bureau of Panyu (UPBP) is utilised to calculate per capita area in each neighbourhood/in a residential area, occupied area of each household in each neighbourhood/in a residential area, ratio of residential land to open space per hectare, the average number of persons per household in each neighbourhood and number of persons per household. Street intensity is calculated using google map data. The number of all households of each neighbourhood is divided by the total length of all streets to measure the residential intensity.

Table 4.9 Indicators measuring residential density

Indicators	Objective or Subjective	Data sources	Scale of indicator
Per capita area in each neighbourhood	Objective	UPBP	Neighbourhood
Occupied area of each household in each neighbourhood	Objective	UPBP	Neighbourhood
Ratio of residential land to open space per hectare	Objective	UPBP	Neighbourhood
Per capita area in the residential area	Objective	UPBP	Neighbourhood
Occupied area of each household in the residential area	Objective	UPBP	Neighbourhood
Average number of persons per household in each neighbourhood	Objective	UPBP	Neighbourhood
Number of persons per household	Objective	UPBP	Household
The number of households is divided by the total length of all streets in each neighbourhood	Objective	Google map	Street

4.1.9 Indicators measuring legibility

In the Chinese context, very few studies focus on delving into the level of legibility. However, in other countries, many studies suggest dimensions of legibility and how legibility can be achieved in practice at different scales, like street level, neighbourhood level and city scale. Ujang et al., (2018) recommend Lynch (1960) 's elements of legibility in order to successfully analyze the level of legibility of a place, these elements are nodes, edges, paths, landmarks and districts. They are recorded to show their distinctiveness and intensity. Although the intensity of nodes and paths has already been employed as the indicators of permeability, the nature of nodes has not been measured. So, it is operationalised into two indicators (the number of nodes and rating of nodes) (see Table 4.10). The node can be identified by one or more criteria suggested by Carmona et al., (2010), these criteria include the junction of pedestrian paths or roadways, the concentration of some characteristics, the concentration of activities or uses, the changes of travel modes. Moreover, the rating of nodes is assessed according to Carmona et al., (2010)'s criteria, this can calculate the extent of permanent features of a place.

Then, the landmark is argued to have a positive impact on people's sense of place (Lynch, 1960), residents' social interaction (Nash and Christie, 2003) and people's sense of identity (Nash and

Christie, 2003). The landmark plays a vital role in enabling people to better understand their surroundings and experience fewer wayfinding challenges (Brorsson et al., 2011; Olsson et al., 2013; Marquez et al., 2018; Seetharaman et al., 2020). The presence of landmarks is also seen as an important element of landscape legibility (Guiducci and Burke, 2016; Moulay et al., 2017; Marquez et al., 2018). Thus, the landmark is included in this research (Table 4.10). Furthermore, the edge is omitted from the research because its nature has been encapsulated in the indicators of neighbourhood boundaries. Narsa (1998, p.7) suggests that the district refers to some recognizable and common perceived identity. But the perceived identity has been measured by the indicators of the sense of place, so the district is not also included here. Finally, a subjective indicator of legibility is included in this research (Table 4.10). Because Koseoglu and Onder (2011) argue that the subjective indicators of legibility are as important as its objective aspects.

Table 4.10 Indicators measuring legibility

Indicators	Objective or Subjective	Data sources	Scale of indicator
Number of landmarks per hectare	Objective	Site survey	Neighbourhood
Number of nodes per hectare	Objective	Site survey	Street
Rating of nodes	Objective	Site survey	Street
Residents' perceptions of legibility in their neighbourhood	Subjective	Interview with residents	Individual

4.1.10 Indicators measuring neighbourhood boundaries

In this section, just redeveloped villages and commodity housing are measured. Because the two neighbourhood types are enclosed by physical boundaries (like walls and rivers), but villages are defined according to non-physical administration boundaries. In China, almost all redeveloped villages and commodity housing are in the form of the gated neighbourhood that is governed by the homeowners association (Deng, 2017), and gated neighbourhoods restrict public access (Atkinson and Flint 2004). A large number of academics argue that the existence of physical neighbourhood boundaries has an impact on residents globally (Roitman, 2005; Lemanski, 2006; Hazelzet and Wissink, 2012; Sakip et al., 2012; Breitung, 2012; Rafiemanzelat, 2017; Dong, 2017; Wu, et al., 2017; Lu et al., 2018; Mousavinia et al., 2019). Most studies in the literature employ the subject indicator to explore the impact of the existence of neighbourhood boundaries (Wilson-Doenges, 2000; Breitung, 2012). It is possible to measure neighbourhood boundaries using subjective indicators because the measure of neighbourhood boundaries is based on local people's lifestyles and local knowledge. For this reason, two subjective indicators are used to measure neighbourhood boundaries (Table 4.11).

Table 4.11 Indicators measuring neighbourhood boundaries

Indicators	Objective or Subjective	Data sources	Scale of indicator
Residents' perceptions of physical boundaries	Subjective	Household survey	Household
Residents' perceptions of physical boundaries	Subjective	Interview with residents	Individual

4.1.11 Indicators measuring residents' opinions of the quality of the neighbourhood

The measure of the last socio-spatial feature of the neighbourhood needs to depend on residents' subjective perceptions for minimizing the amount of subjectivity of the researcher. In the context of this study, beholders are residents living in the neighbourhood. To understand how people living in the neighbourhood assess the quality of their neighbourhood, three indicators are used to measure the quality of the built environment (Table 4.12). These indicators of this socio-spatial feature are at the household and individual scales. They can be collected by using the household survey and walk-along interview.

Table 4.12 Indicators measuring the quality of neighbourhoods

Indicators	Objective or Subjective	Data sources	Scale of indicator
Residents' opinions on the statement: Your neighbourhood as a place to live	Subjective	Household survey	Household
Residents' perceptions of the quality of neighbourhood	Subjective	Household survey	Household
Residents' perceptions of the quality of neighbourhood	Subjective	Interview with Residents	Individual

4.2 Indicators measuring social cohesion

For this study, the dimensions measuring social cohesion are identified in Section 1.3. These identified dimensions of social cohesion are measured based on two groups of residents (locals and migrants) by using residents' subjective opinions in peri-urban neighbourhoods in Guangzhou. Furthermore, the data of social cohesion is collected by employing the household survey. The indicators measuring individual dimensions of social cohesion are explored in the following sections.

4.2.1 Indicators measuring social interaction

There are a large number of examples of indicators measuring social interaction in social science research (Van den Berg et al., 2017). Social interaction is measured to mainly use respondents' answers regarding social interaction (Frieling and Niemeijer, 2007; Cropley, 2007;

Van den Berg et al., 2017).

In this research, both positive and negative indicators measuring social interaction are employed. The reasons for using both positive and negative indicators of social interaction are explained in Section 2.3.2.1. Furthermore, existing indicators measuring social interaction commonly use a proxy, and these indicators vary according to the nature of social interaction and the groups of people interacting with each other. The indicators used for this study are shown in Table 4.13.

4.2.2 Indicators measuring social networks

Social networks are frequently examined in empirical research (Eastwood et al., 2003; Windsor et al., 2012; Wickes et al., 2019; Bekalu et a., 2021), which is also closely associated with social interaction. Social interaction among people can help to form their social networks, which can be strong (such as friends, families and neighbours) or weak (such as neighbours, acquaintances and people living in the same neighbourhood, etc) networks (Carrasco et al., 2008; Van den Berg et al., 2011; Jayashankar and Raju, 2020). In this research, social interaction is measured depending on the interaction among neighbours in the built environment, and social networks are measured focusing on social ties of families and friends living in the neighbourhood as a supplement to the measurement of social interaction.

Three indicators are used to measure social networks (see Table 4.13). These indicators are operated into three double-barrelled questions to measure social networks of families and friends in a neighbourhood. The three indicators measuring social networks of families and friends are developed from the study of Carrasco et al. (2008) and Van den Berg et al. (2011).

4.2.3 Indicators measuring sense of community

Sense of community is a frequently examined concept in social science research (Sakip et al., 2012; Zhang and Zhang, 2017; Boyd and Nowell, 2020; Stewart and Townley, 2020). McMillan and Chavis (1986) argue that a sense of community includes four elements, including membership (feeling of belonging), influence, shared emotional attachment, and fulfillment of needs (Sakip et al., 2012; Boyd and Nowell, 2020). Zhang and Zhang (2017) use four indicators to measure the sense of community, they are the sense of belonging, friendliness, reciprocity trust, and community trust. However, these concepts of sense of community are very broad considering the context of this study, because these concepts include other dimensions of social

cohesion, like a sense of place attachment and trust. Furthermore, Bucker (1988) employed indicators regarding loyalty to, and sense of fellowship between fellow residents to measure a sense of community. In this research, the indicators measuring the sense of community provided by Bucker (1988) are used, which focus on common norms and social order in a neighbourhood. Table 4.13 shows three indicators measuring the sense of community.

4.2.4 Indicators measuring participation in organized activities

There are a large number of articles in empirical research that seek to measure participation in organized activities (Hsieh, 2015; VanderWeele, 2017; Bekalu et al., 2020; Kim et al., 2020). It is common for indicators to ask if residents participate in some organized activities in the neighbourhood, including sports/exercise groups (Stafford et al., 2003; Xu et al., 2010; Hsieh, 2015), adult education groups (Meegan and Mitchell, 2001; Stafford et al., 2003; Xu et al., 2010; Powell and Rishbeth, 2012), local community or neighbourhood groups (Meegan and Mitchell, 2001; Xu et al., 2010; Powell and Rishbeth, 2012; Hsieh, 2015), children's hobby groups (Meegan and Mitchell, 2001; Xu et al., 2010), and religious groups (Meegan and Mitchell, 2001; Stafford et al., 2003; Xu et al., 2010; Powell and Rishbeth, 2012; Hsieh, 2015; VanderWeele, 2017). In this research, indicators measuring participation in organized activities are selected according to local culture.

Moreover, there are differences in the selected period of time in which participation happens. For example, Hsieh (2015) asks residents if they take part in community activities in the last twelve months. Hand et al. (2012) argue that it is suitable to ask residents regarding participating in an organized activity in the past four weeks. Considering these differences, many scholars ask residents whether they regularly take part in an organized activity (Stafford et al., 2003; Teychenne et al., 2008; Zhao et al., 2008; Johnson-Lawrence et al., 2015). Therefore, the term 'regularly' is also used in this research. Table 4.13 lists indicators to measure participation in organized activities.

4.2.5 Indicators measuring trust and reciprocity

Numerous studies measure the level of trust and reciprocity by asking questions in the household survey. The indicators frequently employed to measure trust and reciprocity are closely related to social networks. For example, Wang et al. (2018) ask respondents if they let

their neighbours help them when they need it. Skjaeveland et al., (1996) also ask residents if they frequently borrow some things from their neighbours when it is needed for doing the cooking. Therefore, the extent of social networks needs to be considered, which is dealt with as an interfering indicator. Furthermore, residents' general feelings relating to the level of trust and reciprocity are commonly captured in the literature (Yamagishi and Yamagishi, 1994; Wang et al., 2018; Takagi et al., 2020).

One indicator measuring the level of trust and reciprocity is listed in Table 4.13. The indicator is selected to capture residents' sense of social trust, which is asking residents if they need a favor when they can rely on their neighbours in their neighbourhood. This indicator is operated as a question in the household survey.

4.2.6 Indicators measuring feelings of safety

Employing questionnaires is the most common method to measure sense of safety (Carver et al., 2008; Leslie and Cerin, 2008; Carver et al., 2008; Wilson-Genderson and Pruchno, 2013; Tung et al., 2016; Hong et al., 2018; Dawson et al., 2019; Wang et al., 2019; Kim and Park, 2020). The advantage of employing a questionnaire is that it could reflect people's perceived safety which can better achieve the purpose of this research than objective indicators (Won et al., 2016; Berglund et al., 2017).

In existing studies, residents' sense of safety in their neighbourhood is frequently used to measure perceived safety. It is operated as the following questions: 'How safe do you perceive when you walk alone in your neighbourhood during the daytime? (Young et al., 2004; Wilson-Genderson and Pruchno, 2013; Thomas et al., 2016; Zandieh et al., 2016; Wang et al., 2018)' and 'How safe do you perceive when you walk alone in your neighbourhood after night? (Young et al., 2004; Wilson-Genderson and Pruchno, 2013; Thomas et al., 2016; Zandieh et al., 2016; Weimann et al., 2017; Lin et al., 2017).' The first question is not used to measure the sense of safety in this research because it measures residents' physical safety, like anti-social behaviour or road traffic (Won et al., 2016; Wang et al., 2019). Another important and used indicator measuring residents' sense of safety is perceived crime, rather than specific crimes. Specific crimes and anti-social behaviours are not specifically related to the quality of the

neighbourhood in the theory. The indicators measuring feelings of safety are shown in Table 4.13.

4.2.7 Indicators measuring place attachment

Place attachment is measured frequently employing questionnaires in existing literature (Perkins and Long, 2002; Anton and Lawrence, 2014; Qian and Zhu, 2014; Scannell and Gifford, 2017; Zhang et al., 2018; Boley et al., 2021). Place attachment is often translated into the sense of pride in a residential area (Manzo and Perkins, 2006; Brown et al., 2013; Fu et al., 2015). The sense of pride towards the built environment can reflect how attach people can feel to their neighbourhood (Keller, 1968). This indicator is often used to measure place attachment (Dekker and Bolt, 2006; Qian and Zhu, 2014). Moreover, the sense of belonging is also a common indicator to measure place attachment (Stafford et al., 2003; Dempsey, 2008; Wynveen et al., 2020). The belongingness can occur when people can hold the membership in their neighbourhood (Wynveen et al., 2020). This dimension is measured to ask residents whether they can feel that they belong to their neighbourhood or whether they can feel that they are a part of their neighbourhood (Stafford et al., 2003; Dempsey, 2008). The indicators measuring the sense of place attachment are shown in Table 4.13.

Table 4.13 Indicators measuring dimensions of social cohesion

Dimensions	Indicators	Objective or Subjective	Data source	Scale of indicator
1) Social interaction	How many of your neighbours would you have a chat with/ greet?	Subjective	Household survey	Household
	How many of your neighbours would you ask to borrow food/ tools from?	Subjective	Household survey	Household
	How many of your neighbours would you know by name?	Subjective	Household survey	Household
	How many of your neighbours would you avoid contact with?	Subjective	Household survey	Household
2) Social networks	How many of your friends/relatives live in your neighbourhood?	Subjective	Household survey	Household
	Do you regularly see your friends/relatives socially within your neighbourhood?	Subjective	Household survey	Household
	Not counting the people you live with, how often do you see your friends/relatives living in your neighbourhoods?	Subjective	Household survey	Household
3) Sense of community	How strongly do you agree or disagree with the following statement: I am proud of my neighbourhood.	Subjective	Household survey	Household
	How strongly do you agree or disagree with the following statement: This is a friendly neighbourhood.	Subjective	Household survey	Household
	How strongly do you agree or disagree with the	Subjective	Household	Household

Dimensions	Indicators	Objective or Subjective	Data source	Scale of indicator
	following statement: People from different backgrounds get on well together in this neighbourhood.		survey	
4) Participation in organized activities	In your free time, do you undertake regularly sports/exercise groups	Subjective	Household survey	Household
	In your free time, do you undertake regularly adult education groups	Subjective	Household survey	Household
	In your free time, do you undertake regularly local community or neighbourhood groups	Subjective	Household survey	Household
	In your free time, do you undertake regularly children's hobby groups	Subjective	Household survey	Household
	In your free time, do you undertake regularly other groups	Subjective	Household survey	Household
5) Trust and reciprocity	How strongly do you agree or disagree with the following statement: If I need a favor, I could rely on my neighbours in the neighbourhood to help me	Subjective	Household survey	Household
6) Feelings of safety	Respondents' opinions on their feelings of safety in the neighbourhood	Subjective	Household survey	Household
	Respondents' opinions on the level of crime in the neighbourhood	Subjective	Household survey	Household
	Respondents' opinions on their feelings of safety to wait for bus in villages	Subjective	Household survey	Household
7) Sense of place attachment	How strongly do you agree or disagree with the following statement: I am proud of my neighbourhood?	Subjective	Household survey	Household
	How strongly do you agree or disagree with the following statement: I feel that I belong to this neighbourhood?	Subjective	Household survey	Household

**Above all dimensions of social cohesion are focusing on two groups (locals and migrants).

4.3 Intervening variables

To explicitly explore the relationship between socio-spatial features of the quality of neighbourhoods and social cohesion in the peri-urban areas in China, this study also considers other factors that may impact dimensions of social cohesion. According to the review of the literature, a number of commonly used intervening indicators are considered and listed in Table 4.14 (Dempsey, 2009; Zhu et al., 2012; Liu et al., 2016; Wang et al., 2016). These indicators include social characteristics of residents, socio-economic characteristics of residents, household characteristics, residential turnover, tenure, accommodation characteristics and neighbourhood characteristics.

Table 4.14 Indicators of intervening variables

Intervening influence	Indicators	Sourcce
Social characteristics of residents	Gender; age; birthplace; hukou status; local or migrant; residents' self-identity (local or migrant); length of holding Guangzhou hukou for migrants	Household survey
Socio-economic characteristics of residents	Economic status; household income; personal income	Household survey
Household characteristics	Household size, household composition; use of services and facilities; car ownership	Household survey
Residential turnover	Length of residence; plans to move house	Household survey
Tenure	Tenure on household property	Household survey
Accommodation characteristics	Accommodation type	Household survey
Neighbourhood characteristics	Neighbourhood type	Household survey

4.4 Conclusion

This chapter shows detailed descriptions of indicators measuring the quality of the neighbourhood, social cohesion and intervening variables. The indicators measuring the quality of the neighbourhood use sources including the Urban Planning Bureau of Panyu (UPBP), the site survey and Google map, while indicators measuring the level of social cohesion are measured using the walk-along interview and household questionnaire survey. All indicators operationalise socio-spatial features of the quality of the neighbourhood and social cohesion in a valid and reliable manner, which permits the detailed examination and statistical analysis under scrutiny. The next chapter provides descriptions of the socio-economic characteristics of the sample and the socio-spatial features of the three neighbourhood types, and also shows descriptive information about the dimensions of social cohesion in the three neighbourhood types.

Chapter 5 Characteristics of the Three Neighbourhood Types and Samples

5.1 Introduction

To explore the relationship between social cohesion and socio-spatial features of the spatial setting, a sample of residents who live in the three neighbourhood types in the Panyu area was selected. This chapter offers descriptions of the socio-economic characteristics of the sample and the socio-spatial features of the three neighbourhood types. This chapter also provides descriptive information about the dimensions of social cohesion in the three neighbourhood types.

5.2 Socio-economic characteristics of the sample

This section provides information about the sample, and the information about the local and migrant population from which the sample. This data on local and migrant populations is from the 2015 Census and provided by Panyu Government. However, other information of the population regarding age, gender, economic status, household income, and tenure from the Census is not shown in this section because these information is not available.

Table 5.1 Characteristics of the sample from the questionnaire survey in general (%)

Characteristics of residents	Total sample
Male	48.5
Female	51.5
Age 18-24	16.9
Age 25-34	24.4
Age 35-44	18.9
Age 45-54	13.9
Age 55-64	10.2
Age 65+	15.7
Local	49.8
Migrant	50.2
Full-time employed	59.6
Part-time employed	3.3
Unemployed	2.8
Full-time student at university	6.6
Looking after home	8.0
Retired	19.2
Long term sick or disabled	0.4
Household income less than 9999 CNY	5.9
Household income 10000- 29999 CNY	6.9
Household income 30000 - 49999 CNY	15.5
Household income 50000 - 79999 CNY	18.4
Household income 80000 - 99999 CNY	15.0
Household income 100000 - 199999 CNY	26.8
Household income 200000 – 299999 CNY	7.3
Household income 300000 -399999 CNY	2.3
Household income 400000+ CNY	1.8

Characteristics of residents	Total sample
Own outright	56.1
Own with a mortgage or loan	10.7
Pay rent by the employer	6.4
Pay part rent by the employer, part rent by yourself	1.7
Pay rent by yourself and mortgage (share ownership)	25.2

5.2.1 Gender

Table 5.1 shows that the proportion of males and females who responded to the household questionnaire survey in general. This indicates that the proportion of males and females, in general, is similar. This is also illustrated in Table 5.2, which provides the proportion of males and females who responded to the site questionnaire survey in the three neighbourhood types respectively. This suggests that the proportions of females and males responding to the site questionnaire survey in general and in the three neighbourhood types respectively are similar.

Table 5.2 Gender of the sample (%)

Neighbourhood type	Male	Female
Villages	51.0	49.0
Redeveloped villages	49.0	51.0
Commodity housing	50.0	50.0

5.2.2 Age

Table 5.1 provides that the age of the sample in general. This indicates that a large proportion of the sample, in general, is the age group of 25-34 years old. Table 5.3 shows the age distribution of the sample participants in the questionnaire survey in the three neighbourhood types respectively. The most frequently reported age group is also 25-34 years old, which accounts for 20.8%, 28.2% and 27.1% in villages, redeveloped villages and commodity housing, respectively.

Table 5.3 Age of the sample (%)

Neighbourhood type	Age 18-24	Age 25-34	Age 35-44	Age 45-54	Age 55-64	Age 65+
Villages	15.3	20.8	16.1	15.7	12.4	19.6
Redeveloped villages	16.3	28.2	15.4	15.0	7.8	17.2
Commodity housing	19.9	27.1	26.1	9.8	9.2	7.8

5.2.3 Locals or migrants

Table 5.1 shows that the proportion of local and migrant samples is similar in general. Table 5.4 also shows that the proportion of locals and migrants in the sample and the population for each neighbourhood type are similar. This data on local and migrant populations is from the

2015 Census and provided by Panyu Government.

Table 5.4 Local or migrant sample and Census respondents by study site (%)

Neighbourhood type		Locals	migrants
Villages	Village sample	50.2	49.8
	Village Census	51.5	48.5
Redeveloped villages	Redeveloped sample	60.9	39.1
	Redeveloped Census	87.1	12.9
Commodity housing	Commodity housing sample	47.1	52.9
	Commodity housing Census	48.6	51.4

5.2.4 Economic status

Table 5.1 also shows the proportion of respondents based on their economic status. This indicates that the majority of samples (59.6%) are employed. Table 5.5 shows the proportion of respondents according to their economic status for locals and migrants in the three neighbourhood types. This table suggests that the proportion of locals who are full-time employed is smaller than those full-time employed migrants in villages and redeveloped villages, while the proportion of retired locals is larger than those retired migrants in the two neighbourhood types. This table also indicates that the most frequently reported economic status by both locals (52.8%) and migrants (59.3%) is full-time employment in commodity housing.

Table 5.5 Economic status of the sample (%)

Neighbourhood type	Locals and migrants	Full-time employed	Part-time employed	Unemployed	Full-time student at university	Looking after home	Retired	Long term sick or disabled
Villages	Locals	46.7	3.3	3.3	4.9	6.9	32.9	2.0
	Migrants	75.8	5.3	1.6	4.1	9.8	3.3	0.0
Redeveloped	Locals	43.4	4.2	4.2	3.0	6.0	39.2	0.0
villages	Migrants	79.1	1.3	2.0	2.0	5.9	9.8	0.0
Commodity	Locals	52.8	2.8	3.5	21.5	5.6	13.9	0.0
housing	Migrants	59.3	1.9	2.5	8.0	13.0	15.4	0.0

5.2.5 Household income

The household income of samples, in general, is provided in Table 5.1. This table indicates a large proportion of samples' household incomes is between 100000 CNY and 199999 CNY. Table 5.6 also shows that the proportion of the household income (100000-199999 CNY) for both locals and migrants in redeveloped villages and commodity housing is the largest. In villages, the most frequently reported household income for locals is between 80000CNY and 99999 CNY, and the most frequently reported household income for migrants is between 30000

CNY and 49999 CNY. This indicates that locals may earn more money than migrants in villages.

Table 5.6 Household income of the sample (%)

Neighbourhood type	L/M	Less than 9999 CNY	10000-29999 CNY	30000 - 49999 CNY	50000 - 79999 CNY	80000 - 99999 CNY	100000 - 199999 CNY	200000 - 299999 CNY	300000 - 399999 CNY	400000+ CNY
Villages	Locals	9.3	13.4	16.7	17.1	18.3	17.1	5.7	2.4	0.0
	Migrants	0.8	10.3	30.6	24.0	14.0	17.4	2.5	0.0	0.4
Redeveloped villages	Locals	8.4	9.0	15.1	20.5	10.2	30.1	4.2	1.2	1.2
	Migrants	12.4	0.0	9.2	19.0	15.0	34.6	4.6	3.3	2.0
Commodity housing	Locals	2.8	1.4	6.3	11.9	21.0	31.5	15.4	4.2	5.6
	Migrants	2.5	1.2	5.6	14.9	11.2	41.0	15.5	4.3	3.7

5.2.6 Tenure

Table 5.1 shows that the most frequently reported tenure by samples is ‘own outright’ (56.1%), which refers to those residents who own their property. Table 5.7 shows the summary statistics of respondents according to their tenure for locals and migrants in the three neighbourhood types. This table suggests that the majority of locals living in villages and redeveloped villages own their property, while the majority of migrants living in villages and redeveloped villages pay rent for their property by themselves. In commodity housing, the most frequently reported tenure by both locals (75.7%) and migrants (43.8%) is ‘own outright’. The second reported tenure by both locals (18.8%) and migrants (37.7%) is ‘own with a loan’, which refers to those residents who own their property with a loan.

Table 5.7 Tenure of the sample (%)

Neighbourhood types	Locals or migrants	Own outright	Own with a loan	Pay rent by the employer	Pay part rent by the employer, part rent by yourself	Pay rent by yourself
Villages	Locals	97.2	0.0	0.0	0.0	2.8
	Migrants	7.4	0.8	17.6	2.5	71.7
Redeveloped villages	Locals	91.0	4.8	2.4	0.0	1.8
	Migrants	24.7	13.6	14.3	5.2	42.2
Commodity housing	Locals	75.7	18.8	0.0	1.4	4.2
	Migrants	43.8	37.7	1.2	1.9	15.4

5.2.7 Housing type

Table 5.8 presents the summary statistics of respondents according to their housing type for locals and migrants in the three neighbourhood types. In villages, respondents are living in four housing types, including houses (Figure 5.1), bungalows (Figure 5.2), makeshift shacks on the farmland (Figure 5.5), and dormitories of factories (Figure 5.4). The majority of locals (96.7%) and migrants (86.9%) are living in houses in villages. In redeveloped villages and commodity housing, there are houses and apartment blocks (Figure 5.3)only. Most locals are living in

houses (81.9%), while most migrants are living in apartment blocks (65.6%) in redeveloped villages. In commodity housing, most locals (90.3%) and migrants (98.1%) are living in apartment blocks.

Table 5.8 Housing type for the sample (%)

Neighbourhood type	Locals or migrants	Houses	Apartment blocks	Bungalows	Makeshift shacks on the farmland	Dormitories of factories
Villages	Locals	96.7	0.0	2.8	0.4	0.0
	Migrants	86.9	0.0	4.5	4.9	2.5
Redeveloped villages	Locals	81.9	18.1	0.0	0.0	0.0
	Migrants	34.4	65.6	0.0	0.0	0.0
Commodity housing	Locals	9.7	90.3	0.0	0.0	0.0
	Migrants	1.9	98.1	0.0	0.0	0.0

Figure 5.1 House in Yuexi Village

Figure 5.2 Bungalow in Changtan Village

Figure 5.3 Apartment in Lianhuawanpan

Figure 5.4 Dormitories of factories in Yuexi village

Figure 5.5 Makeshift shack on the farmland in Changtan Village

5.2.8 Length of residence

Table 5.9 presents the summary statistics of respondents according to the length of residence for locals and migrants in the three neighbourhood types. This table suggests that most locals (80.5%) have lived in villages for more than 21 years, while most migrants (75.5%) have lived in villages for less than 5 years. In redeveloped villages, the most frequently reported length of residence by locals (51.8%) is between 6-10 years, while the most frequently reported length

of residence by migrants (50%) is under 1 year. In commodity housing, the frequently reported length of residence for locals and migrants is between 2-10 years, suggesting that locals and migrants moved in there at the same time.

Table 5.9 Length of residence of the sample (%)

Neighbourhood type	Locals or migrants	Under 1 year	2-5 years	6-10 years	11-20 years	21 years+
Villages	Locals	0.4	3.7	3.7	11.8	80.5
	Migrants	47.3	28.2	15.4	6.6	2.5
Redeveloped villages	Locals	7.8	40.4	51.8	0.0	0.0
	Migrants	50.0	46.8	2.6	0.0	0.6
Commodity housing	Locals	9.2	27.5	37.3	24.6	1.4
	Migrants	18.1	36.3	28.1	16.9	0.6

5.3 Socio-spatial features in the three neighbourhood types

In this section, the summary statistics of each indicator measuring the socio-spatial features of the three neighbourhood types are presented. The socio-spatial features of the three neighbourhood types include maintenance, mixed land uses, accessibility, character, natural surveillance, connectedness, attractiveness, residential density, legibility, neighbourhood boundary and overall measure of the quality of the built environment.

5.3.1 Maintenance

Table 5.10 and Table 5.11 show objective and subjective indicators measuring maintenance at different scales in villages, redeveloped villages and commodity housing. In the two tables, the data of four objective indicators are collected by the researcher and five subjective indicators are assessed by respondents. Of the three neighbourhood types, redeveloped villages and commodity housing have a higher level of maintenance according to both subjective and objective indicators of maintenance than villages.

Table 5.10 Objective indicators measuring maintenance in the three neighbourhood types

Indicators	Villages	Redeveloped villages	Commodity housing
The researcher's assessments of pavement condition per street	2.98	5	4.5
The researcher's assessments of the extent of litter per street	2.81	4.54	4.25
The researcher's assessments of the quality of facilities per neighbourhood	2	3	2
The researcher's assessments of the quality of facilities at the bus stop	3	--	--
Average score of the above indicators (0-5 where 0 is low and 5 is high)	2.70	4.18	3.58

Table 5.11 Subjective indicators measuring maintenance in the three neighbourhood types

Indicators	Villages	Redeveloped villages	Commodity housing
Residents' perceptions of pavement condition in their neighbourhood	2.64	2.70	2.54
Residents' perceptions of the extent of litter in their neighbourhood	2.48	2.57	2.42
Residents'assessments of the quality of streetlights in their neighbourhood	3.69	3.57	3.56
Residents'assessments of the quality of open spaces in their neighbourhood	2.81	3.00	3.36
Residents' perceptions of the condition of other homes in their neighbourhood	3.68	3.73	3.72
Average score of the above indicators (0-5 where 0 is low and 5 is high)	3.06	3.11	3.11

5.3.2 Mixed land use

Indicators measuring mixed land uses at the neighbourhood scale in the three neighbourhood types are shown in Table 5.12. Of the three neighbourhood types, villages have the largest number of facilities/services (like recreational facilities, fitness facilities and shops, etc.) per neighbourhood (53) and per hectare (6.1), and the lowest ratio of residential to non-residential land (0.09). Redeveloped villages have the largest ratio of residential to non-residential land (2.45). Moreover, Commodity housing has the lowest number of facilities and services per neighbourhood (4.7) and per hectare (0.7).

Table 5.12 Indicators measuring mixed land uses in the three neighbourhood types

Indicators	Villages	Redeveloped villages	Commodity housing
Number of key services/ facilities per neighbourhood	53	5.6	4.7
Average number of key services per hectare	6.1	0.8	0.7
Ratio of residential to non-residential land	0.09	2.45	2.08

5.3.3 Accessibility

Table 5.13 shows objective indicators measuring the level of accessibility at the neighbourhood scale, and Table 5.14 presents subjective indicators measuring accessibility at the individual and household scales. Commodity housing has the highest level of accessibility, while villages have the lowest level of accessibility, in terms of objective indicators measuring accessibility (Table 5.14). Also, Table 5.13 indicates the average number of bus stops in villages is 1, and the average number of buses per hour in villages is 3.92. Furthermore, it is interesting that respondents living in villages score the highest (3.30) on the level of accessibility, while those living in commodity housing score the lowest (2.70) on its level (Table 5.13).

Table 5.13 Subjective indicators measuring accessibility in the three neighbourhood types

Indicators	Villages	Redeveloped villages	Commodity housing
Residents' perceptions according to the statement: "I can easily reach public transport services on foot."	3.23	--	--
Residents' perceptions according to the statement: "Public transport is frequent and reliable."	2.68	--	--
Residents' perceptions according to the statement: "Public transport goes when and where I want it to go."	2.95	--	--
Residents' perceptions according to the statement: "I can easily access open spaces on foot."	3.80	3.60	4.27
Residents' perceptions according to the provision of shops in their neighbourhood	3.36	2.30	
Residents' perceptions according to the provision of recreational facilities in their neighbourhood	2.40	2.47	2.61
Residents' perceptions according to the provision of parking in their neighbourhood	2.68	2.84	2.10
How adequately do you think your neighbourhood open space/ parks provide opportunities for you to do the following: Sport (Playing table tennis, football, badminton, etc.)	3.16	3.09	1.72
How adequately do you think your neighbourhood open space/ parks provide opportunities for you to do the following: Exercise (walking, running and tai chi, etc.)	3.51	3.31	2.44
How adequately do you think your neighbourhood open space/ parks provide opportunities for you to do the following: Recreation (square dance, playing poker, mah-jong and chess, etc.)	3.55	3.54	2.35
How adequately do you think your neighbourhood open space/ parks provide opportunities for you to do the following: Walking the dog	3.99	3.94	3.04
How adequately do you think your neighbourhood open space/ parks provide opportunities for you to do the following: Being in a natural environment	3.87	3.68	2.86
How adequately do you think your neighbourhood open space/ parks provide opportunities for you to do the following: Taking children to play	3.80	3.67	2.90
Average score of the above indicators (0-5 where 0 is low and 5 is high)	3.30	3.24	2.70

Table 5.14 Objective indicators measuring accessibility in the three neighbourhood types

Indicators	Villages	Redeveloped villages	Commodity housing
Number of open spaces per hectare	0.023	0.29	0.66
Number of toilets per hectare	0.006	0.29	0.34
Number of bus stops in each village	1		
Number of buses per hr in average 9 am-5pm weekday	3.92		

5.3.4 The perceived character of the neighbourhood

Table 5.15 shows indicators measuring the perceived character of the neighbourhood at the individual scale in the three neighbourhood types. This table shows that respondents living in villages who state that the perceived character of their neighbourhood is weakest (3.58), while those living in redeveloped villages rate that the perceived character of the neighbourhood is

strongest (3.76).

Table 5.15 Indicators measuring the perceived character in the three neighbourhood types

Indicators	Villages	Redeveloped villages	Commodity housing
Residents' opinions of the perceived character of the neighbourhood (0-5 where 0 is low and 5 is high)	3.58	3.76	3.73

5.3.5 Natural surveillance

One indicator measuring natural surveillance at different scales is shown in Table 5.16. This table indicates that villages have the lowest level of natural surveillance (2.67), while redeveloped villages score the highest (3.68) on the extent of natural surveillance.

Table 5.16 Indicators measuring natural surveillance in the three neighbourhood types

Indicators	Villages	Redeveloped villages	Commodity housing
Proportion of active building frontage per street (0-5 where 0 is dead and 5 is active)	2.67	3.68	3.64

5.3.6 Connectedness and permeability

Two indicators of connectedness and permeability at the neighbourhood scale in the three neighbourhood types are presented in Table 5.17. Of the three neighbourhood types, villages have the largest number of junctions (462) according to the point system in each neighbourhood and the lowest number (2) of junctions per hectare. Redeveloped villages have the highest number of junctions (16) per hectare, while commodity housing has the lowest number of junctions (12) in each neighbourhood.

Table 5.17 Indicators measuring connectedness and permeability in the three neighbourhood types

Indicators	Villages	Redeveloped villages	Commodity housing
Number of junctions according to point system in each neighbourhood	462	67	12
Number of junctions according to point system per hectare	2	16	5

5.3.7 Attractiveness

Table 5.18 and Table 5.19 present objective and subjective indicators measuring attractiveness in the three neighbourhood types. Of the three neighbourhood types, villages have the lowest level of attractiveness, while commodity housing has the highest level of attractiveness.

Table 5.18 Objective indicators measuring attractiveness in the three neighbourhood types

Indicators	Villages	Redeveloped villages	Commodity housing
Proportion of open spaces per neighbourhood	0.008	0.29	0.33

Table 5.19 Subjective indicators measuring attractiveness in the three neighbourhood types

Indicators	Villages	Redeveloped villages	Commodity housing
Residents' perceptions of attractiveness of neighbourhood (0-5 where 0 is low and 5 is high)	3.70	3.85	3.90

5.3.8 Residential density

Table 5.20 shows indicators measuring residential density at the neighbourhood scale in the three neighbourhood types. Villages have the highest net and gross residential densities of all neighbourhood types (Table 5.20). However, commodity housing has the lowest occupied area of each household in each neighbourhood (108.71 m²) and the residential area (73.38 m²), and the highest street density (0.67).

Table 5.20 Indicators measuring residential density in the three neighbourhood types

Indicators	Villages	Redeveloped villages	Commodity housing
Per capita area in each neighbourhood (m²)	1105.72	42.01	50.95
Occupied area of each household in each neighbourhood (m²)	6582.49	145.69	108.71
Ratio of residential land to open space per hectare	0.09	2.45	2.08
Per capita area in the residential area (m²)	67.36	29.70	34.46
Occupied area of each household in the residential area (m²)	501.80	103.05	73.38
Average number of persons per household in each neighbourhood	8.59	3.48	2.61
Number of persons per household	8.59	3.48	2.61
The number of households is divided by the total length of all streets in each neighbourhood	0.06	0.10	0.67

5.3.9 Legibility

There are three objective indicators measuring legibility at the street and neighbourhood scale in the three neighbourhood types (Table 5.21). Of the three neighbourhood types, villages have the smallest quantities of landmarks and nodes per hectare, and the highest rating of nodes per neighbourhood. Commodity housing has the largest quantities of landmarks and nodes per hectare, and redeveloped villages have the lowest rating of nodes.

Table 5.21 Objective indicators measuring legibility in the three neighbourhood types

Indicators	Villages	Redeveloped villages	Commodity housing
Number of landmarks per hectare	0.005	0.327	0.580
Number of nodes per hectare	0.183	0.290	0.626
Rating of nodes	2.67	1	2.5

5.3.10 Neighbourhood boundaries

Table 5.22 shows the indicator measuring neighbourhood boundaries at the neighbourhood scale in redeveloped villages and commodity housing. Comparing the two neighbourhood types, more residents state that the existence of neighbourhood boundaries is good in commodity housing (4.54) than in redeveloped villages (4.21).

Table 5.22 Indicators measuring neighbourhood boundaries in redeveloped villages and commodity housing

Indicators	Redeveloped villages	Commodity housing
Residents' opinions of removing neighbourhood boundaries (0-5 where 0 is low and 5 is high)	4.21	4.54

5.3.11 Overall measure of quality

Finally, three indicators measuring the quality of the neighbourhood in the three neighbourhood types are presented in Table 5.23. Comparing among villages, redeveloped villages and commodity housing, villages have the lowest quality (3.92) of the neighbourhood, while commodity housing score the highest (4.04) on the quality of the neighbourhood.

Table 5.23 Indicators measuring the quality of the neighbourhood in the three neighbourhood types

Indicators	Villages	Redeveloped villages	Commodity housing
Residents' opinions on the statement: Your neighbourhood as a place to live	4.00	4.03	4.18
Residents' perceptions of the quality of neighbourhood	3.85	3.89	3.90
Average score of the above indicators (0-5 where 0 is low and 5 is high)	3.92	3.96	4.04

5.4 Social cohesion in the sample

In this section, the level of social cohesion is measured based on two groups of residents (locals and migrants) in peri-urban neighbourhoods in Guangzhou. The indicators measuring each dimension of social cohesion in the three neighbourhood types are described as follows.

5.4.1 Social interaction

Four indicators measuring social interaction in the three neighbourhood types are presented in Table 5.24. Comparing among villages, redeveloped villages and commodity housing, commodity housing scores the highest (1.95) on indicators measuring social interaction, followed by villages (1.90) and redeveloped villages (1.84) score the lowest. This suggests that the proportion of respondents engaging in social interaction in commodity housing is larger than villages and redeveloped villages.

Table 5.24 Indicators measuring social interaction in the three neighbourhood types

Indicators	Villages	Redeveloped villages	Commodity housing
How many of your neighbours would you have a chat with/ greet?	1.93	1.79	1.93
How many of your neighbours would you ask to borrow food/ tools from?	0.97	0.91	1.07
How many of your neighbours would you know by name?	1.13	0.99	1.14
How many of your neighbours would you avoid contact with?	3.55	3.68	3.67
Average score of the above indicators (0-5 where 0 is low and 5 is high)	1.90	1.84	1.95

5.4.2 Social networks

There are three indicators measuring social networks in villages, redeveloped villages and commodity housing (Table 5.25 and Table 5.26). The first indicator, measuring if residents regularly meet their friends/relatives socially in their neighbourhood, shows that most local and migrant respondents regularly socialize with their friends/relatives in their neighbourhod in the three neighbourhood types (Table 5.25). Moreover, the proportions of migrant respondents (95.9% and 91.3%) regularly seeing their friends/relatives in their neighbourhood is higher than local respondents (86.7% and 87.5%) in villages and redeveloped villages, but the proportions of local respondents (92.0%) regularly meeting their friends/relatives in their neighbourhood is higher than migrant respondents (87.5%) in commodity housing.

Table 5.25 Proportion of total sample meeting their friends in their neighbourhood (%)

Do you regularly see your friends/relatives socially within your neighbourhood?	Villages		Redeveloped villages		Commodity housing	
	Locals	Migrants	Locals	Migrants	Locals	Migrants
Yes	86.7	95.9	87.5	91.3	92.0	87.5
No	13.3	4.1	12.5	8.8	8.0	12.5

Table 5.26 provides the number of friends the respondents socialised with in the same neighbourhood and the frequency of interaction between them. Of the three neighbourhood types, villages score the highest on both the number of friends (1.61) and the frequency of seeing friends (3.14) in their neighbourhood. Redeveloped villages have the smallest number of friends (1.50), and commodity housing also scores the smallest on the frequency of seeing friends (2.90). These results indicate that respondents living in villages have more friends and see their friends more frequently in their neighbourhood than those living in redeveloped villages and commodity housing.

Table 5.26 Indicators measuring social networks in the three neighbourhood types

Indicators	Villages	Redeveloped villages	Commodity housing
How many of your friends/relatives live in your neighbourhood?	1.61	1.50	1.56
Not counting the people you live with, how often do you see your friends/relatives living in your neighbourhoods? (0-5 where 0 is low and 5 is high)	3.14	3.06	2.90

5.4.3 Sense of community

There are three variables used to measure the sense of community in villages, redeveloped villages and commodity housing, these indicators are presented in Table 5.27. Commodity housing scores the highest (3.94) on residents' sense of community of all neighbourhood types, the second is redeveloped villages (3.82), and the last is villages (3.71). This indicates that respondents' sense of community in commodity housing is strongest than those living in villages and commodity housing.

Table 5.27 Indicators measuring sense of community in the three neighbourhood types

Indicators	Villages	Redeveloped villages	Commodity housing
How strongly do you agree or disagree with the following statement: I am proud of my neighbourhood.	3.11	3.15	3.23
How strongly do you agree or disagree with the following statement: This is a friendly neighbourhood.	3.99	4.13	4.24
How strongly do you agree or disagree with the following statement: People from different backgrounds get on well together in this neighbourhood.	4.03	4.18	4.34
Average score of the above indicators (0-5 where 0 is low and 5 is high)	3.71	3.82	3.94

5.4.4 Participation in organised activities

The proportions of respondents taking part in all kinds of organised activities within the neighbourhood in the three neighbourhood types are shown in Table 5.28. Comparing villages, redeveloped villages and commodity housing, the proportions of respondents participating in all organised activities within the neighbourhood in villages are higher than redeveloped villages and commodity housing. Table 5.29 shows the proportion of residents taking part in organised activities outside the neighbourhood (but within the city) in the three neighbourhood types. This table suggests that the proportions of respondents participating in organised activities outside the neighbourhood (but within the city) in commodity housing are higher than villages and redeveloped villages. The proportions of respondents taking part in organised activities outside the city are presented in Table 5.30. This table suggests that the proportions of respondents taking part in sports groups (2.6%), education groups (2.3%) and children's

hobby groups (0.3%) in commodity housing are higher than villages and redeveloped villages.

Table 5.28 Proportion of samples taking part in organised activities within the neighbourhood in the three neighbourhood types (%)

Indicators	Villages	Redeveloped villages	Commodity housing
In your free time, do you undertake regularly sports/exercise groups	35.5	22.8	21.9
In your free time, do you undertake regularly adult education groups	1.4	0.6	0.7
In your free time, do you undertake regularly local community or neighbourhood groups	13.9	7.5	6.9
In your free time, do you undertake regularly children's hobby groups	4.5	1.9	4.2

Table 5.29 Proportion of samples taking part in organised activities outside the neighbourhood (but within the city) in the three neighbourhood types (%)

Indicators	Villages	Redeveloped villages	Commodity housing
In your free time, do you undertake regularly sports/exercise groups	7.8	19.4	44.4
In your free time, do you undertake regularly adult education groups	2.9	6.6	10.1
In your free time, do you undertake regularly local community or neighbourhood groups	1.8	3.8	5.9
In your free time, do you undertake regularly children's hobby groups	4.1	4.1	21.2

Table 5.30 Proportion of samples taking part in organised activities outside the city in the three neighbourhood types (%)

Indicators	Villages	Redeveloped villages	Commodity housing
In your free time, do you undertake regularly sports/exercise groups	0.4	0.9	2.6
In your free time, do you undertake regularly adult education groups	0.2	0.6	2.3
In your free time, do you undertake regularly local community or neighbourhood groups	0.2	0	0
In your free time, do you undertake regularly children's hobby groups	0.2	0	0.3

5.4.5 Trust and reciprocity

Indicators measuring trust and reciprocity in the three neighbourhood types are presented in Table 5.31. Of the three neighbourhood types, villages score the highest (2.95) on trust and reciprocity, the second is commodity housing (2.84), and the last is redeveloped villages (2.56). This indicates that the proportion of respondents trusting their neighbours in villages is larger than those living in redeveloped villages and commodity housing.

Table 5.31 Indicators measuring trust and reciprocity in the three neighbourhood types

Indicators	Villages	Redeveloped villages	Commodity housing
·How strongly do you agree or disagree with the following statement: If I need a favor, I could rely on my neighbours in the neighbourhood to help me. (0-5 where 0 is low and 5 is high)	2.95	2.56	2.84

5.4.6 Sense of safety

Indicators measuring the sense of safety in the three neighbourhood types are presented in Table 5.32. Comparing villages, redeveloped villages and commodity housing, villages score the highest (2.84) on residents' sense of safety, the second is commodity housing (2.72) and the last is redeveloped villages (2.39).

Table 5.32 Indicators measuring sense of safety in the three neighbourhood types

Indicators	Villages	Redeveloped villages	Commodity housing
Respondents' opinions on their feelings of safety in the neighbourhood	3.04	2.77	3.33
Respondents' opinions on the level of crime in the neighbourhood	2.14	2.01	2.11
Respondents' opinions on their feelings of safety to wait for bus in villages	3.35	--	--
Average score of above indicators (0-5 where 0 is low and 5 is high)	2.84	2.39	2.72

5.4.7 Sense of place attachment

Table 5.33 shows indicators measuring the sense of place attachment in villages, redeveloped villages and commodity housing. Of the three neighbourhood types, commodity housing scores the highest (3.71) on residents' sense of place attachment, the second is redeveloped villages (3.47), and the last is villages (3.30).

Table 5.33 Indicators measuring sense of place attachment in the three neighbourhood types

Indicators	Villages	Redeveloped villages	Commodity housing
How strongly do you agree or disagree with the following statement: I am proud of my neighbourhood?	3.11	3.15	3.23
How strongly do you agree or disagree with the following statement: I feel that I belong to this neighbourhood?	3.48	3.79	4.18
Average score of above indicators (0-5 where 0 is low and 5 is high)	3.30	3.47	3.71

5.5 Conclusion

This chapter provides some basic information on the socio-economic characteristics of the sample, the socio-spatial features of the three neighbourhood types and dimensions of social cohesion in the three neighbourhood types. They are helpful to set out basic characteristics of the three neighbourhood types, the samples and the populations to be familiar with the nature of the places and sample of residents who live in these places. For in-depth analysis of the collected data, the next chapter will explore the associations between socio-spatial features of neighbourhoods and dimensions of social cohesion, as well as relationships between dimensions of social cohesion and intervening variables for the whole sample (including both locals and migrants) in general and for villages, redeveloped villages and commodity housing, respectively.

Chapter 6 The Relationship between Socio-spatial Features of Neighbourhoods and Social Cohesion

6.1 Introduction

In this study, levels of social cohesion are measured based on two groups of residents (locals and migrants) in peri-urban neighbourhoods in Guangzhou. The research objectives addressed in this chapter are fourfold:

1) To identify the relationship between socio-spatial features of neighbourhoods and social cohesion for the whole sample (including both locals and migrants) in general.
2) To determine the nature and strength of the relationship for the whole sample (including both locals and migrants) in general.
3) To identify the relationship between socio-spatial features of neighbourhoods and social cohesion for the whole sample (including both locals and migrants) in the three neighbourhood types separately.
4) To determine the nature and strength of the relationship for the whole sample (including both locals and migrants) in the three neighbourhood types individually.

Firstly, this chapter explores whether there is a relationship between socio-spatial features of neighbourhoods, identified in Section 2.2, and dimensions of social cohesion, identified in Section 2.3. Secondly, if there is a relationship between the two, the nature and strength of the relationship are confirmed by establishing whether the socio-spatial features of neighbourhoods have a positive or negative effect on each dimension of social cohesion. Finally, this research examines the significance of socio-spatial features of neighbourhoods when other, intervening variables are considered.

Tables in this chapter present evidence of significant associations between each dimension of social cohesion and other variables, and show the findings from the regression analyses regarding each dimension of social cohesion as the dependent (or affected) variable in general. The results from the regression analyses for the three neighbourhood types separately are shown in Appendix E. The regression analyses are based on two different regression models: the first model comprises variables measuring socio-spatial features of neighbourhoods as the influencing variables (or independent variables); the second one includes the socio-spatial

features of neighbourhoods and intervening variables (or interfering variables) as the independent variables. Furthermore, the results from the correlation analyses, the interview analyses and the statistical tests (e.g. the independent sample-test, chi-square test, one-way ANOVA and two-way ANOVA test) are shown in Appendix D, F and G.

6.2 Social interaction

Existing literature finds that a number of socio-spatial features of neighbourhoods are significantly related to social interaction in different urban settings (see, e.g., Bounds, 2008; Dempsey, 2009; Azmi and Karim, 2012; Ujang, 2016; Mousavinia et al., 2019). Overall, these claims are supported by the results of this research. Table 6.1, Table 6.2 and Table 6.3 presents the results from the regression analyses in general. The results are discussed in the following section.

Table 6.1 Standard Regression Analysis: Z-score of social interaction indicators (dependent variable) in general

Independent variables	Independent variables	Unstandardized Coefficients-B	Standardized Coefficients-Beta	Sig	Collinearity Statistics		R	R Square	Adjust R Square
					Tolerance	VIF			
1. FQON variables	(Constant)	.003		.884			.114	.013	.011
	Zscore_legib_sit	.101	.109	.003	.928	1.078			
	Zscore_Mixland_sit	.086	.074	.041	.928	1.078			
2. FQON variables and intervening variables	(Constant)	-.404		.000			.254	.064	.058
	Use_facilities	.238	.136	.000	.992	1.008			
	Respondents' income	.067	.169	.000	.888	1.126			
	Looking after home	.304	.126	.000	.951	1.052			
	Full time student in university	.294	.110	.003	.900	1.111			
	Pay rent by the employer	.274	.092	.009	.987	1.013			

Table 6.2 Standard Regression Analysis: Z-score of positive social interaction indicators (dependent variable) in general

Independent variables	Independent variables	Unstandardized Coefficients-B	Standardized Coefficients-Beta	Sig	Collinearity Statistics		R	R Square	Adjust R Square
					Tolerance	VIF			
1. FQON variables	(Constant)	-.217		.058			.129	.017	.014
	Zscore_legib_sit	.118	.103	.003	.997	1.003			
	Attractiveness_cur_q	.060	.073	.038	.997	1.003			
2. FQON variables and intervening variables	(Constant)	-.683		.000			.279	.078	.070
	Use_facilities	.388	.179	.000	.992	1.008			
	Looking after home	.403	.134	.000	.947	1.056			
	Respondents' income	.079	.160	.000	.829	1.206			
	Full time student in university	.343	.103	.005	.899	1.112			
	Pay rent by the employer	.405	.110	.003	.904	1.106			
	Length of residence	.048	.078	.036	.862	1.160			

Table 6.3 Standard Regression Analysis: negative social interaction (dependent variable) in general

Independent variables	Independent variables	Unstandardized Coefficients-B	Standardized Coefficients-Beta	Sig	Collinearity Statistics		R	R Square	Adjust R Square
					Tolerance	VIF			
1. FQON variables	(Constant)	3.924		.000			.174	.030	.024
	Zscore_mixland_sit	.168	.126	.001	.777	1.286			
	Zscore_access_q	.145	.117	.007	.627	1.595			
	Character_cur_q	-.083	-.113	.008	.670	1.493			
	Zscore_overmeasure_q	.106	.118	.009	.581	1.722			
	Zscore_mainte_q	-.116	-.095	.028	.633	1.581			
	(Constant)	3.806		.000			.099	.010	.008
	Boundary_remwall_q	.082	-.099	.028	1.000	1.000			
2. FQON variables and intervening variables	(Constant)	3.529		.000			.200	.040	.035
	Local or migrant	.385	.247	.000	.262	3.816			
	Two adults, at least one 60 or over	-.440	-.102	.005	.969	1.032			
	Use_facilities	-.202	-.099	.005	.981	1.020			
	(Constant)	3.959		.000			.217	.047	.038
	Boundary_remwall_q	.077	-.092	.045	.992	1.008			
	Two adults, at least one 60 or over	-.748	-.139	.003	.993	1.007			
	Three or more adults, 18 or over	-.239	-.122	.009	.974	1.027			
	Use_facilities	-.186	-.103	.027	.971	1.030			

6.2.1 Socio-spatial features of neighbourhoods and social interaction

1) Maintenance

In general, the correlation analyses (Appendix D: Table D.1) find that indicators measuring the level of maintenance (measured by the respondents and researcher) have largely positive, weak and significant associations with social interaction. It indicates that residents who describe that the maintenance of their neighbourhoods is good are more likely to interact with their neighbours than those who do not describe the maintenance as good. This result is confirmed in the interview analyses (Appendix G: Table G.1) which find that almost 60% of interviewees state that a well-maintained neighbourhood would have a positive influence on social interaction. An interviewee said that a well-maintained space can make residents in a good mood, it is beneficial for improving residents' social interaction. This finding is consistent with the theoretical claim that there is a positive relationship between the level of maintenance in a neighbourhood and social interaction (Burgoyne et al., 2008; Dempsey, 2009; Hisyam et al., 2012; Duchowny et al., 2020).

With regards to the three neighbourhood types, the correlation analyses (Appendix D: Table D.2, D.3 and D.4) reveal that largely positive correlations exist between variables measuring the level of maintenance and social interaction in villages, redeveloped villages and commodity housing. The findings indicate that residents who state that the level of maintenance is higher are more likely to interact with their neighbours in these neighbourhoods. Furthermore, the level of maintenance is positively and strongly associated with the negative aspect of social interaction (i.e. the degree to which residents avoid their neighbours) in redeveloped villages when the socio-spatial features of neighbourhoods and intervening variables are considered

(Appendix E: Table E.3). The finding indicates that a high level of maintenance in a redeveloped neighbourhood can contribute to social interaction.

2) Accessibility

The regression analysis (Table 6.3) shows that the accessibility in these neighbourhoods is significantly associated with the negative aspect of social interaction (i.e. the degree to which residents avoid their neighbours) in the model considering socio-spatial features of neighbourhoods only. This result indicates that, in general, the more accessible the built environment is in terms of respondents reaching services and facilities conveniently, the less likely residents are to avoid social interaction with neighbours. Accessibility drops out of the regression model when interfering variables are considered, suggesting that other variables may better explain the negative aspect of social interaction. Furthermore, the correlation results (Appendix D: Table D.9) find that indicators measuring the level of accessibility have largely positive and significant correlations with social interaction. The findings indicate that, overall, when facilities/services in a neighbourhood are more accessible, those respondents living in the neighbourhood are more likely to engage in social interaction with their neighbours. This result is also confirmed by the interview results which show that almost 60% of interviewees state a positive association between indicators of accessibility and social interaction (Appendix G: Table G.3). This result supports the theory and practice which considers accessibility to be a factor positively associated with social interaction (see, e.g., Talen, 2000; Barton et al., 2003; Dempsey, 2008; Dempsey, 2009; Azmi and Karim, 2012; Tsai, 2014; Sun, 2016).

Comparing the three neighbourhood types, the correlation analyses show that largely positive but inconsistent correlations exist between indicators measuring the level of accessibility and social interaction in villages, redeveloped villages and commodity housing (Appendix D: Table D.10, D.11 and D.12). Furthermore, the interview analysis (Appendix G: Table G.4) finds that more than half of interviewees state that there would be positive associations between residents' opinions of the level of accessibility and social interaction in all three neighbourhood types. This indicates that residents who agree that their neighbourhood is easily accessible are more likely to interact with their neighbours in all neighbourhood types. On the whole, indicators measuring the level of accessibility are significantly associated with variables measuring social interaction in villages, redeveloped villages and commodity housing.

3) Legibility

According to existing empirical studies, legible spaces can support positive social interaction among users by strengthening their attention, clarifying their perception and mental awareness towards public places (Yeung, 1996; Bounds, 2008; Ujang, 2012). The regression analysis (Table 6.2) in this study shows that legibility is positively associated with indicators measuring positive social interaction. However, this socio-spatial feature of neighbourhoods is 'kicked out' of the regression model because of its weak predictive power when intervening variables are taken into account. This suggests that other indicators may better contribute to social interaction. The correlation results (Appendix D: Table D.19) confirm that indicators measuring the extent of legibility have largely positive associations with social interaction. These findings indicate that as the numbers of landmarks and rating of nodes, increase, social interaction increases as well. The interview results (Appendix G: Table G.5) find that almost 60% of interviewees state that there would be positive associations between variables measuring legibility and social interaction. The results support existing studies that the extent of legibility could promote social interaction among residents (Shamsuddin and Ujang, 2008; Karuppannan and Sivam, 2013; Moulay and Ujang, 2016; Moulay et al., 2017).

With regards to the three neighbourhood types, the correlation analyses (Appendix D: Table D.19) show that there are largely positive correlations between the extent of legibility and social interaction in villages, redeveloped villages and commodity housing. The interview analyses reveal that more than half of interviewees feel that legibility is positively related to social interaction in villages and commodity housing (Appendix G: Table G.6). Overall, when the extent of legibility increases, social interaction also increases in villages, redeveloped villages and commodity housing.

However, it is very important to point out that indicators measuring the extent of legibility (such as landmarks and notes) are relevant only at a neighbourhood scale, implying that the same data using these indicators are replicated for all residents in a neighbourhood. The nature of these indicators measuring the extent of legibility in a neighbourhood might, therefore, skew the findings and create the Type 1 error, resulting in the null hypothesis of no relationship between these variables to be incorrectly rejected (Tabachnick and Fidell, 2001). The Bonferroni adjustment is applied to make it less likely to commit the error (Pallant, 2011).

4) Neighbourhood boundaries

The results show that respondents' opinions about removing neighbourhood boundaries are significantly correlated only with the indicator measuring the negative aspect of social interaction (i.e, the degree to which residents avoid their neighbours) (Appendix D: Table D.20). A significant association is found between the two in the regression analysis (Table 6.3) both with and without intervening variables. This finding indicates that those respondents who disagree with removing their neighbourhood boundaries are less likely to avoid their neighbours. In other words, the existence of neighbourhood boundaries may contribute to social interaction in a neighbourhood. The results are supported by existing studies (Tezel, 2011; Mousavinia et al., 2019).

In the redeveloped villages and commodity housing, regression analysis (Appendix E: Table E.3) reveals that a significant association between respondents' opinions about removing neighbourhood boundaries and negative social interaction both with and without interfering variables in redeveloped villages only. This finding is also supported by the correlation results (Appendix D: Table D.22). It suggests that respondents who agree with removing their neighbourhood boundaries tend to avoid social interaction in redeveloped villages. In other words, the existence of neighbourhood boundaries may promote social interaction in redeveloped villages.

5) Residents' perceptions of the quality of their neighbourhood

In general, the correlation analyses (Appendix D: Table D.20) show that there is a very weak and positive association between respondents' opinions of the quality of their neighbourhood and social interaction, suggesting that those respondents stating that the quality of their neighbourhood is high are more likely to interact with their neighbours. This finding supports the theory that residents who rate their built environment as a good neighbourhood to live in are more likely to interact with their neighbours (Nash and Christie, 2003; Lloyd et al., 2016).

Comparing the three neighbourhood types, the correlation analyses (Appendix D: Table D.21 and D.22) reveal that there are weak, but positive and consistent associations between respondents' perceptions of the quality of the neighbourhood and social interaction in villages and redeveloped villages only. Moreover, the regression analysis (Appendix E: Table E.2) shows that respondents' opinions on the quality of the neighbourhood are positively related to positive social interaction (both with and without intervening variables) in redeveloped villages,

suggesting that residents who state that their neighbourhood is a good place to live in are more likely to report social interaction in redeveloped villages.

6) The perceived character of the neighbourhood

In general, the correlation analyses (Appendix D: Table D.20) reveal a positive and significant association between the perceived character of the neighbourhood residents live in and social interaction. This indicates that residents who state that the perceived character of their neighbourhood is good are more likely to engage in positive social interaction than those who do not describe the character as good. Furthermore, more than 50% of interviewees indicate similar positive correlations between these variables (Appendix G: Table G.11). When this relationship is compared in the three neighbourhood types, the correlation analysis reveals that the perceived character of the neighbourhood is positively related to social interaction in villages only (Appendix D: Table D.21). These results support the theory that residents who rate that the perceived character of their neighbourhood is good are more likely to interact with their neighbours (Rasidi et al., 2012).

7) Mixed land uses

The regression analysis (Table 6.1) shows that the extent of services and facilities is positively associated with social interaction, suggesting that as the number of services and facilities increases, social interaction increases as well. This feature is however 'kicked out' of the model when intervening indicators are considered, indicating that other indicators may better contribute to explaining social interaction in this sample. Moreover, the correlation analyses (Appendix D: Table D.5) show inconsistent associations between the extent of facilities and social interaction. Thus, the association between these indicators is not conclusive in general. Comparing the three neighbourhood types, the extent of facilities is not found to be related to social interaction in any of the three neighbourhood types. Although these results call into question the claim that the mixed-use built environment would increase the opportunities for social interaction (Bahadure and Kotharkar, 2015), it does not disprove the claim that mixed-use neighbourhoods can be cohesive. However, these results should be explained with caution because indicators measuring mixed land uses are related only to a neighbourhood scale. These findings may be skewed because of the small number of neighbourhoods.

6.2.2 Intervening indicators and social interaction

In the regression analyses, nine intervening variables are found to be associated with social interaction. These intervening variables are shown as follows:

1) Respondents' use of services and facilities

The use of services and facilities in a neighbourhood, is found to be significantly and positively associated with positive social interaction (Table 6.2). It suggests that respondents who normally use services and facilities in their neighbourhood are more likely to interact with neighbours than those who do not normally use services and facilities.

With regards to the three neighbourhood types, the regression analysis (Appendix E: Table E.2) finds that there is a significant association between these indicators in villages and commodity housing only, indicating that other variables can better contribute to explaining the social interaction in redeveloped villages. This finding suggests that residents who use services and facilities are more likely to engage in positive social interaction with their neighbours in villages and commodity housing. Overall, the use of facilities and services can contribute to social interaction in the nine neighbourhoods.

2) Residents' local or migrant identity

A further intervening variable, the respondents' local or migrant identity is significantly associated with negative social interaction (i.e. the degree to which residents avoid their neighbours) (Table 6.3), suggesting that migrants are more likely to engage in social interaction than locals. An independent samples t-test (Appendix F: Table F.1) finds that there is a significant difference in negative social interaction for locals and migrants, but the effect size in mean values of negative social interaction is very small (eta square = 0.02) (Cohen, 2013). This result is supported by a study carried out by Wu (2012), which argues that migrants living in a low-income neighbourhood are more likely to interact with locals, because migrants think that locals can help them to find a better job.

Comparing the three neighbourhood types, the regression analysis (Appendix E: Table E.3) shows that residents' local or migrant identity is significantly related to the negative indicator of social interaction in redeveloped villages, suggesting that migrant respondents are more likely to interact with their neighbours than local residents in redeveloped villages. An independent samples t-test (Appendix F: Table F.2) reveals that a significant difference exists

in mean scores for locals and migrants in redeveloped villages, and the magnitude of the difference is very small (Cohen, 2013; Pallant, 2006).

3) Length of residence

The indicator measuring the length of residence is significantly and positively associated with social interaction (Table 6.2) and suggests that respondents living in their neighbourhood for a long time are more likely to engage in positive social interaction than those who have lived in there for a short time. This finding supports the claim that the length of residence is considered to be positively correlated with social interaction (Forrest and Kearns, 2001; Zhu et al., 2012; Wu and Logan, 2015; Van Den Berg and Timmermans, 2015; Liu et al., 2016; Zhang et al., 2018).

With regards to the three neighbourhood types, respondents' length of residence is significantly related to social interaction in villages and commodity housing only (Appendix E: Table E.1 and E.3). This finding suggests that the longer respondents live in their neighbourhood, the more likely they are to interact with their neighbours in commodity housing, whereas the longer residents live in their neighbourhood, the less likely they are to engage in social interaction in villages. In villages, the mean time length of residence of locals and migrants is 41 years and 4 years respectively, suggesting that residents living in villages for a long time are more likely to be locals. Thus, locals are less likely to interact with their neighbours than migrants do in villages. This finding is also supported by the regression analysis (Appendix E: Table E.3). Furthermore, the mean time length of residence of locals and migrants in redeveloped villages is 5 years and 2 years respectively. The mean time of residence between the two groups is very close, explaining why the length of residence is not significantly related to social interaction in redeveloped villages.

4) Economic status

A significant association is found between economic status and social interaction, suggesting that residents who are housewives/househusbands or full-time university students are more likely to engage in social interaction than residents of other economic statuses (Table 6.1). These housewives/househusbands and full-time students are more likely to engage in social interaction than others because they may be spending more time in their neighbourhood. According to one-way ANOVA analysis (Appendix F: Table F.3), there is a statistically significant difference in mean values of social interaction for respondents who are looking after

home and those who are retired. The effect size is 0.02, suggesting that the actual difference in mean scores is small (Cohen, 2013). Residents who are housewives/househusbands are more likely to be migrants, and those who are retired are more likely to be locals. The regression analysis (Table 6.3) shows that migrants tend to engage in more social interaction than locals. Moreover, retired (local) residents may have a language barrier to interact with their neighbours. Therefore, a significant difference exists in social interaction for residents who are housewives/househusbands and retired residents.

With regards to the three neighbourhood types, the economic status is significantly related to social interaction in villages only (Appendix E: Table E.2 and E.3). It indicates that residents who are housewives/househusbands tend to interact with their neighbours more than other residents in villages, whereas respondents who are retired are less likely to engage in social interaction with their neighbours than residents with other economic statuses in these villages. Although residents who are housewives/househusbands and those who are retired may have more time to spend in the neighbourhood, retired people may have a language barrier to interact with their neighbours. However, the one-way ANOVA analysis (Appendix F: Table F.4) reveals that social interaction does not differ for respondents with different economic statuses in the three neighbourhood types.

5) Household composition

Household composition is found to be significantly related to indicators measuring the negative aspect of social interaction in the regression analysis (Table 6.3), indicating that households with two adults (with at least one aged 60 or over) and households with three or more adults are less likely to interact with their neighbours than other households. These two types of households may have large numbers of family members, so they do not need to interact with their neighbours. The one-way ANOVA test (Appendix F: Table F.5) shows that there is a significant difference in mean scores of negative social interaction between respondents from households with three or more adults with children (with at least one under 18), 2- parent family with children (with at least one under 18) and two adults (with at least one aged 60 or over), and the size of the difference is 0.02, indicating that the difference is very small (Cohen, 2013).

With regards to the three neighbourhood types, the household composition is significantly associated with social interaction in villages and commodity housing only (Appendix E: Table E.3). These results suggest that households with three or more adults with children (with at least

one under 18) are more likely to report social interaction than other households in villages, whereas households with two adults (with at least one aged 60 or over) and households with three or more adults in commodity housing are less likely to engage in social interaction than other households in commodity housing. This may be because households with three or more adults with children (with at least one under 18) are spending more time than other households in villages, but households with two adults (with at least one aged 60 or over) and households with three or more adults are full-time employed and not spending much time in commodity housing. However, the one-way ANOVA test reveals that very little significant difference exists in social interaction between households with different compositions in the two neighbourhood types (Appendix F: Table F.6).

6) Tenure

In the same model, tenure is significantly related to the level of social interaction, indicating that respondents who pay rent by the employer are more likely to engage in social interaction than other respondents (Table 6.1). Such an association may be due to residents' local and migrant identity: 94% of respondents who pay rent by the employer are migrants, migrant residents are more likely to engage in social interaction than locals. This result is not consistent with the claim that residents who rent their property are significantly less likely to engage in social interaction than those respondents with other tenure types (Dempsey, 2006). However, a one-way ANOVA test (Appendix F: Table F.7) finds that there is no significant difference in social interaction from households of different tenure types.

Comparing the three neighbourhood types, tenure is significantly associated with social interaction in villages and commodity neighbourhoods only (Appendix E: Table E.1 and E.3). The finding indicates that residents who pay rent by the employer are more likely to interact with their neighbours in villages, whereas residents who pay part rent by the employer and part rent by themselves are less likely to interact with their neighbours in commodity housing. 75% of respondents who pay part rent by the employer and part rent by themselves live in their neighbourhood for a short time (less than 5 years), so these residents are less likely to engage in social interaction in commodity housing. However, it is very important to highlight that low proportions of participants who pay rent by the employer in villages (8%) and who pay part rent by the employer, part rent by themselves in commodity housing (2%) perhaps understate the associations between these indicators measuring tenure and social interaction in the three neighbourhood types.

7) Personal income

Residents' income is found to be positively associated with social interaction in a neighbourhood (Van Den Berg and Timmermans, 2015). This claim is supported by this research. Personal income is a positive predictor of social interaction (Table 6.1), suggesting that respondents who have higher income are more likely to interact with their neighbours than others. Further examination of this result finds that the difference in social interaction between respondents with annual income less than 9990 CNY (about £1010) and those between 50000-79990 CNY (about £5504-8806) is significant (Appendix F: Table F.8). However, the difference in mean values of social interaction is very small (eta squared value = 0.02). Moreover, household income and personal income have a strong association in the correlation analyses, suggesting that as residents' income increases, the respondents' household income also increases. But household income is not found to be associated with social interaction in the analysis, suggesting that personal income may better contribute to explaining social interaction than household income.

Comparing the three neighbourhood types, the results show that only household income is found to be significantly associated with social interaction in villages only (Appendix E: Table E.1). It suggests that as respondents' household income increases in villages, social interaction increases as well. Further examination finds that while household income is found to be related to social interaction in villages, the difference in mean values of social interaction for respondents from households with different incomes is found to be insignificant (Appendix F: Table F.9).

8) Birthplace

Birthplace is not associated with social interaction in the regression analysis in general. However, when the regression model is run separately for villages, redeveloped villages and commodity housing, birthplace and social interaction have a significant association in redeveloped villages only (Appendix E: Table E.1 and E.3), suggesting that residents from the Guangdong Province's other areas outside Guangzhou City are more likely to report social interaction with their neighbours than other residents (residents from the Guangzhou City and residents outside Guangdong Province), whereas residents from the Guangzhou City are less likely to interact with their neighbours than other respondents in these neighbourhoods. Although both residents outside Guangdong Province and those from the Guangdong Province's other areas outside Guangzhou City are migrants, residents from the Guangdong

Province's other areas outside Guangzhou City speak the same language (Cantonese) as locals. This may explain why they are more likely to engage in social interaction than those from outside Guangdong Province in redeveloped villages.

9) Residents' plans to move house

In general, respondents' plans to move house are not found to be associated with social interaction. It indicates that residents who are not planning to move house recently do not engage in more interaction than those who are. Comparing villages, redeveloped villages and commodity housing, residents' plans to move house are significantly related to positive social interaction in villages only (Appendix E: Table E.2). This finding indicates that respondents who are not planning to move house recently are more likely to interact with their neighbours in villages.

10) Housing type

In general, there is not a significant association between housing type and social interaction. This finding does not concur with the literature that housing types have an influence on social interaction (Rollwagen, 2016). With regards to the three neighbourhood types, housing type is significantly associated with social interaction in commodity housing (Appendix E: Table E.1). It indicates that respondents living in houses are more likely to engage in social interaction than residents living in apartment blocks. However, it is important to note that there are two housing types (houses and apartment blocks) in Fuyiyuansiqu only, the other two commodity housing (Baifuyuan and Lianhuawanpan) have only one housing type (apartment blocks). And the proportion of respondents living in houses (5%) of samples in commodity housing is very low. Thus, any results related to houses of commodity housing should be treated with caution.

6.2.3 Summary: Social interaction

In general, the socio-spatial features of neighbourhoods by themselves predict less than 5% of the variance in indicators measuring social interaction. The proportion of the variation in social interaction increases almost fivefold when intervening variables are considered in the regression analysis. Comparing villages, redeveloped villages and commodity housing, very small proportions of the variation of social interaction are explained by the socio-spatial features of the built environment. These rates of the variation in social interaction increase by about three times when all variables are considered in the three neighbourhood types. Table 6.4 presents evidence of associations between social interaction and other variables in general and

the three neighbourhood types separately.

Table 6.4 Evidence of associations between social interaction and other variables

Socio-spatial indicators	Overall	Villages	Redeveloped villages	Commodity housing
Accessibility	√	√	√	√
Legibility	√	√	√	√
Neighbourhood boundaries	√		√	
Maintenance	√	√	√	√
Overall measure of quality	√	√	√	
Character	√	√		
Mixed land uses	¿?			
Intervening variables	**Overall**	**Villages**	**Redeveloped villages**	**Commodity housing**
Residents' local or migrant identity	√		√	
The use of facilities	√	√		√
Length of residence	?	?		?
Economic status	√	√		
Household composition	√	?		?
Tenure	?	√		√
Personal income	√			
Household income		?		
Birthplace			√	
Plans to move house		√		
Housing type				¿?

√ evidence found
? evidence is found but very weak
¿? evidence is not conclusive

6.3 Social networks

Existing literature suggests that most residents are less dependent on the neighbourhood for their friendship networks in contemporary China than before 1978 when China's open-door policy was implemented (Hazelzet and Wissink, 2012). The findings of this research broadly concur with this, revealing that socio-spatial features of neighbourhoods have a very limited association with social networks in the nine neighbourhoods.

6.3.1 Socio-spatial features of neighbourhoods and social networks

The correlation analyses show that there are very weak correlations between the indicators measuring residential density, mixed land uses and accessibility with social networks, but the direction of the relationships is inconclusive.

6.3.2 Intervening indicators and social networks

Regression analyses show that six intervening variables are found to be significantly associated with social networks. These intervening variables are presented in Table 6.5.

Table 6.5 Standard Regression Analysis: Z-score of social network indicators (dependent variable) in general

Independent variables	Independent variables	Unstandardized Coefficients-B	Standardized Coefficients-Beta	Sig	Collinearity Statistics		R	R Square	Adjust R Square
					Tolerance	VIF			
1. FQON variables only									
2. FQON variables and intervening indicators	(Constant)	-.530		.000			.302	.091	.084
	Retried	-.306	-.135	.001	.846	1.182			
	Local or migrant	.241	.134	.000	.893	1.120			
	Three or more adults	-.233	-.089	.014	.965	1.037			
	Two adults, at least one 60 or over	-.489	-.109	.005	.854	1.171			
	Own with a mortgage or loan	-.219	-.080	.027	.968	1.033			
	Use_facilities	.180	.079	.028	.979	1.021			

1) Economic status

A significant association is found between residents' economic status and social networks, suggesting that retired residents are less likely to report social networks than respondents with different economic statuses in their neighbourhood (Table 6.5). According to the one-way ANOVA analysis (Appendix F: Table F.10), there is a significant difference in mean scores of social networks for residents with different economic statuses. The effect size is 0.04. This suggests that the mean values of social networks for residents who are retired, who are housewives/househusbands and those who are employed are different from each other.

With regards to the three neighbourhood types, residents' economic status is significantly associated with social networks in villages and redeveloped villages only (Appendix E: Table E.4). These findings indicate that retired respondents are less likely to engage in social networks than residents with other economic statuses in villages, whereas residents who are full-time employees are more likely to report social networks than others in redeveloped villages. One-way ANOVA (Appendix F: Table F.11) was conducted to compare the mean scores and shows that there are significant differences between residents who are retired, full-time employed, part-time employed, unemployed and full-time students in villages, and the actual differences between respondents who are retired and full-time employed in redeveloped villages. The effect sizes are both relatively medium in villages and redeveloped villages (Cohen, 2013).

2) Residents' local or migrant identity

Residents' identity is also found to be significantly associated with social networks (Table 6.5). Initial analysis shows that migrants are more likely to score higher for social networks than locals. This is supported by the independent-sample t-test (Appendix F: Table F.12) which reveals that there is a difference in social networks between locals and migrants, but the

magnitude of this difference is relatively small (eta squared = 0.04) (Cohen, 2013).

Comparing the three neighbourhood types shows that respondents' identity is associated with social networks in villages and redeveloped villages only (Appendix E: Table E.4), suggesting that migrants are likely to report more social networks than locals in these neighbourhoods. A one-way ANOVA analysis (Appendix F: Table F.13) reveals that the mean values of social networks differ significantly for locals and migrants in villages and redeveloped villages. The size of these differences is relatively large in both neighbourhood types. This suggests that the mean values of social networks between locals and migrants are significantly different in villages and redeveloped villages.

3) Household composition

Households with two adults (with at least one aged 60 or over) and households with three or more adults are less likely to report social networks than other households (Table 6.5). A one-way ANOVA test (Appendix F: Table F.14) shows that a significant difference in mean scores of social networks between respondents from households with different compositions is found to be relatively large: the magnitude of the effect is 0.08(Cohen, 2013). This suggests that the mean values of social networks for different households are different.

With regards to the three neighbourhood types, the household composition is found to be associated with social networks in the three neighbourhood types (Appendix E: Table E.4). It suggests that respondents who are retired or who are from households with two adults (with at least one aged 60 or over) may report fewer social networks than residents from other household compositions in villages; Households with three or more adults are less likely to have social networks than other households in redeveloped villages; and households with two adults (with at least one aged 60 or over) also are less likely to report their social networks than other households in commodity housing. A one-way ANOVA test reveals (Appendix F: Table F.15) that there is a significant difference in mean scores of social networks between respondents from households with two adults (with at least one aged 60 or over), one adult under 60, three or more adults with children (with at least one under 18), two-parent family with children (with at least one under 18) in villages, and the magnitude of this difference is relatively large (eta square = 0.1). Also, the same analysis (Appendix F: Table F.) finds a significant difference in social networks between residents from households with three or more adults, one adult under 60 and two-parent family with children (with at least one under 18) in redeveloped villages, and

the effect size is relatively large (eta square = 0.1). However, no difference is found to be significant in social networks between respondents from different household composition groupings in commodity housing.

4) Tenure

There is a significant association between tenure and indicators measuring social networks, suggesting that respondents who own their property with a mortgage or loan are less likely to report social networks than other residents (Table 6.5). According to a one-way analysis (Appendix F: Table F.16), there is an actual difference in mean values of social networks who own their property and pay rent by the employer. However, the size of the effect is very small (eta squared = 0.02). Comparing villages, redeveloped villages and commodity housing, tenure is found to be correlated with social networks in villages and redeveloped villages only (Appendix E: Table E.4). It indicates that residents who pay part rent by the employer and part rent by themselves are likely to have fewer social networks than other respondents in villages, and respondents who own their property are more likely to develop social networks in redeveloped villages. A one-way ANOVA test (Appendix F: Table F.17) reveals that the extent of social networks is significantly different for residents who pay rent by the employer, who pay rent by themselves and those who own their property in villages, and the size of the difference is medium (eta square = 0.07).

5) Respondents' use of services and facilities

A further intervening variable, respondents' level of use of facilities in the neighbourhood, which has a positive impact on their social networks (Table 6.5), suggests that residents who use services and facilities frequently in their neighbourhood are likely to develop more social networks. This finding might suggest that the provision of services and facilities can play an important role in enhancing the extent of residents' social networks. With regards to the three neighbourhood types, there is a significant and positive association between the use of services and social networks in commodity housing only (Appendix E: Table E.4). This indicates that residents who frequently use facilities are more likely to report their social networks than those who do not use these facilities in commodity housing. However, no existing studies report evidence of an association between social networks and the use of services and facilities.

6) Length of residence

Finally, the variable measuring the length of residence is not found to be associated with residents' social networks in general. However, comparing the three neighbourhood types, the level of residence is positively related to social networks in commodity housing only (Appendix E: Table E.4), indicating that the longer respondents have lived in their neighbourhood, the more likely they are to develop their social networks in these neighbourhoods. A one-way ANOVA test (Appendix F: Table F.18) reveals that there is a difference between social networks reported by respondents who have lived in a neighbourhood for under 1 year, who have lived in there for 2-5 years and those who have lived there for 6-10 years in commodity housing. The effect size is medium (eta square = 0.07). The positive association between the length of residence and social networks supports existing studies (Bridge, 2002; Dekker and Bolt, 2006; Hazelzet and Wissink, 2012).

6.3.3 Summary: social networks

Table 6.6 Evidence of associations between social networks and other variables

Socio-spatial indicators	Overall	Villages	Redeveloped villages	Commodity housing
Intervening Indicators	Overall	Villages	Redeveloped villages	Commodity housing
Economic status	√	√	√	
Residents'identity (local/migrant)	√	√	√	
Household composition	√	√	√	?
Tenure	√	√	?	
Use_facilities	√			√
Length_residence				√

√ evidence found
? evidence is found but very weak
¿? evidence is not conclusive

In general, the association between socio-spatial features of neighbourhoods and social networks is not found to be significant. Socio-spatial features of the built environment are also not significantly related to indicators measuring social networks in the three neighbourhood types. Table 6.6 presents evidence of associations between intervening variables and social networks in general and the three neighbourhood types separately.

6.4 Sense of community

It is frequently cited in theory that the socio-spatial features of neighbourhoods have significant and positive effects on the sense of community held by respondents (Lund, 2002; Dempsey

2008; Dempsey 2009; Wood et al., 2010; Zhang and Zhang, 2017). This hypothesis is supported by the findings with regards to numerous socio-spatial features of neighbourhoods. Table 6.7 shows the findings from the regression analyses in general.

Table 6.7 Standard Regression analyses: Z-score of sense of community indicators (dependent variable) in general

Independent variables	Independent variables	Unstandardized Coefficients-B	Standardized Coefficients-Beta	Sig	Collinearity Statistics		R	R Square	Adjust R Square
					Tolerance	VIF			
1. FQON variables	(Constant)	-.120		.001			.445	.198	.195
	Zscore_overmeasure_q	.305	.326	.000	.870	1.149			
	Attr_extgreen_sit	.724	.137	.000	.846	1.183			
	Zscore_access_q	.245	.186	.000	.746	1.341			
	Zscore_connectper_sit	-.193	-.110	.000	.817	1.225			
2. FQON variables and intervening variables	(Constant)	-.527		.000			.508	.258	.251
	Zscore_overmeasure_q	.267	.286	.000	.861	1.162			
	Attr_extgreen_sit	.749	.142	.000	.534	1.871			
	Zscore_access_q	.218	.163	.000	.747	1.338			
	Zscore_connectper_sit	-.207	-.115	.000	.702	1.424			
	Own outright	.301	.187	.000	.721	1.387			
	Own with a mortgage or loan	.335	.127	.000	.685	1.460			
	Employed more than 30 hours	-.177	-.109	.000	.778	1.286			
	Household income	.036	.083	.004	.855	1.170			
	D_house_q	.244	.150	.000	.489	2.044			
	Looking after home	-.182	-.062	.034	.839	1.192			

6.4.1 Socio-spatial features of neighbourhoods and sense of community

Eight socio-spatial features of neighbourhoods are significantly related to the sense of community held by respondents.

1) Residents' perceptions of the quality of their neighbourhood

The socio-spatial feature of neighbourhoods which most strongly predicts the sense of community is found to be respondents' perceptions of the quality of their neighbourhood. The regression analyses (Table 6.7) confirm that this feature is consistently and positively related to the sense of community, suggesting that respondents reporting that their neighbourhood is high quality are more likely to have a stronger sense of community. This finding is illustrated by the correlation analyses (Appendix D: Table D.20). Moreover, the interview analyses (Appendix G: Table G.13) show that almost 60% of interviewees feel that there would be a positive correlation between respondents' opinions on the quality of their neighbourhood and the sense of community. This result supports the claim that a high-quality neighbourhood can strengthen residents' sense of community (Doeksen,1997; Lund, 2002; Dempsey, 2009; Francis et al., 2012).

Comparing the three neighbourhood types, the correlation analyses (Appendix D: Table D.21, D.22 and D.23) show that there are positive, significant and consistent correlations between respondents' perceptions of the quality of the neighbourhood and the sense of community in villages, redeveloped villages and commodity housing. Furthermore, the regression analysis (Appendix E: Table E.5) reveals that residents' perceptions of the quality of their neighbourhood have a significant and positive influence on residents' sense of community both with and without intervening variables in the three neighbourhood types, suggesting that respondents who describe their neighbourhood as a good place to live in are likely to show a stronger sense of community in villages, redeveloped villages and commodity housing. This is also supported by the interview results which show that more than half of interviewees feel that the high quality of a neighbourhood would have a positive effect on the sense of community in all neighbourhood types (Appendix G: Table G.14).

2) Accessibility

The correlation analyses (Appendix D: Table D.9) confirm that the accessibility in a neighbourhood is largely positively and significantly correlated with residents' sense of community. The findings reveal that, overall, the more accessible the built environment is in terms of respondents reaching services and facilities conveniently, the more likely residents are to report having a greater sense of community. The interview analyses (Appendix G: Table G.15) show that a large number of interviewees feel that a positive correlation exists between these variables measuring the level of accessibility and the sense of community. Furthermore, the regression analysis (Table 6.7) also reveals a positive and consistent association between the indicators measuring sense of community and access to facilities when the socio-spatial features of neighbourhoods and intervening variables are considered in the model. This result supports the claim that more accessible neighbourhoods can help enhance residents' sense of community (Lund, 2002; Tsai, 2014).

With regards to the three neighbourhood types, the correlation analyses (Appendix D: Table D.10, D.11 and D.12) show that a positive, significant and consistent correlation exists between the level of accessibility and residents' sense of community in villages, redeveloped villages and commodity housing. This finding indicates that respondents who agree that their neighbourhood is easily accessible are more likely to report a stronger sense of community. Furthermore, this result is also supported by the regression analyses (Appendix E: Table E.5) and the interview analyses (Appendix G: Table G.16).

3) Attractiveness

The regression analysis (Table 6.7) finds that the objective variable of attractiveness (the extent of greenery) is the strongest predictor of a sense of community, suggesting that who residents' sense of community. The correlation analyses (Appendix D: Table D.14) also find significant, positive and consistent associations between indicators (both objective and subjective) measuring the attractiveness of a neighbourhood and sense of community, indicating that as the score of attractiveness increases, the extent of sense of community also increases. This result is also confirmed by the interview analyses (Appendix G: Table G.17). According to the one-way ANOVA test (Appendix F: Table F.19), these differences are found to be relatively large (eta square = 0.1). The positive associations found between the indicators measuring attractiveness of the built environment and sense of community support existing studies (Rogers and Sukolratanametee, 2009; Sakip et al., 2012).

With regards to the three neighbourhood types, the correlation analyses (Appendix D: Table D.14) confirm that indicators of the attractiveness in a neighbourhood have a significant and positive effect on respondents' sense of community. This result is also supported by the interview findings which show that more than half of interviewees state that indicators measuring attractiveness are positively related to a sense of community in villages, redeveloped villages and commodity housing respectively (Appendix G: Table G.18). The one-way ANOVA test (Appendix F: Table F.20) shows that there are significant differences in sense of community according to how respondents rate the appearance of their built environment: these differences in all neighbourhood types are all relatively large, the effect sizes are 0.09, 0.13 and 0.1 for villages, redeveloped villages and commodity housing respectively, indicating that the mean scores of sense of community according to how residents rate the appearance of their neighbourhood are significantly different from each other in the three neighbourhood types.

4) Maintenance

The level of maintenance in a neighbourhood has a significant and consistent effect on the sense of community, according to the findings of the correlation analyses (Appendix D: Table D.1). It suggests that a well-maintained neighbourhood can help enhance residents' sense of community. According to the three neighbourhood types, there are largely positive and significant correlations between indicators measuring the level of maintenance and sense of community in the three neighbourhood types (Appendix D: Table D.2, D.3 and D.4). These findings are consistent with the existing theory that the level of maintenance contributes

significantly to residents' sense of community in the built environment (Nash and Christie, 2003; Dempsey, 2008; Dempsey, 2009; Zhang and Zhang, 2017).

5) Neighbourhood boundaries

There is no consensus among social scientists on the association between physical boundaries and the sense of community in a neighbourhood. Yip (2012) and Sander (2013) demonstrate that gated neighbourhoods can increase residents' feelings of safety, but do not contribute to residents' sense of community. However, some scholars argue that neighbourhood boundaries could enhance residents' sense of community (Sanche et al., 2002; Lister et al., 2003; Serife, 2007; Breitung, 2012). In this research, the correlation analyses (Appendix D: Table D.20) find that a positive and significant correlation exists between the sense of community and residents' perceptions of removing neighbourhood boundaries. The result indicates that residents who state that they disagree with removing their neighbourhood boundaries are more likely to report a sense of community. In other words, the existence of the physical boundaries in the built environment may contribute significantly to residents' sense of community. Furthermore, almost 90% of respondents state that neighbourhood boundaries could have a positive influence on their sense of community in general (Appendix G: Table G.21). Comparing redeveloped villages and commodity housing, a large number of residents express that it would have positive effects on the sense of community in redeveloped villages and commodity housing (Appendix G: Table G.22). These findings support the claim that the physical boundaries of a neighbourhood significantly and positively affect residents' sense of community (Wilson-Doenges. 2000; Sakip et al., 2012; Breitung, 2012; Rafiemanzelat, 2017).

6) The perceived character of the neighbourhood

A significant association is found between the perceived character of the neighbourhood and the sense of community in general. The correlation analyses (Appendix D: Table D.20) find positive and consistent associations with the sense of community. This finding is also supported by the interview analysis (Appendix G: Table G.23), suggesting that almost 70% of interviewees who state that their built environment has a character are likely to report a stronger sense of community. With regards to the three neighbourhood types, positive, significant and consistent correlations exist between residents' sense of community and neighbourhood character in villages, redeveloped villages and commodity housing (Appendix D: Table D.21, D.22 and D.23). This outcome indicates that residents who feel the perceived character of their built environment is strong are more likely to report a greater sense of community. Overall,

these results concur with existing studies regarding the positive impact of the perceived character of the neighbourhood on the sense of community (Talen, 1999; Dempsey, 2009; Kim and Kaplan, 2004; Zhang and Zhang, 2017).

7) Connectedness and permeability

In general, the regression analysis (Table 6.7) shows that there is a negative and significant association between indicators measuring connectedness and sense of community when socio-spatial features of neighbourhoods and intervening indicators are considered in the model. This finding does not support the claim that the permeable grid layouts can promote a sense of community (Morrow-Jons et al., 2004). However, this finding should be interpreted with care because of the small number of neighbourhoods, because it may skew the results.

6.4.2 Intervening indicators and sense of community

Seven intervening variables are found to be significantly associated with residents' sense of community in the regression analyses.

1) Tenure

Firstly, tenure has a significant influence on the level of sense of community, indicating that residents who own their property are more likely to have a greater sense of community than respondents who rent their property (Table 6.7). Furthermore, tenure is significantly related to household income, suggesting that higher earners are likely to own their property and lower earners tend to rent their property. A one-way ANOVA test (Appendix F: Table F.21) finds that the difference in mean values of sense of community between respondents from households of different tenure types is relatively large: the magnitude of the effect is 0.08 (Cohen, 2013). This finding provides evidence to support the claim made by Yip (2012).

Comparing the three neighbourhood types, tenure is found to be significantly associated with the sense of community in villages, redeveloped villages and commodity housing (Appendix E: Table E.5). It indicates that residents who pay rent by the employer are likely to have a stronger sense of community than other residents in villages, whereas respondents who pay rent by the employer tend to report a weaker sense of community in redeveloped villages. The finding also suggests that residents who pay part rent by the employer and part rent for themselves tend to report a lower level of sense of community than other respondents in commodity housing. These results may be related to the proportion of the migrant population in these neighbourhoods. A

one-way ANOVA test (Appendix F: Table F.22) finds that the actual differences in sense of community between residents who pay rent by themselves and mortgage and those who own outright their property are both medium in villages (eta square = 0.05) and commodity housing (eta square = 0.06). The same test also shows that the significant difference in sense of community between respondents from households of different tenure types is large: the effect size is 0.18 (Cohen, 2013). Further analysis (two-way ANOVA test) is conducted to ascertain whether this association is affected by residents' local or migrant identity (Appendix F: Table F.23). This analysis finds that there are no significant differences in the effect of tenure on the sense of community for locals and migrants in villages, redeveloped villages, and commodity housing.

2) Household income

Wilson-Doenges (2000) suggests that residents with higher-income levels report a lower sense of community than those with lower-income levels in the gated neighbourhood. However, this claim is not consistent with the result of this research. A further predictor of a sense of community is residents' household income, indicating that residents with higher household income seem to have a greater sense of community (Table 6.7). Supplementary analysis confirms the differences in residents' sense of community among residents with a household income of less than 9990 CNY (about £1010), 50000-199990 CNY (about £5504-22023) and 400000+ CNY (about £44048) (Appendix F: Table F.24). When examining the three neighbourhood types, residents' household income is significantly related to their sense of community in redeveloped villages, suggesting that as respondents' household income increases, their sense of community also increases (Appendix E: Table E.5). A one-way ANOVA test (Appendix F: Table F.25) confirms that the differences in the sense of community between respondents with different household incomes are found to be very large (eta square = 0.14) (Cohen, 2013). This suggests that the mean scores of sense of community for households with different household incomes are different from each other.

3) Economic status

A significant association exists between indicators measuring sense of community and economic status, suggesting that residents who are full-time employed and those who are housewives/househusbands are likely to show a weaker sense of community than other respondents (Table 6.7). According to one-way ANOVA analysis (Appendix F: Table F.26), there is a significant difference in sense of community for residents who are full-time employed,

who are housewives/househusbands and those who are retired. The effect size is 0.04, indicating that the difference is relatively small (Cohen, 2013).

With regards to the three neighbourhood types, the economic status of respondents is significantly correlated with the sense of community in villages and redeveloped villages only (Appendix E: Table E.5). The findings suggest that residents who are housewives/househusbands or those who are full-time employed are more likely to have a lower level of sense of community than other residents in villages. In these villages, 55% of housewives/househusbands are migrants, and migrants show a weaker sense of community than locals. These findings also indicate that respondents who are retired tend to report a greater sense of community in redeveloped villages. A one-way ANOVA analysis (Appendix F: Table F.27) reveals that residents' sense of community significantly differs for respondents with different economic statuses in villages and redeveloped villages. The magnitudes of the differences in the two neighbourhood types are both medium (Cohen, 2013; Pallant, 2006).

4) Residents' local or migrant identity

In general, the regression analysis (Table 6.7) finds no evidence of association between residents' identity (locals or migrants) and their sense of community. However, comparing villages, redeveloped villages and commodity housing, the regression analysis (Appendix E: Table E.5) shows that residents' local or migrant identity is significantly related to their sense of community in villages only, suggesting that migrant residents tend to show a weaker sense of community than locals in these villages. An independent samples t-test (Appendix F: Table F.28) finds that a significant difference exists in sense of community for local and migrant residents in villages, but the effect size is very small (eta square = 0.02) (Cohen, 2013). No existing studies have examined the relationship between residents' local or migrant identity and their sense of community.

5) Housing type

Housing type is found to be associated with residents' sense of community, indicating that residents living in houses report a higher level of sense of community than respondents living in other housing types (Table 6.7). Comparing the three neighbourhood types, the regression analyses (Appendix E: Table E.5) reveal a significant association between housing type and sense of community in redeveloped villages only. This result suggests that respondents living in houses are more likely to report a stronger sense of community than residents living in

apartment blocks in these neighbourhoods. Independent-sample t-tests (Appendix F: Table F.29) show that residents' sense of community differs significantly between respondents living in houses and apartment blocks in redeveloped villages.

6) Household size

With regards to the three types of neighbourhoods, the regression analysis (Appendix E: Table E.5) finds a positive and significant association between household size and sense of community in commodity housing only, indicating that households with larger family members seem to have a stronger sense of community in these neighbourhoods. This may be because households with larger family members have children, so these households are more likely to report a stronger sense of community than other households in commodity housing. This finding calls into question the claim that households with larger families are likely to have a weaker sense of community (Tsai, 2014).

6.4.3 Summary: Sense of community

Table 6.8 Evidence of associations between sense of community and other variables

Socio-spatial indicators	Overall	Villages	Redeveloped villages	Commodity housing
Overall measure of quality	√	√	√	√
Accessibility	√	√	√	√
Maintenance	√	√	√	√
Attractiveness	√	√	√	√
Neighbourhood boundaries	√		√	√
Character	√	√	√	√
Connectedness and permeability	√			
Intervening variables	**Overall**	**Villages**	**Redeveloped villages**	**Commodity housing**
Tenure	√	√	√	√
Household income	√		√	
Economic status	√	√	√	
Residents' identity (local or migrant)		√		
Housing type	√		√	
Household size				√

√ evidence found
? evidence is found but very weak
¿? evidence is not conclusive

A large number of socio-spatial features of neighbourhoods were found to significantly enhance residents' sense of community in general and the three neighbourhood types separately. The related indicators measuring socio-spatial features of neighbourhoods and intervening variables are presented in Table 6.8.

6.5 Participation in organized activities

In this study, many indicators measuring socio-spatial features of neighbourhoods have a significant influence on participation in organized activities in general and the three neighbourhood types separately. Table 6.9-6.12 show the results from the regression analyses in general.

Table 6.9 Logistic Regression Analysis: Participation in sports groups (Dependent variable) in general

Independent variables	Independent variable	B	Sig.	Exp(B)	95% C.I.for EXP(B)	
					Lower	Upper
1. FQON variables only	Zscore_mainte_sit	-.439	.046	.645	.419	.993
	Zscore_mainte_q	.730	.000	2.076	1.619	2.662
	Zscore_access_sit	1.000	.000	2.717	1.795	4.113
	Sur_frontage_sit	1.184	.007	3.267	1.390	7.676
	Constant	-4.701	.001	.009		
2. FQON variables and intervening indicators	Zscore_mainte_q	.811	.000	2.249	1.662	3.044
	Zscore_access_sit	.513	.000	1.671	1.413	1.976
	Character_cur_q	.233	.020	1.263	1.038	1.535
	Zscore_overmeasure_q	-.370	.002	.691	.549	.870
	Two adults, at least one 60 or over	.745	.045	2.106	1.018	4.359
	Three or more adults	.863	.000	2.370	1.536	3.656
	Guangdong Province's other places except Guangzhou City	.489	.021	1.631	1.077	2.471
	Hukou	-.539	.003	.583	.410	.831
	Plans to move house in next few years	.590	.004	1.803	1.202	2.705
	Respondents' income	.137	.004	1.146	1.043	1.259
	Use_facilities	1.643	.000	5.171	3.383	7.906
	Constant	-3.937	.000	.020		

Table 6.10 Logistic Regression Analysis: Participation in adult education (Dependent variable) in general

Independent variables	Independent variable	B	Sig.	Exp(B)	95% C.I.for EXP(B)	
					Lower	Upper
1. FQON variables only						
2. FQON variables and intervening indicators	*Length of residence*	.467	.029	1.596	1.049	2.426
	Use_facilities	1.789	.012	5.981	1.482	24.132
	Constant	-24.231	.991	.000		

Table 6.11 Logistic Regression Analysis: Participation in community groups (Dependent variable) in general

Independent variables	Independent variable	B	Sig.	Exp(B)	95% C.I.for EXP(B)	
					Lower	Upper
1. FQON variables only	Zscore_access_q	.648	.001	1.911	1.284	2.845
	Zscore_legib_sit	.650	.000	1.915	1.447	2.533
	Constant	-2.316	.000	.099		
2. FQON variables and intervening indicators	Zscore_access_q	.554	.014	1.740	1.121	2.700
	Zscore_legib_sit	.779	.000	2.178	1.596	2.973
	Own outright	1.264	.000	3.539	2.072	6.048
	Guangdong Province's other places except Guangzhou City	-.845	.038	.429	.194	.952
	Respondents' income	.216	.001	1.241	1.091	1.411
	Use_facilities	1.170	.000	3.221	1.812	5.727
	D_Makeshift_q	1.830	.005	6.232	1.732	22.426
	Constant	-4.522	.000	.011		

Table 6.12 Logistic Regression Analysis: Participation in children's hobby groups (Dependent variable) in general

Independent variables	Independent variable	B	Sig.	Exp(B)	95% C.I.for EXP(B)	
					Lower	Upper
1. FQON variables only						
2. FQON variables and intervening indicators	*Use_facilities*	2.048	.000	7.752	3.694	16.267
	D_Makeshift_q	1.868	.009	6.478	1.586	26.462
	Constant	-4.715	.000	.009		

6.5.1 Socio-spatial features of neighbourhoods and participation in organized activities

1) Accessibility

Firstly, the logistic regression analyses (Table 6.9 and 6.11) show that accessibility could have a significant and positive effect on participation in sports groups and neighbourhood groups both with and without intervening indicators. The results suggest that as facilities in a neighbourhood become more accessible, participation in activities increases as well. Comparing villages, redeveloped villages and commodity housing, the correlation analyses (Appendix D: Table D.10, D.11 and D.12) reveal largely positive and significant correlations between the level of accessibility and participation in organized activities in all neighbourhood types. Such findings indicate that more accessible neighbourhoods are in terms of respondents reaching facilities conveniently, the more likely residents are to participate in organized activities in these neighbourhoods. These results concur with studies carried out by Næss (2006) and Tsai (2014).

2) Maintenance

The level of maintenance contributes significantly to participation in sports activities when the socio-spatial features of quality of the built environment and intervening variables are added (Table 6.9). Furthermore, the correlation analyses (Appendix D: Table D.1) reveal that the associations between perceptions of maintenance and participation in organized activities are largely positive and significant. These findings are supported by the literature that the level of maintenance is positively linked to participation in organized activities (King, 2008; Hand *et al.*, 2012).

With regards to the three neighbourhood types, the logistic regression analyses (Appendix E: Table E.6) show that the maintenance of a neighbourhood is found to be strongly and consistently associated with participation in sports groups in villages and redeveloped villages only. The correlation analyses (Appendix D: Table D.2 and D.3) show largely positive correlations between the organized activities participated in by residents and the level of maintenance in villages and redeveloped villages. A very weak association between these indicators is also found in the correlation analyses in commodity housing (Appendix D: Table D.4). These findings are also confirmed by the interview results which find that a large number of interviewees feel that the level of maintenance would have a positive effect on residents' participation in organized activities in villages, redeveloped villages and commodity housing (Appendix G: Table G.28).

3) Legibility

The use of visual cues could increase familiarity with facilities and green spaces. As the activity spaces are more visually and physically integrated, the potential participation in activities can increase (Moulay et al., 2017). The claim is illustrated by the logistic regression findings in this research (Table 6.11). A positive and significant association is found between legibility and participation in community groups in the model both with and without intervening variables. Furthermore, the correlation analyses (Appendix D: Table D.19) reveal that a positive and consistent association exists between the two, indicating that as the numbers of landmarks and nodes, and rating of nodes, increase, participation in organized activities also increases. With regards to the three types of neighbourhoods, the correlation analyses (Appendix D: Table D.19) confirm that there are positive and consistent correlations between the extent of legibility and participation in organized activities in villages, redeveloped villages and commodity housing. These results indicate that as the extent of legibility increases, residents are more likely to take part in organized activities in all neighbourhoods. Further to Section 5.2.1, these findings should be interpreted with caution because of the neighbourhood scale of the indicators measuring legibility.

4) The perceived character of the neighbourhood

The variables measuring the perceived character of the neighbourhood are found to be positively related to participation in sports groups in the logistic regression model including intervening variables only, indicating that other indicators would better explain residents' participation in sports groups (Table 6.9). Moreover, the correlation analysis (Appendix D: Table D.20) shows positive, but very weak associations between the perceived character of the neighbourhood and participation in activities. Comparing the three neighbourhood types, there is a positive and consistent association between neighbourhood character and community groups participated by respondents in commodity housing only when socio-spatial features of neighbourhoods and intervening indicators are included in the regression model (Appendix E: Table E.8). The correlation analyses (Appendix D: Table D.21 and D.23) reveal positive, consistent, but very weak correlations between these indicators in villages and commodity housing only. These results are consistent with the claim that the neighbourhood could be designed to provide opportunities for communal and organized activities for residents (Moulay and Ujang, 2016).

6.5.2 Intervening indicators and participation in organized activities

A large number of intervening variables are significantly related to participation in organized activities.

1) Respondents' use of services and facilities

An important intervening variable is the use of services and facilities in the built environment. The logistic regression analyses (Table 6.9, 6.10, 6.11 and 6.12) indicate that a positive association exists between residents' use of services and facilities and participation in the four organized activities, suggesting that residents who use services and facilities in their neighbourhood are more likely to participate in all groups. Supplementary analyses (Table 6.44 and 6.45) are conducted to test if the participation in the four organized activities outside the neighbourhood is correlated with participation in the four organized activities within the neighbourhood. There is a very weak correlation between participation outside the neighbourhood (but within the city) and within the neighbourhood, and between participation in activities outside the city and within the neighbourhoods. Comparing villages, redeveloped villages and commodity housing, the use of facilities is significantly associated with indicators measuring participation in sports groups and children's hobby groups in a neighbourhood in the three neighbourhood types (Appendix E: Table E.6, E.7, E.8 and E.9). These findings suggest that the use of services and facilities would significantly contribute to residents' participation in organized activities in the three neighbourhood types. This outcome concurs with research by Zhang et al., (2018).

2) Tenure

Secondly, tenure has a significant influence on participation in community groups in the logistic regression analyses (Table 6.11), indicating that residents who own their property are likely to take part in more organized community activities. According to the chi-square analysis (Appendix F: Table F.30), there is a difference between levels of participation in community groups according to the tenure of respondents' properties, indicating that levels of participation in community groups are the highest for respondents who own their property: 14.4% of respondents owning their property participate in community groups in their neighbourhood. With regards to the three neighbourhood types, tenure is found to be a significant predictor of participation in organized adult education in villages only (Appendix E: Table E.7), and it also has a positive influence on participation in organized community activities in villages and redeveloped villages (Appendix E: Table E.8). The chi-square test (Appendix F: Table F.32)

shows very little difference between participation in organized adult education regarding the tenure of residents' properties. However, a significant difference is found between participation in community groups by tenure in villages (Appendix F: Table F.31), suggesting that levels of participation in community groups are the highest for residents who own their property: 22.6% of residents owning their property participate in community groups in their neighbourhood.

3）Residents' local or migrant identity

A further intervening variable, residents' identity (local or migrant) in the neighbourhood, is found to have little influence on their participation in organized activities in general. With regards to the three neighbourhood types, the logistic regression analyses (Appendix E: Table E.8) reveal that there are significant associations between residents' identity (local or migrant) and participation in community groups in villages only. The supplementary chi-square test (Appendix F: Table F.33) confirms that a difference exists in participation in community groups for local and migrant respondents in villages, suggesting locals (21.1%) report a higher level of participation in community groups than migrants (6.6%) in these villages. These results are supported by existing studies (Liu et al., 2012).

4) Length of residence

The variable measuring length of residence is significantly and positively associated with residents' participation in adult education groups, which indicates that respondents who have lived in their neighbourhood for a long time are more likely to report higher participation in adult education groups than those residents living in there for a short time (Table 6.10). This finding appears to accord with studies carried out by Wu (2012) and Liu et al., (2016). With regards to the three neighbourhood types, length of residence is not found to be related to residents' participation in organized activities in the three neighbourhood types.

5) Household composition

Household composition is significantly associated with indicators measuring participation in sports groups, suggesting that households with two adults (with at least one aged 60 or over) and households with three or more adults are more likely to participate in sports groups (Table 6.9). The chi-square test (Appendix F: Table F.34) finds that a difference exists between participation in sports groups according to the different household compositions. It suggests that the level of participation in sports groups is the highest for households with two adults (at

least one 60 or over): 47.5% of households with two adults (at least one 60 or over) participate in sports groups in their neighbourhood.

With regards to the three neighbourhood types, the household composition may have an influence on residents' participation in sports groups in redeveloped villages and commodity housing only (Appendix E: Table E.6). These findings indicate that households with three or more adults with children (with at least one under 18) may report a higher level of participation in sports groups than other households in redeveloped villages, and those households with three or more adults are more likely to take part in sports groups in commodity housing. The subsequent chi-square test (Appendix F: Table F.35) shows that there is no difference in participation in exercise groups between households with different compositions in redeveloped villages and commodity housing.

6) Residents' birthplace

Residents' birthplace is significantly related to their participation in sports groups and community groups in general (Table 6.9 and 6.11), suggesting that residents from Guangdong Province (not Guangzhou City) are more likely to report higher participation in sports groups than respondents who are from other places. Those same residents from Guangdong Province (not Guangzhou City) are also less likely to participate in community groups than other residents. This finding is confirmed by the chi-square test (Appendix F: Table F.36). Comparing villages, redeveloped villages and commodity housing, residents' birthplace is not found to be significantly associated with their participation in activities in the three neighbourhood types.

7) Residents' hukou

Residents' hukou is significantly associated with participation in organized sports groups (Table 6.9), suggesting that respondents with Guangzhou hukou may have higher participation in sports groups than residents with non-Guangzhou hukou. The subsequent chi-square tests (Appendix F: Table F.37) illustrate this finding, suggesting that participation in sports groups is higher for residents with Guangzhou hukou (30.5%) than for respondents with non-Guangzhou hukou (24.9%). It may be because residents with Guangzhou hukou have more families and friends to participate in sports groups together than residents with non-Guangzhou hukou in their neighbourhood. With regards to the three neighbourhood types, there is a significant association between residents' hukou and participation in sports groups in commodity housing only (Appendix E: Table E.6). The chi-square tests (Appendix F: Table

F.38) confirm that there is an actual difference in participation in sports groups between residents with Guangzhou hukou and non-Guangzhou hukou in commodity housing.

8) Residents' plans to move house

Respondents' plans to move house are significantly related to participation in sports groups (Table 6.9), suggesting that residents who are not planning to move house recently may present higher participation in sports groups than those who are. Furthermore, the chi-square analyses (Appendix F: Table F.39) support the findings, indicating that level of participation in sports groups is significantly lower for residents planning to move house (20.5%) than respondents who are not planning to move house (30.3%).

With regards to villages, redeveloped villages and commodity housing, residents' plans to move house are significantly correlated with participation in organized sports activities in villages and with participation in organized children's hobby groups in redeveloped villages (Appendix E: Table E.6 and E.9). The findings suggest that residents who are not planning to move house recently report a higher level of participation in organized sports groups than those who are in villages, while those respondents who are not planning to move house have a lower level of participation in organized children's hobby groups than those residents planning to move house in recent years in redeveloped villages. Moreover, the chi-square tests (Appendix F: Table F.40) suggest that residents who are not planning to move house report higher participation in sports groups than those who are in villages: 38.8 % of residents who are not planning to move house take part in sports groups in a neighbourhood against 23.3 % of residents planning to move in villages. However, no difference is found between participation in children's hobby groups according to respondents' plans to move house recently in redeveloped villages (Appendix F: Table F.41).

9) Residents' income

Residents' income is positively and significantly associated with participation in sports groups and community groups (Table 6.9 and 6.11), suggesting that as residents' income increases, the likelihood of their participation in sports groups and community groups increases as well. However, the chi-square tests (Appendix F: Table F.42 and F.43) find that very little differences exist in participation in sports groups and community groups according to residents' different incomes. Comparing the three neighbourhood types, respondents' income can significantly contribute to their participation in community groups in commodity housing only (Appendix E:

Table E.8). According to the chi-square test (Appendix F: Table F.44), there is an actual difference in participation in community groups for residents with different incomes in commodity housing, suggesting that the level of participation in community groups is the highest for residents with annual income between 200000-299999 CNY (about £21942-32913): 20% of residents with annual income between 200000-299999 CNY participate in community groups in their neighbourhood.

10) Gender

Comparing villages, redeveloped villages and commodity housing, residents' gender is a further predictor of participation in sports groups in redeveloped villages only (Appendix E: Table E.6), indicating that men are more likely to report taking part in sports groups than women. The Chi-square test (Appendix F: Table F.45) supports this result, suggesting that participation in organized sports groups is higher for men than women: 29.8% of men take part in sports groups in their neighbourhoods against 16.9% of women in redeveloped compounds.

6.5.3 Summary: Participation in organized activities

The associations between socio-spatial features of neighbourhoods, intervening variables and participation in organized activities in general and the three neighbourhood types separately are shown in Table 6.13.

Table 6.13 Evidence of associations between participation in organized activities and other variables

Socio-spatial indicators	Overall	Villages	Redeveloped villages	Commodity housing
Accessibility	√	√	√	√
Maintenance	√	√	√	√
Legibility	√	√	√	√
The perceived character of the neighbourhood	√	√		√
Intervening Indicators	**Overall**	**Villages**	**Redeveloped villages**	**Commodity housing**
The use of facilities	√	√	√	√
Tenure	√	√	?	
Residents' identity (local or migrant)		√		
Length of residence	?			
Household composition	√		?	?
Birthplace	√			
Residents' hukou	√			√
Residents' plans to move house	√	√	?	
Residents' income	?			√
Gender			√	

√ evidence found
? evidence is found but very weak
¿? evidence is not conclusive

6.6 Trust and reciprocity

Very few socio-spatial features of neighbourhoods are significantly associated with trust and reciprocity. The statistical findings should be treated with caution because of the weak associations between these variables. Table 6.14 shows the results from the regression analyses in general.

Table 6.14 Standard Regression Analyses: trust and reciprocity (dependent variable) in general

Independent variables	Independent variables	Unstandardized Coefficients-B	Standardized Coefficients-Beta	Sig	Collinearity Statistics Tolerance	VIF	R	R Square	Adjust R Square
1. FQON variables only	(Constant)	2.817		.000			.113	.013	.012
	Zscore_density_sit	.415	.113	.001	1.000	1.000			
2. FQON variables and intervening indicators	(Constant)	2.611		.000			.276	.076	.069
	Zscore_access_sit	.122	.083	.028	.838	1.194			
	Use_facilities	.433	.131	.000	.954	1.048			
	Looking after home1	.560	.122	.001	.961	1.041			
	D_Redeveloped Village	-.252	-.090	.015	.884	1.131			
	Age	-.072	-.093	.010	.906	1.104			
	Respondents' income	.064	.085	.020	.899	1.112			

6.6.1 Socio-spatial features of neighbourhoods and trust and reciprocity

1) Density

The regression analysis (Table 6.14) reveals that residential density is the only predictor of trust and reciprocity in the regression model considering socio-spatial features of neighbourhoods only and it drops out of the model when interfering indicators are added. The correlation analyses (Appendix D: Table D.15) find that there is a low and positive association between indicators measuring residential density and trust and reciprocity, suggesting that as residential density increases, feelings of trust also increase. This result does not concur with existing studies concerning the effect of density on trust and reciprocity in Western countries. Dempsey (2009), for instance, argues that density is negatively related to feelings of trust in the built environment. However, it is noteworthy that this is the first study on the relationship between residential density and trust in urban China/non-western settings.

Comparing the three neighbourhood types, density is not found to affect trust and reciprocity in villages, redeveloped villages and commodity housing. However, caution is necessary in interpreting the finding in this research because of the neighbourhood scale of these variables, skewing the result due to the small number of cases. Therefore, more neighbourhoods need to

be selected to explore this association between residential density and residents' trust further.

2) Accessibility

The level of accessibility in a neighbourhood is found to be significantly and positively correlated with the indicator measuring trust and reciprocity, indicating that where the accessibility of a neighbourhood is higher, residents in the neighbourhood are more likely to report trust and reciprocity. This socio-spatial feature of neighbourhoods is considered to be weakly related to trust and reciprocity because it is only significant in the regression analysis considering intervening variables (Table 6.14). Moreover, the correlation analyses (Appendix D: Table D.9) find a consistent and positive correlation between these indicators. However, there is no indication in existing theory which claims that the indicator measuring trust and reciprocity is affected by the level of accessibility of neighbourhoods.

Comparing the three neighbourhood types, the regression analysis (Appendix E: Table E.10) reveals that the level of accessibility is positively and consistently related to the indicator of trust and reciprocity in the model including intervening variables in villages only. The correlation analyses (Appendix D: Table D.10) also show a positive correlation between the two in villages only, suggesting that as the level of accessibility increases, trust and reciprocity increase as well in villages. Furthermore, almost 80% of interviewees state that the level of accessibility would have a positive effect on trust and reciprocity in villages (Appendix G: Table G.34).

3) Legibility

The remainder of socio-spatial features of neighbourhoods do not have a consistent correlation with trust and reciprocity, and where associations are found in the correlation analyses, they are invariably very weak. One exception to this is the correlation between the extent of legibility and feelings of trust. The correlation analyses (Appendix D: Table D.19) show stronger positive and significant associations with feelings of trust than with other socio-spatial features of the built environment. These results are also confirmed by the interview findings which show that almost 60% of interviewees feel that the extent of legibility would positively influence residents' feelings of trust (Appendix G: Table G.35).

With regards to the three neighbourhood types, the correlation analyses (Appendix D: Table D.19) show a significant and positive correlation between these indicators in villages only. This

finding is also found in the interview analyses (Appendix G: Table G.36), suggesting that respondents are likely to report more trust and reciprocity where the legibility of the neighbourhood increase in villages. Further to Section 6.2.1, caution should be taken in explaining these findings because the indicators measuring the extent of legibility are related to the neighbourhood scale. The number of cases is small, which may skew the results.

6.6.2 Intervening indicators and trust and reciprocity

The regression analyses show significant associations between eight intervening variables and trust and reciprocity.

1) Respondents' use of services and facilities

Respondents who use services and facilities in the neighbourhood are likely to report more trust than those who do not (Table 6.14). As regards the three neighbourhood types, the use of facilities can significantly contribute to trust and reciprocity in villages and commodity housing only (Appendix E: Table E.10). This finding suggests that respondents who use services and facilities demonstrate a higher level of trust than those who do not use services and facilities in these neighbourhoods. The significant relationship supports the claim that the use of services and facilities is significantly related to trust and reciprocity in the neighbourhood (Dempsey, 2006; Duchowny et al., 2020).

2) Economic status

A significant association exists between economic status and trust, suggesting that residents who are housewives/househusbands are likely to express more trust and reciprocity than other respondents (Table 6.14). According to one-way ANOVA analysis (Appendix F: Table F.46), a statistically significant difference is found in trust and reciprocity for respondents who are looking after their home and those who are retired. The effect size is 0.02, suggesting that the difference is small (Cohen, 2013). With regards to the three neighbourhood types, economic status is significantly associated with the indicator of trust and reciprocity in redeveloped villages and commodity housing only (Appendix E: Table E.10). It suggests that respondents who are part-time employed are more likely to show a higher level of trust and reciprocity in redeveloped villages, and respondents who are full-time university students or who are housewives/househusbands are likely to report more trust and reciprocity in commodity housing. A one-way ANOVA analysis (Appendix F: Table F.47) reveals that trust and reciprocity do not differ for respondents with different economic statuses in redeveloped

villages and commodity housing.

3) Neighbourhood type

The regression analysis (Table 6.14) shows a significant association between neighbourhood type and feelings of trust, suggesting that residents living in redeveloped villages express a lower level of trust and reciprocity than those who are living in villages or commodity housing. Further testing (one-way ANOVA) shows that a difference is found in trust and reciprocity for residents who are living in villages and those who are living in redeveloped villages (Appendix F: Table F.48). However, the effect size is 0.01, suggesting that the difference is very small (Cohen, 2013). Comparing the three neighbourhood types, there is not a significant association between neighbourhood type and trust and reciprocity.

4) Age

Respondents' age is significantly and negatively related to trust and reciprocity, suggesting that older residents are less likely to report trust and reciprocity than younger respondents (Table 6.14). The one-way ANOVA test (Appendix F: Table F.49) reveals that the level of trust and reciprocity differs significantly for residents from different age groups, but the effect size (eta squared value = 0.01) is very small (Cohen, 2013). With regards to the three neighbourhood types, respondents' age has a negative influence on trust and reciprocity in villages only (Appendix E: Table E.10), indicating that older respondents are less likely to report trust than younger respondents in villages. The one-way ANOVA test (Appendix F: Table F.50) shows a difference in trust and reciprocity between residents aged 18 to 24, who aged 25-34, and those aged over 65 in villages, and the difference is medium (eta squared value = 0.06). These results are not consistent with the claim that older residents are more likely to trust than younger residents in diverse neighbourhoods (Tolsma and Meer, 2018).

5) Residents' income

Residents' income can significantly contribute to the level of trust and reciprocity, indicating that residents who have higher income are likely to report a higher level of trust and reciprocity than other respondents (Table 6.14). The one-way ANOVA test (Appendix F: Table F.51) confirms that the difference in trust and reciprocity for residents with different incomes is not significant. Comparing the three neighbourhood types, there is a significant association between trust and reciprocity as well as residents' income in commodity housing only (Appendix E: Table E.10). This finding suggests that as respondents' income increases, trust and reciprocity

increase as well. Further examination of this finding reveals that there is very little difference in the level of trust and reciprocity for residents with different incomes in commodity housing (Appendix F: Table F.52). These results are supported by a study carried out by Tolsma and Meer (2018).

6) Household composition

The regression analysis (Table 6.14) reveals that household composition is not significantly associated with the level of trust and reciprocity in general. With regards to the three neighbourhood types, the household composition is found to affect trust and reciprocity in villages only (Appendix E: Table E.10). This result suggests that households with three or more adults are likely to report a lower level of trust and reciprocity than other households in villages. Further testing (Appendix F: Table F.53) indicates that the mean values of trust and reciprocity differ significantly between households with one adult over 60 and those households with three or more adults in villages, and the effect size is small-medium (Cohen, 2013).

7) Birthplace

There is no evidence of an association between residents' birthplace and trust in general. When examining neighbourhood type, respondents' birthplace is significantly related to the level of trust and reciprocity in redeveloped villages only (Appendix E: Table E.10). It suggests that respondents from Guangdong Province (not including Guangzhou City) report a higher level of trust than residents from elsewhere in the redeveloped villages. Furthermore, the one-way ANOVA test (Appendix F: Table F.54) reveals that there is no significant difference in the level of trust by residents' birthplace in redeveloped villages.

8) Residents' hukou

Residents' hukou has a significant influence on the level of trust in commodity housing only (Appendix E: Table E.10), indicating that residents holding the Guangzhou hukou tend to have a higher level of trust than those who are not the hukou in these neighbourhoods. The independent samples t-test (Appendix F: Table F.55) finds that there is not a significant difference in trust between residents who are holding Guangzhou hukou and those who are not holding Guangzhou hukou in commodity housing.

9) Housing type

Housing type is not found to have an influence on trust and reciprocity in general. However, comparing villages, redeveloped villages and commodity housing, the regression analysis (Appendix E: Table E.10) reveals that there is a relationship between housing type and trust and reciprocity in commodity housing only. In the three commodity housing, it is necessary to note that there are two housing types (houses and apartment blocks) in Fuyiyuansiqu, but there is only one building type (apartment blocks) in Lianhuawanpan and Baifuyuan. Thus, the findings indicate that residents living in houses may express more trust and reciprocity than residents living in apartment blocks in Fuyiyuansiqu. Further tests (Appendix F: Table F.56) find that a significant difference exists in respondents' feelings of trust for residents who are living in houses and those who are living in apartment blocks in Fuyiyuansiqu, and the size of the difference (eta square = 0.11) is relatively large (Cohen, 2013). This suggests residents who are living in houses are more likely to report trust than those who are living in apartment blocks in Fuyiyuansiqu.

6.6.3 Summary: Trust and reciprocity

Three socio-spatial features of neighbourhoods are significantly related to the level of trust and reciprocity in general. Comparing villages, redeveloped villages and commodity housing, two socio-spatial features of neighbourhoods have an impact on trust and reciprocity in villages only. Table 6.15 presents evidence of associations between socio-spatial features of neighbourhoods, trust and intervening variables in general and the three neighbourhood types separately.

Table 6.15 Evidence of associations between trust and reciprocity and other variables

Socio-spatial indicators	Overall	Villages	Redeveloped villages	Commodity housing
Density	?			
Accessibility	√	√		
Legibility	√	√		
Intervening variables	**Overall**	**Villages**	**Redeveloped villages**	**Commodity housing**
The use of facilities	√	√		√
Economic status	√		?	?
Neighbourhood types	√			
Age	√	√		
Residents' income	?			?
Household composition		√		
Birthplace			√	
Residents' hukou				√
Housing type				√

√evidence found
? evidence is found but very weak
¿? evidence is not conclusive

6.7 Feelings of safety

Based on previous research, the relationship between residents' safety perceptions and socio-spatial features of neighbourhoods is widely discussed (Yeang, 2000; Dempsey, 2008; Dempsey, 2009; Rijswijk, Rooks and Haans, 2016; Rollwagen, 2016). In this research, a large number of socio-spatial features of neighbourhoods are found to be significantly related to feelings of safety. Table 6.16 shows the results from the regression analyses in general.

Table 6.16 Standard Regression Analyses: Z-score of sense of safety indicators (dependent variable) in general

Independent variables	Independent variables	Unstandardized Coefficients-B	Standardized Coefficients-Beta	Sig	Collinearity Statistics		R	R Square	Adjust R Square
					Tolerance	VIF			
1. FQON variables only	(Constant)	-.001		.953			.543	.295	.290
	Zscore_ mainte_q	.313	.273	.000	.731	1.368			
	Zscore_ connectper_sit	-.997	-.636	.000	.287	3.482			
	Zscore_ access_sit	.429	.518	.000	.167	6.003			
	Zscore_ legib_sit	-.348	-.364	.000	.220	4.539			
	Zscore_ overmeasure_q	.066	.079	.006	.765	1.307			
	Zscore_ mainte_sit	.206	.203	.000	.356	2.806			
	Zscore_ mixland_sit	-.242	-.192	.000	.330	3.033			
2. FQON variables and intervening indicators	(Constant)	-.014		.864			.592	.350	.342
	Zscore_ mainte_q	.299	.262	.000	.639	1.564			
	Zscore_ connectper_sit	-1.091	-.679	.000	.228	4.377			
	Zscore_ access_sit	.311	.379	.000	.114	8.742			
	Zscore_ access_q	.079	.066	.044	.581	1.720			
	Zscore_ legib_sit	-.203	-.210	.000	.255	3.926			
	Zscore_ overmeasure_q	.078	.094	.001	.728	1.373			
	Zscore_ density_sit	.539	.269	.000	.125	8.001			
	Gender	-.184	-.129	.000	.904	1.106			
	D_Redeveloped Village	.611	.391	.000	.135	7.392			
	Respondents' income	.029	.066	.013	.873	1.145			
	Employed less than 30 hours	.229	.057	.022	.980	1.020			
	Own with a mortgage or loan	.256	.108	.000	.725	1.379			
	One adult under 60	.204	.090	.001	.912	1.097			

6.7.1 Socio-spatial features of neighbourhoods and sense of safety

1) Accessibility

Some studies state that a positive relationship exists between the level of accessibility and feelings of safety in the neighbourhood (Keane, 1998; Maas *et al.*, 2009). In this research, the accessibility in a neighbourhood is also found to be a positive and strong predictor of perceived safety in the regression model when socio-spatial features of neighbourhoods and intervening variables are inserted, suggesting that residents with high accessibility to services and facilities are more likely to report a sense of safety than residents with low accessibility (Table 6.16). Furthermore, the correlation analyses (Appendix D: Table D.9) reveal that there are positive and consistent correlations between the accessibility variables and feelings of safety. These findings are also illustrated by the interview analyses (Appendix G: Table G.37) where almost 70% of interviewees state that the level of accessibility would positively relate to feelings of safety.

Comparing the three neighbourhood types, the regression analysis (Appendix E: Table E.11) confirms that the level of accessibility is positively, significantly and consistently associated with residents' sense of safety in the model both with and without intervening variables in villages and redeveloped villages, which are also supported by the correlation findings (Appendix D: Table D.10 and D.11). The results indicate that respondents who state that their neighbourhood is accessible express a higher level of perceived safety in villages and redeveloped villages. However, the level of accessibility is considered to be a weak predictor of residents' perceived safety in commodity housing, because it is significant in the standard regression analysis which considers socio-spatial features of neighbourhoods only.

2) Maintenance

Some theorists highlight the positive effect of the level of maintenance on residents' feelings of safety (Dempsey, 2008; Carver, et al., 2008; Franklin et al., 2008; Latham and Clarke, 2013; Duchowny et al., 2020). According to the results of the regression analysis (Table 6.16), the level of maintenance in a neighbourhood is also found to have a positive and consistent impact on indicators measuring sense of safety in the model both with and without intervening indicators, which is also supported by the correlation analyses (Appendix D: Table D.1). Such findings suggest that a neighbourhood with a higher level of maintenance can help enhance respondents' feelings of safety in general.

Comparing villages, redeveloped villages and commodity housing, the regression analysis (Appendix E: Table E.11) finds that there is a positive and consistent association between indicators measuring the level of maintenance and feelings of safety in the three neighbourhood types in the model when socio-spatial features of neighbourhoods and interfering indicators are included. Furthermore, the correlation analyses (Appendix D: Table D.2, D.3 and D.4) also confirm a largely positive and strong correlation between these indicators in the three neighbourhood types. The results are also supported by the interview data (Appendix G: Table G.40) which suggests that a large number of interviewees show that the higher level of maintenance residents perceive their built environment, the greater sense of safety they would feel in the three neighbourhood types.

3) Residents' perceptions of the quality of their neighbourhood

Respondents' perceptions of their neighbourhood as a place to live are significantly and consistently related to indicators measuring a sense of safety (Table 6.16), which is supported by the correlated analyses (Appendix D: Table D.20). This relationship is positive, suggesting that respondents who state that the quality of their neighbourhood is good are likely to report higher levels of perceived safety. These findings are consistent with existing literature, suggesting positive and significant associations between residents' opinion of the quality of their built environment and perceptions of safety (Yeang, 2000; Wheeler, 2001; Austin et al., 2002; Van Lenthe et al., 2005; Bonaiuto et al., 2006; Weimann et al., 2017; Van der et al., 2019).

With regards to villages, redeveloped villages and commodity housing, although the regression analyses (Appendix E: Table E.11) do not find any association between perceived quality of their neighbourhood and feelings of safety in the three neighbourhood types, the correlation analyses (Appendix D: Table D.21, D.22 and D.23) confirm that a positive and significant correlation exists between these variables. The findings suggest that residents rating the quality of their built environment as high are more likely to feel safe when walking alone in their neighbourhood after dark in villages, redeveloped villages and commodity housing.

4) Attractiveness

The attractiveness of the built environment as a very important socio-spatial feature of neighbourhoods is consistently found to contribute significantly to residents' perceptions of safety (Burton and Mitchell, 2006; Dempsey, 2009). In this research, the attractiveness in a

neighbourhood is found to positively and consistently affect their feelings of safety (Appendix D: Table D.14), suggesting that a more attractive neighbourhood can increase residents' sense of safety. This finding is also supported by the interview analyses (Appendix G: Table G.43). Almost 60% of the interview sample report that an attractive neighbourhood would positively affect residents' feelings of safety (Appendix G: Table G.43).

Comparing the three neighbourhood types, the correlation analyses (Appendix D: Table D.14) reveal a significant, positive and strong association between indicators of attractiveness and feelings of safety in villages and redeveloped villages only, suggesting that a more attractive neighbourhood would strengthen residents' sense of safety in these neighbourhoods. However, there are inconsistent associations between the subjective indicator of attractiveness and residents' sense of safety in commodity housing (Appendix D: Table D.14).

5) Connectedness and permeability

Numerous studies argue that a higher permeability of streets can make it easier for criminals to enter and escape from a neighbourhood (Cozens and Hillier 2008; Armitage et al., 2011; Cozen, 2011; Dong, 2017). The findings of this research provide evidence of negative associations between neighbourhood connectedness and the sense of safety. The connectedness and permeability of the built environment have a significant, but negative, association with the sense of safety in the correlation analyses (Appendix D: Table D.13). This finding is also illustrated by the regression results (Table 6.16). This suggests that residents living in a connective and permeable neighbourhood report a lower sense of safety. However, these results should be interpreted with care due to the small number of neighbourhoods, which may skew the findings.

Comparing the three neighbourhood types, the connectedness of a neighbourhood is negatively associated with residents' perceived safety in all neighbourhood types (Appendix D: Table D.13). This finding suggests that a more connective neighbourhood would have a negative influence on respondents' feelings of safety in villages, redeveloped villages and commodity housing. Such results support the claim that there is a negative relationship between these variables (Dong, 2017).

6) Mixed land uses

The extent of services and facilities is negatively associated with residents' feelings of safety in the regression model including socio-spatial features of neighbourhoods only (Table 6.16),

indicating that as the number of services and facilities of a neighbourhood increases, respondents' perceptions of safety decrease. However, over 50% of interviewees state that positive associations exist between the extent of facilities and perceived safety (Appendix G: Table G.45). Therefore, the association between mixed land uses and the sense of safety is not conclusive in general.

With regards to the three neighbourhood types, there is a negative and consistent association between the extent of facilities and safety perceived in villages only (Appendix D: Table D.6), indicating that the mixed-use built environment would reduce respondents' feelings of safety in villages. Such a result supports existing studies that when the number of facilities increases, residents' sense of safety decreases (Wilcox et al. 2004; Baum et al., 2015; Dong, 2017). In redeveloped villages and commodity housing, mixed land uses are not found to be related to feelings of safety. Further to Section 6.2.1, it is important to point out that the indicators measuring mixed land uses are related the broad scale (the neighbourhood scale), which may skew these findings.

7) Neighbourhood boundaries

Numerous studies report evidence that neighbourhood boundaries are positively associated with residents' perceptions of safety in a neighbourhood (Roitman, 2010; Yip, 2012; Dong, 2017; Wu, et al., 2017). In this research, although the correlation analyses (Appendix D: Table D.20) show that no associations are found between neighbourhood boundaries and sense of safety, 89.6% of respondents state that the physical boundaries in a neighbourhood could have a positive effect on their feelings of safety (Appendix F: Table F.57). 8% of residents feel that it would not influence the sense of safety, while just 2.4% said that it would have a negative influence on safety perceived (Appendix F: Table F.57). Overall, the physical boundaries of a neighbourhood are positively related to residents' sense of safety.

Comparing redeveloped villages and commodity housing, 83.4% of respondents state that neighbourhood boundaries could positively influence the sense of community in redeveloped villages, and 96.1% of residents feel that there is a positive association between the two in commodity housing (Appendix F: Table F.58). Such findings are supported by Yip (2012).

8) Natural surveillance

Finally, the extent of active frontage is found to be negatively associated with residents' feelings

of safety in general and for villages only (Appendix D: Table D.20 and D.21), indicating that as the extent of active frontage increases, residents' sense of safety decreases. However, no studies provide evidence of a negative association between these indicators. Furthermore, a positive and significant correlation is found between natural surveillance and a sense of safety in redeveloped villages, which suggests that natural surveillance can increase residents' sense of safety. This result is consistent with existing studies that natural surveillance has a positive impact on residents' sense of safety (Jamme et al., 2018; Jacobs and Cherbonneau, 2019).

6.7.2 Intervening indicators and sense of safety

Ten intervening variables affect indicators measuring perceptions of safety in the neighbourhood.

1) Neighbourhood type

Neighbourhoods type is the strongest predictor of the sense of safety, indicating that residents living in redeveloped villages tend to report stronger feelings of safety than respondents who are living in another two neighbourhood types (Table 6.16). The one-way ANOVA test (Appendix F: Table F.59) finds that there is a significant difference in mean values of safety perceived for residents from villages, redeveloped villages and commodity housing, and the effect size is relatively small (eta square = 0.04).

2) Tenure

A significant association between tenure and feelings of safety is found in the regression analysis (Table 6.16), suggesting that residents who own their property with a mortgage or loan are more likely to report perceptions of safety than other residents. Closer analysis (Appendix F: Table F.60) shows that there is no difference in feelings of safety between respondents from households of different tenure types. With regards to the three neighbourhood types, tenure is not found to be related to residents' sense of safety.

3) Household composition

In the regression analysis (Table 6.16), households with one adult under 60 years old tend to feel stronger safety than other households. The one-way ANOVA test (Appendix F: Table F.61) shows that no difference is found in mean values of sense of safety between respondents from households with different compositions. Comparing villages, redeveloped villages and commodity housing, there is a significant relationship between these variables in villages only

(Appendix E: Table E.11). The finding also suggests that households with one adult under 60 years old are likely to report a higher level of safety perceived than other households in villages. The one-way ANOVA analysis (Appendix F: Table F.62) confirms that the level of safety perceived differs significantly by household composition in villages. This difference is considered to be relatively large because the effect size is 0.07 (Cohen, 2013).

4) Economic status

The same analysis (Table 6.16) finds that the economic status influences residents' feelings of safety, suggesting that residents who are part-time employees are more likely to express a higher sense of safety than other respondents. According to the one-way ANOVA analysis (Appendix F: Table F.63), residents' feelings of safety differ significantly for housewives/househusbands, full-time university students and retired residents, but the effect size (eta square = 0.02) is very small (Cohen, 2013).

With regards to the three neighbourhood types, the economic status is associated with feelings of safety in villages only (Appendix E: Table E.11). This finding indicates that residents who are part-time employees tend to have stronger feelings of safety than other respondents, whereas respondents who are full-time university students are likely to report a lower level of safety perceived in villages. Further test (Appendix F: Table F.64) reveals that there is a difference in sense of safety for part-time employees, full-time university students and housewives/househusbands in villages, but the difference is relatively small (eta square = 0.04).

5) Gender

Residents' gender is significantly related to their sense of safety, indicating that female respondents tend to report lower feelings of safety than male residents (Table 6.16). The independent samples T-test (Appendix F: Table F.65) shows that a difference exists in feelings of safety between women and men, the magnitude of the effect in sense of safety is however relatively small (Cohen, 2013). With regards to the neighbourhood types, the regression analyses (Appendix E: Table E.11) reveal a significant association between respondents' gender and their perceptions of safety in villages only. The results and further tests (Appendix F: Table F.66) indicate that women are less likely to feel safe than men in villages. This finding supports the claim that males report higher feelings of safety than females and females report a higher sense of safety than children in their neighbourhood (Gilchrist et al., 1998; Austin et al., 2002).

6) Residents' income

Residents' income positively affects their sense of safety in general (Table 6.16), suggesting that respondents with higher incomes are more likely to feel safer than residents with lower incomes. Further analysis via the one-way ANOVA test (Appendix F: Table F.67) finds that there is a significant difference in mean values of sense of safety between residents with annual income less than 9990 CNY (about £1010) and those between 30000-49990 CNY (about £3300-5499), but the effect size (eta square = 0.03) is very small (Cohen, 2013). This result relating to residents' income supports the point raised by Austin et al., (2002) that as residents' income increases, their feelings of safety also increase in their neighbourhood.

7) Residents' local or migrant self-identity

The results show no evidence of the association between residents' self-identity (locals or migrants) and their perceptions of safety in general. Comparing villages, redeveloped villages and commodity housing, residents' self-identity has an influence on perceived safety in redeveloped villages only (Appendix E: Table E.11). This finding suggests that residents who identify themselves as locals tend to express lower perceived safety than respondents who identify themselves as migrants in redeveloped villages. The possible reason for this finding is: 55% of interviewers complain that migrants frequently steal chickens, ducks or dogs in redeveloped villages. In these neighbourhoods, most residents owning animals who identify themselves as locals, and these thefts may have a negative effect on their perceptions of safety in redeveloped villages. However, data of this detail (about livestock) were not collected, and the comments are speculative. The independent t-test (Appendix F: Table F.68) finds that a significant difference exists in mean values of sense of safety between respondents' self-identity who are locals and migrants in redeveloped villages, but the magnitude of the effect (eta square = 0.04) is relatively small (Cohen, 2013).

8) Residents' plans to move house

Respondents' plans to move house are not significantly related to the sense of safety in general. However, there is an association between these indicators in redeveloped villages only (Appendix E: Table E.11). This finding suggests that respondents planning to move house tend to report a lower level of perceived safety in redeveloped villages. An independent t-test (Appendix F: Table F.69) shows that very little difference in residents' sense of safety between residents who are planning to move house and those who are not in redeveloped villages. This finding calls into question the claim that residents planning to move house recently are more

likely to report a higher level of safety in their neighbourhood (Dempsey, 2006).

9) Household income

With regards to the three neighbourhood types, household income has a weak and positive influence on respondents' perceptions of safety in commodity housing only (Appendix E: Table E.11). The one-way ANOVA test (Appendix F: Table F.70) reveals that there is a very small significant difference in mean values of sense of safety for households with different income types in commodity housing. This result supports the claim that as residents' household income increases, their feelings of safety increase as well in their neighbourhood (Austin et al., 2002).

10) Housing type

Comparing the three neighbourhood types, the regression analysis confirms that there is a weak association between housing type and residents' sense of safety in villages and redeveloped villages only (Appendix E: Table E.11). The findings indicate that respondents living in makeshift on the farmland tend to have lower safety than residents living in other housing types in villages, whereas residents living in houses are likely to report stronger safety than respondents living in apartment blocks in redeveloped villages.

6.7.3 Summary: Sense of safety

In general, the socio-spatial features of neighbourhoods predict 29% of the variance in sense of safety. When the intervening variables are inserted into the regression model, the predictive power of the model increases to 34.2%. Comparing villages, redeveloped villages and commodity housing, a number of socio-spatial features of neighbourhoods and intervening variables are significantly associated with residents' sense of safety. In villages, 27.6% of the variance in feelings of safety is predicted by the socio-spatial features of neighbourhoods, and the predictive power rises to 33.9 % when the intervening indicators are added to the regression analysis. In redeveloped villages, the socio-spatial features of the built environment explain 24% of the variance in perceptions of safety, increasing to 34.5%, when the intervening variables are taken into account in the model. In commodity housing, the socio-spatial features of neighbourhoods predict 32.8% of the variance in the safety perceived by residents, When the intervening variables are considered in the analysis, the predictive power rises to 36.8%. Table 6.17 shows that evidence of associations between residents' feelings of safety and other variables in general and for villages, redeveloped villages and commodity housing individually.

Table 6.17 Evidence of associations between sense of safety and other variables

Socio-spatial indicators	Overall	Villages	Redeveloped villages	Commodity housing
Accessibility	√	√	√	√
Maintenance	√	√	√	√
Overall measure of quality	√	√	√	√
Attractiveness	√	√	√	
Connectedness and permeability	√	√	√	√
Mixed land uses	¿?	√		
Neighbourhood boundaries	√		√	√
Natural surveillance	¿?	¿?	√	
Intervening variables	**Overall**	**Villages**	**Redeveloped villages**	**Commodity housing**
Neighbourhood types	√			
Tenure	?			
Household composition	?	√		
Economic status	√	√		
Gender	√	√		
Residents' income	√			
Residents' self-identity (locals or migrants)			√	
Residents' plans to move houses			?	
Household income				?
Housing type		√	√	

√--- evidence found
? --- evidence is found but very weak
¿?--- evidence is not conclusive

6.8 Sense of place attachment

Recently, place attachment has become an important planning consideration in China (Lu et al., 2018). According to existing studies, the socio-spatial features of neighbourhoods have a positive influence on feelings of place attachment (Nash and Christie, 2003; Raymond et al., 2010). The results of this research provide evidence supporting the links between the variables measuring sense of place attachment and socio-spatial features of neighbourhoods. Table 6.18 shows the findings from the regression analyses in general.

Table 6.18 Standard Regression Analyses: Z-score of sense of place attachment indicators (dependent variable) in general

Independent variables	Independent variables	Unstandardized Coefficients-B	Standardized Coefficients-Beta	Sig	Collinearity Statistics Tolerance	VIF	R	R Square	Adjust R Square
1. FQON variables only	(Constant)	-.500		.000			.424	.180	.176
	Zscore_overmeasure_q	.253	.256	.000	.532	1.879			
	Attr_extgreen_sit	.725	.129	.000	.838	1.193			
	Attractiveness_cur_q	.099	.114	.002	.564	1.772			
	Zscore_connectper_sit	-.199	-.107	.000	.815	1.227			
	Zscore_access_q	.143	.102	.001	.744	1.344			
2. FQON variables and intervening indicators	(Constant)	-.756		.000			.592	.351	.346
	Zscore_overmeasure_q	.249	.252	.000	.605	1.653			
	Zscore_mainte_q	.089	.066	.024	.727	1.376			
	Character_cur_q	.056	.067	.027	.662	1.510			
	Own outright	.713	.419	.000	.738	1.355			
	Own with a mortgage or loan	.654	.234	.000	.801	1.249			
	D_Makeshift_q	-.707	-.092	.000	.973	1.028			
	Employed more than 30 hours	-.153	-.089	.001	.914	1.094			
	Houssize_q	.109	.082	.002	.923	1.083			

6.8.1 Socio-spatial features of neighbourhoods and senses of place attachment

1) Residents' perceptions of the quality of their neighbourhood

The socio-spatial feature of neighbourhoods that most strongly predicts the sense of place attachment is residents' opinions of the quality of their neighbourhood. It is significantly and positively associated with feelings of place attachment in the regression model both with and without intervening indicators, suggesting that respondents stating that the quality of their neighbourhood is good are likely to report a stronger sense of place attachment (Table 6.18). The result is also supported by the correlation analyses (Appendix D: Table D.20), which reveal that it has a positive and consistent effect on residents' sense of place attachment. This positive association supports the claim that a high-quality neighbourhood would contribute significantly to residents' sense of place attachment (Sun, 2016; Zhang and Zhang, 2017; Wu et al., 2019).

Comparing villages, redeveloped villages and commodity housing, residents' opinions of the quality of their neighbourhood are consistently and positively related to the indicators measuring sense of place attachment both with and without intervening variables in the three neighbourhood types (Appendix E: Table E.12). The findings suggest that respondents rating the quality of their neighbourhood as high tend to express a strong sense of place attachment in all three neighbourhood types. The correlation analyses (Appendix D: Table D.21, D.22 and D.23) and interview analyses (Appendix G: Table G.48) also illustrate the results of the regression analyses.

2) Maintenance

The level of maintenance is found to be positively and significantly associated with place attachment in general, suggesting that as maintenance of the neighbourhood increases, respondents' sense of place attachment increases as well (Table 6.18). The correlation analyses (Appendix D: Table D.1) also confirm that a significant, consistent and positive correlation exists between the indicators measuring the level of maintenance and place attachment. With regards to the three neighbourhood types, the correlation analyses show that there are consistent, positive and significant associations between these variables in villages, redeveloped villages and commodity housing (Appendix D: Table D.2, D.3 and D.4). These statistical findings indicate that the level of maintenance contributes consistently to the indicators measuring place attachment. Such results are consistent with existing studies, which report a positive association between the level of maintenance and sense of place attachment (Nash and Chiristie, 2003; Kamalipour et al., 2012; Lu et al., 2018).

3) Attractiveness

The regression analysis (Table 6.18) reveals that both objective and subjective attractiveness measurement indicators have significant and positive associations with the sense of attachment to a neighbourhood when only socio-spatial features of neighbourhoods are examined, suggesting that residents who rate their neighbourhood is more attractive are more likely to express the sense of place attachment. However, it drops out of the model when interfering indicators are included, indicating that other indicators would better explain residents' feelings of place attachment. The correlation analyses (Appendix D: Table D.14) support this finding: the attractiveness of a neighbourhood is consistently and positively related to the sense of place attachment. With regards to the neighbourhood types, the correlation analyses reveal that there is a consistent and positive correlation between the attractiveness of a neighbourhood and sense of place attachment in the three neighbourhood types (Appendix D: Table D.14). The statistical findings indicate that a more attractive neighbourhood would significantly contribute to the indicators of place attachment in the three neighbourhood types. These positive associations between indicators measuring the attractiveness and sense of place attachment are supported by the research carried out by Rogers and Sukolratanamet (2009).

4) Accessibility

The level of accessibility to services and facilities plays a very important role in increasing respondents' place attachment (Shamsuddin and Ujang, 2008). The statistical results support

this claim: a significant and positive association exists between the level of accessibility and place attachment in the regression analysis (Table 6.18), indicating that residents who rate their neighbourhood as accessible are more likely to feel a sense of place attachment. It drops out of the model when the intervening variables are inserted, suggesting that other indicators may better explain feelings of place attachment. The correlation analyses support this result: the indicators measuring perceived accessibility are significantly and positively correlated with feelings of place attachment (Appendix D: Table D.9). However, the accessibility of the built environment, measured through objective indicators in the built environment, is not found to be positively associated with feelings of place attachment.

Comparing the neighbourhood types, the correlation analyses show that there are largely positive and significant correlations between the indicators measuring the accessibility of a neighbourhood and perceptions of attachment to a neighbourhood in villages, redeveloped villages and commodity housing (Appendix D: Table D.10, D.11 and D.12). The statistical results indicate that the accessible built environment would significantly contribute to feelings of place attachment in all neighbourhood types. These results are also supported by the interview findings which show that over 60% of interviewees agreed that there would be positive associations between the level of accessibility and place attachment in villages, redeveloped villages and commodity housing (Appendix G: Table G.54).

5) The perceived character of the neighbourhood

The regression analysis (Table 6.18) shows that the perceived character of the neighbourhood positively contributes to respondents' sense of place attachment, suggesting that as the perceived character of the neighbourhood is stronger, the sense of place attachment felt by respondents is also stronger. This feature is a relatively weak predictor of place attachment as it is only significant in the model including intervening indicators. Furthermore, the correlation analysis also finds positive, significant and consistent correlations between these indicators in general (Appendix D: Table D.20). With regards to the neighbourhood types, the correlation analyses (Appendix D: Table D.21, D.22 and D.23) reveal that there are positive and consistent associations between the perceived character of the neighbourhood and perceptions of place attachment in villages, redeveloped villages and commodity housing, indicating that while residents feel that the perceived character of their built environment is stronger, they are more likely to show a sense of place attachment in such neighbourhoods. These results are supported by existing studies (Pasaogullari and Doratli, 2004; Talen, 2007; Zhang and Zhang, 2017).

6.8.2 Intervening indicators and sense of place attachment

Eight intervening variables are correlated with indicators measuring place attachment: tenure, economic status, the use of services and facilities, length of residence, household income, household composition, housing type and household size.

1) Tenure

Property owners tend to have a stronger sense of place attachment than renters in their gated neighbourhood in China (Brown et al., 2003; Sun, 2016; Lu et al., 2018). The result of this study supports this claim. The intervening indicator which measures tenure is found to be related to place attachment in general, indicating that residents owning their property tend to express a stronger sense of place attachment than those who rent their property (Table 6.18). The one-way ANOVA test (Appendix F: Table F.71) shows that there is a significant difference in mean scores of place attachment between respondents from households with different tenure types, but the effect size is very small (eta square = 0.03) (Cohen, 2013). In villages, redeveloped villages and commodity housing, tenure has a significant influence on the sense of place attachment in the three neighbourhood types, suggesting that residents who own their property are more likely to feel place attachment than those who rent their property in all these neighbourhoods (Appendix E: Table E.12). The one-way ANOVA tests (Appendix F: Table F.72) reveal that although a difference exists in place attachment between residents owning their property and those who pay rent by their employer in villages, it is very small: the magnitude of the effect, using eta square, is 0.03 (Cohen, 2013). Also, the same tests (Appendix F: Table F.72) show a significant difference in sense of place attachment for residents from households with different tenure types in redeveloped villages, and the effect size is relatively large (eta square = 0.09) (Cohen, 2013).

2) Economic status

The second intervening variable which relates to place attachment is the economic status, indicating that residents who are full-time employees are less likely to express a sense of place attachment than other respondents (Table 6.18). The one-way ANOVA tests (Appendix F: Table F.73) reveal that the difference in place attachment between residents with different economic statuses is insignificant. Comparing the three neighbourhood types, residents' economic status has a relationship with their perceptions of attachment to a neighbourhood in villages and redeveloped villages (Appendix E: Table E.12). The findings indicate that respondents who are housewives/househusbands or full-time employees are likely to express a

weaker place attachment in villages, whereas residents who are retired tend to feel a stronger sense of place attachment in redeveloped villages. This may be because 59% of housewives/househusbands and 62% full-time employees are migrants who have lived in the neighbourhood for a shorter time than locals in villages, and residents who are retired are spending more time than others in redeveloped villages. Closer tests (Appendix F: Table F.74) reveal no significant difference in mean values of place attachment between respondents with different economic statuses in these neighbourhoods.

3) Respondents' use of services and facilities

In general, the use of services and facilities is not found to be significantly related to residents' sense of place attachment. Comparing the three neighbourhood types, a positive and significant association exists between the use of facilities and feelings of place attachment in villages only (Appendix E: Table E.12). The result suggests that respondents who use facilities tend to report a higher level of place attachment than those who do not use facilities in villages. This result is consistent with existing studies (McCool and Martin, 1994; Sun, 2016; Lu et al., 2018), which find an association between place attachment and the use of facilities and services.

4) Length of residence

Comparing the three neighbourhood types, length of residence is positively associated with residents' feelings of place attachment in villages only (Appendix E: Table E.12), suggesting that residents who have lived in their village for a long time are likely to feel stronger place attachment than those who have lived there for a short time. The one-way ANOVA tests (Appendix F: Table F.75) show that an actual difference in place attachment between residents living in villages for different durations is very large: eta square = 0.21 (Cohen, 2013). A number of studies confirm that there is a positive association between length of residence and place attachment (Wu and Logan, 2015; Kohlbacher et al., 2015; Liu et al., 2016). Moving house frequently can preclude the development of people's attachment to a place, because new residents may have little time to develop an attachment to a place (Manzo et al., 2008).

5) Household income

Household income is not found to be associated with respondents' feelings of place attachment in general. Comparing villages, redeveloped villages and commodity housing, household income is found to have a positive and significant effect on residents' perceptions of place attachment in redeveloped villages only (Appendix E: Table E.12). It suggests that as residents'

household income increases, their sense of place attachment also increases in redeveloped villages. Closer tests (Appendix F: Table F.76) show that the mean values of place attachment differ significantly for households with less than 9990 CNY (about £1010), 30000-49990 CNY (about £3300-5499), 50000-79990 CNY (about £5504-8806) and 100000-199990 CNY (about £11000-22001) in redeveloped villages, and the effect size is relatively large (eta square = 0.10) (Cohen, 2013). This finding supports the claim that residents' household income is positively related to their sense of place attachment (Sun, 2016).

6) Household composition

Household composition is also not related to the sense of place attachment in general. With regards to villages, redeveloped villages and commodity housing, this intervening indicator affects significantly respondents' perceptions of attachment to a neighbourhood in redeveloped villages only (Appendix E: Table E.12). The result suggests that households with two adults (both under 60 years old) and households with one adult under 60 years old are less likely to feel place attachment than other households in the neighbourhood type. The one-way ANOVA tests (Appendix F: Table F.77) show that a difference is found in mean scores of place attachment between respondents from households with different compositions in redeveloped villages, and the effect size is small. However, this result is questionable, so it is reported for information only.

7) Housing type

Housing type is found to be significantly correlated with the sense of place attachment (Table 6.18), indicating that residents living in makeshift shacks in the farmland tend to express weaker feelings of place attachment. The one-way ANOVA tests (Appendix F: Table F.78) reveal that the difference in the mean values of place attachment between residents who are living in makeshift shacks in the farmland and those who are living in apartment blocks is very small. This finding should be interpreted with caution because of the small proportion of residents living in these makeshift shacks, and only in villages. Furthermore, this result is questionable due to the violated assumption of homogeneity of variance, and the findings are shown here for information only.

Comparing villages, redeveloped villages and commodity housing, the regression analysis reveals that housing type is significantly related to residents' perceptions of place attachment in villages and redeveloped villages only (Appendix E: Table E.12). The statistical finding

indicates that residents who are living in houses are more likely to report place attachment in the two neighbourhood types. Closer tests (Appendix F: Table F.79 and F.80) show that a very small difference in place attachment is found between different housing types in villages. Moreover, the independent t-test reveals that there is a difference in mean values of perceptions of place attachment between residents living in houses and apartment blocks in redeveloped villages (eta square= 0.03).

8) Household size

Finally, household size is significantly related to perceptions of attachment to a neighbourhood in the regression analysis (Table 6.18), indicating that as the number of family members in the residents' household rises, place attachment perceived by residents increases as well. Comparing the three neighbourhood types, the regression analyses find that household size is positively associated with residents' sense of place attachment in commodity housing only (Appendix E: Table E.12). The statistical result suggests that residents from households with more family members tend to express stronger feelings of place attachment in these neighbourhoods.

6.8.3 Summary: sense of place attachment

Table 6.19 Evidence of associations between sense of place attachment and other variables

Socio-spatial indicators	Overall	Villages	Redeveloped villages	Commodity housing
Residents' perceptions of the quality of their neighbourhood	√	√	√	√
Maintenance	√	√	√	√
Attractiveness	√	√	√	√
Accessibility	√	√	√	√
The perceived character of the neighbourhood	√	√	√	√
Intervening variables	**Overall**	**Villages**	**Redeveloped villages**	**Commodity housing**
Tenure	√	√	√	?
Economic status	?	?	?	
The use of facilities		√		
Length of residence		√		
Household income			√	
Household composition			?	
Housing type	√	?	√	
Household size	√			√

√ evidence found
? evidence is found but very weak
¿? evidence is not conclusive

Respondents' sense of place attachment is found to have a significant influence on a large number of socio-spatial features of neighbourhoods in general and for villages, redeveloped villages and commodity housing separately in Table 6.19.

6.9 Conclusion

This chapter shows evidence of the relationship between socio-spatial features of neighbourhoods and dimensions of social cohesion. Tables 6.20-6.23 present the associations found in this study between socio-spatial features of neighbourhoods and each dimension of social cohesion, as well as relationships between the latter and interfering variables in general and for villages, redeveloped villages and commodity housing. It is clear from the results that the socio-spatial features of neighbourhoods are related to the dimensions of social cohesion in different ways, negative and positive. To identify the socio-spatial features of neighbourhoods that are most likely to support social cohesion in terms of locals and migrants in Chinese neighbourhoods, an examination of correlations between socio-spatial features of neighbourhoods and dimensions of social cohesion for locals and migrants respectively is conducted in Chapter Seven.

Table 6.20 Significant associations between socio-spatial features of neighbourhoods and intervening indicators, and dimensions of social cohesion in general

Socio-spatial indicators	Social interaction	Social networks	Sense of community	Participation in activities	Trust and reciprocity	Feelings of safety	Sense of place attachment
Maintenance	+		+	+		+	+
Mixed land uses	**¿?**					**¿?**	
Accessibility	+		+	+	+	+	+
Character	+		+	+			+
Natural surveillance						**¿?**	
Connectedness/ permeability			**¿?**			–	
Attractiveness			+			+	+
Density					**?**		
Legibility	+			+	+		
Neighbourhood boundaries	+		+			+	
Overall measure of quality	+		+			+	+
Intervening indicators							
Residents' local or migrant identity	+	+					
The use of facilities	+	+		+	+		
Length of residence	?			+			
Economic status	+	–	–		+	+	**?**
Household composition	–	–		+		**?**	
Tenure	+	–	+	+		**?**	+
Residents' income	+			+	+	+	
Household income			+				
Birthplace				–/+			
Plans to move house				+			
Housing type			+				–
Hukou				–			
Neighbourhood types					–	+	
Age					–		
Gender						–	
Household size							+

+ evidence of a positive association; - evidence of a negative association; ? evidence is very weak; **¿?** evidence is not conclusive

Table 6.21 Significant associations between socio-spatial features of neighbourhoods and intervening indicators, and dimensions of social cohesion in villages

Socio-spatial indicators	Social interaction	Social networks	Sense of community	Participation in org'zed activities	Trust and reciprocity	Feelings of safety	Sense of place attachment
Maintenance	+		+	+		+	+
Mixed land uses						–	
Accessibility	+		+	+	+	+	+
Character	+		+	**?**			+
Natural surveillance						**¿?**	
Connectedness/ permeability						–	
Attractiveness			+			+	+
Density							
Legibility	+			+	+		
Neighbourhood boundaries							
Overall measure of quality	+		+			+	+
Intervening indicators							
Residents' local or migrant identity		+	–	+			
The use of facilities	+			+	+		+
Length of residence	–						+
Economic status	–/+	–	–			–/+	**?**
Household composition	+	–			–	+	
Tenure	+	–	+	+			+
Household income	+						
Plans to move house	+			+			
Housing type						–	**?**
Age					–		
Gender						–	

+ evidence of a positive association; - evidence of a negative association; ? evidence is very weak; **¿?** evidence is not conclusive

Table 6.22 Significant associations between socio-spatial features of neighbourhoods and intervening indicators, and dimensions of social cohesion in redeveloped villages

Socio-spatial indicators	Social interaction	Social networks	Sense of community	Participation in org'zed activities	Trust and reciprocity	Feelings of safety	Sense of place attachment
Maintenance	+		+	+		+	+
Mixed land uses							
Accessibility	+		+	+		+	+
Character			+				+
Natural surveillance						+	
Connectedness/ permeability						−	
Attractiveness			+			+	+
Density							
Legibility	+			+			
Neighbourhood boundaries	+		+			+	
Overall measure of quality	+		+			+	+
Intervening indicators							
Residents' local or migrant identity	+	+					
The use of facilities				+			
Economic status		+	+		**?**		**?**
Household composition		−		**?**			**?**
Tenure		+	−/+	**?**			+
Household income			+				+
Birthplace	−/+				+		
Plans to move house				**?**		**?**	
Housing type			+			+	+
Gender				−			
Residents' self-identity (locals or migrants)						+	

+ evidence of a positive association; - evidence of a negative association; ? evidence is very weak; **¿?** evidence is not conclusive

Table 6.23 Significant associations between socio-spatial features of neighbourhoods and intervening indicators, and dimensions of social cohesion in commodity housing

Socio-spatial indicators	Social interaction	Social networks	Sense of community	Participation in org'zed activities	Trust and reciprocity	Feelings of safety	Sense of place attachment
Maintenance	+		+	+		+	+
Mixed land uses							
Accessibility	+		+	+		+	+
Character	+		+	+			+
Natural surveillance							
Connectedness/ permeability						−	
Attractiveness			+				+
Density							
Legibility	+			+			
Neighbourhood boundaries			+			+	
Overall measure of quality			+			+	+
Intervening indicators							
The use of facilities	+	+		+	+		
Length of residence	+	+					
Economic status	−				**?**		
Household composition	−	?		+			
Tenure	−		−/+				**?**
Residents' income				+	**?**		
Household income						**?**	
Housing type	**¿?**				+		
Household size			+				+
Hukou				−	−		

+ evidence of a positive association; - evidence of a negative association; ? evidence is very weak; **¿?** evidence is not conclusion

Chapter 7 Socio-spatial Features of Neighbourhoods Contributing to Social Cohesion

7.1 Introduction

Chapter Six provided the full sample–analysis showing the systematic examinations of associations between the socio-spatial features of neighbourhoods and the dimensions of social cohesion using the whole sample of locals and migrants. Chapter Seven further investigates the socio-spatial features of the quality contributing to social cohesion in villages, redeveloped villages and commodity housing using the sub-samples of locals and migrants, respectively[12]. Moreover, this chapter explores detailed information about residents' perceptions of each socio-spatial feature of their neighbourhood in relation to social cohesion in villages, redeveloped villages and commodity housing, respectively. Finally, this chapter discusses professionals' suggestions about how to create a cohesive village, redeveloped village and commodity housing.

7.2 Socio-spatial features of neighbourhoods supporting social cohesion

7.2.1 Maintenance and social cohesion

Positive and significant associations (to varying degrees) are found between the level of maintenance and five dimensions of social cohesion (i.e. social interaction, sense of community, participation in organised activities, feelings of safety, and sense of place attachment) in general, and for villages, redeveloped villages and commodity housing (see Table 7.1). The significant associations between maintenance and dimensions of social cohesion for locals and migrants in the three neighbourhood types are discussed in the following section.

Table 7.1 Evidence of the association between maintenance and dimensions of social cohesion with intervening indicators considered

Dimensions of social cohesion	Overall	Villages	Redeveloped villages	Commodity housing
Social interaction	++	++	++	++
Sense of community	+++	+++	+++	+++
Participation in organised activities	++	+++	+++	++
Feelings of safety	++++	++++	++++	++++
Sense of place attachment	+++	+++	+++	+++

+++++ Very strong ++++ Strong +++ Neither strong nor weak ++ Weak + Very weak

[12] Social cohesion is surveyed based on two groups of residents (locals and migrants) in this study.

7.2.1.1 Maintenance and social interaction

The correlation analyses (Appendix D: Table D.26) show that the level of maintenance has a largely positive correlation with social interaction for locals and migrants in the three neighbourhood types. The interview analyses (Appendix G: Table G.57) also show that over 55% of the sample agree that the level of maintenance would have a positive effect on social interaction for locals and migrants in villages, redeveloped villages and commodity housing. These results suggest that when the level of maintenance increases, residents' social interaction increases as well in the three neighbourhood types.

7.2.1.2 Maintenance and sense of community

The correlation analyses (Appendix D: Table D.27) find that the level of maintenance is positively related to residents' sense of community for locals and migrants in villages, redeveloped villages and commodity housing. This indicates that as the level of maintenance becomes higher, locals' and migrants' social interaction increases as well. These findings support the interview results (Appendix G: Table G.58) that almost 60% of the interview sample state that a positive association between these indicators would exist for locals and migrants in the three neighbourhood types. Moreover, Table 7.2 shows that the strength of the association between maintenance and sense of community for locals and migrants is similar in villages, redeveloped villages and commodity housing individually.

7.2.1.3 Maintenance and participation in organised activities

The correlation analyses (Appendix D: Table D.28) find that the level of maintenance has a positive and significant correlation with participation in organised activities for locals and migrants in the three neighbourhood types. Moreover, Table 7.2 shows that the level of maintenance has a stronger impact on participation in organised activities for locals living in villages and redeveloped villages than those living in commodity housing. The possible reason is that the level of maintenance assessed by locals in villages (0.02) and redeveloped villages (0.08) is higher than those in commodity housing (-0.06).

7.2.1.4 Maintenance and feelings of safety

The level of maintenance is positively and significantly related to residents' feelings of safety for locals and migrants in villages, redeveloped villages and commodity housing respectively (Appendix D: Table D.29), suggesting that the higher level of maintenance locals and migrants

perceive their neighbourhood, the more sense of safety they can feel. Furthermore, the interview analyses also show that a large number of interviewees feel that there would be positive correlations between these indicators for locals and migrants in the three neighbourhood types (Appendix G: Table G.60). Table 7.2 reveals that the strength of the association between maintenance and sense of safety for locals and migrants is similar in villages, redeveloped villages and commodity housing individually. This indicates that maintenance is important in predicting the sense of safety for locals and migrants in the three neighbourhood types.

7.2.1.5 Maintenance and sense of place attachment

The correlation analyses (Appendix D: Table D.30) find a significant and positive correlation between maintenance and place attachment for locals and migrants in the three neighbourhood types individually. These findings are also supported by the interview analyses which indicate that over 60% of interviewees state that the level of maintenance would be positively related to the place attachment for locals and migrants in villages, redeveloped villages and commodity housing (Appendix G: Table G.61). Moreover, Table 7.2 shows that the strength of the association between maintenance and place attachment for locals and migrants is also similar in the three neighbourhood types, indicating that maintenance is an important predictor of place attachment for locals and migrants.

Table 7.2 Evidence of the association between maintenance and dimensions of social cohesion for locals and migrants in the three neighbourhood types individually

Dimensions of social cohesion	Villages		Redeveloped villages		Commodity housing	
	Locals	Migrants	Locals	Migrants	Locals	Migrants
Social interaction	++	++	+++	++	+++	++
Sense of community	+++	+++	+++	++++	+++	+++
Participation in organised activities	+++	++	++++	++	++	++
Sense of safety	++++	++++	++++	++++	+++++	++++
Place attachment	+++	++++	+++	+++	+++	+++

+++++ Very strong ++++ Strong +++ Neither strong nor weak ++ Weak + Very weak

7.2.1.6 Summary: maintenance

The strength of the association between the level of maintenance and social cohesion for locals and migrants is similar in villages, redeveloped villages and commodity housing individually are shown in Table 7.17. These findings imply that there are positive and significant associations between the level of maintenance and social cohesion for locals and migrants in the three neighbourhood types, indicating that when the level of maintenance is higher, residents' social cohesion increase as well in the three neighbourhood types.

7.2.2 Accessibility and social cohesion

Table 7.3 Evidence of the association between accessibility and dimensions of social cohesion with intervening indicators considered

Dimensions of social cohesion	Overall	Villages	Redeveloped villages	Commodity housing
Social interaction	++++	+++	++	+++
Sense of community	++++	++++	++++	++++
Participation in organised activities	++	++	++	++
Trust and reciprocity	+++	+++		
Feelings of safety	++++	++++	++++	+++
Sense of place attachment	+++	+++	++++	++++

+++++ Very strong ++++ Strong +++ Neither strong nor weak ++ Weak + Very weak

Five dimensions of social cohesion are found to be significantly related to the level of accessibility in general and for villages: social interaction, sense of community, participation in organised activities, trust and reciprocity, feelings of safety and sense of place attachment (see Table 7.3). These dimensions (Except for trust and reciprocity) are also associated with accessibility in redeveloped villages commodity housing. In the following section, the significant associations between accessibility and dimensions of social cohesion for locals and migrants in the three neighbourhood types are explored.

7.2.2.1 Accessibility and social interaction

The correlation analyses (Appendix D: Table D.31) find positive associations between the level of accessibility and social interaction for locals and migrants in all three neighbourhood types, indicating that residents who describe that their neighbourhood is easily accessible are more likely to interact with their neighbours. In villages, the correlation between accessibility and social interaction for locals is weaker than for migrants (Table 7.4). The perhaps explanation is that the level of accessibility assessed by migrants (0.20) is higher than by locals (0.12) in villages, indicating that migrants are more likely to use facilities and services than locals. Thus the accessibility of facilities and services may be more important for migrants than locals in villages. In redeveloped villages, the association between these indicators for locals is stronger than for migrants (Table 7.4). This may be related to residents' economic status. 80% of migrants and just 44% of locals are in full-time employment or are full-time university students, indicating that most locals may spend more time using facilities and services than migrants in their neighbourhood. In commodity housing, there is a weak correlation between these variables for locals and migrants (Table 7.4). 74% of locals and 67% of migrants work or study full-time, which suggests that most locals and migrants may spend less time using facilities.

7.2.2.2 Accessibility and sense of community

The correlation analyses (Appendix D: Table D.32) indicate that there are positive associations between the level of accessibility and sense of community for locals and migrants in villages, redeveloped villages and commodity housing. This suggests that the more accessible the neighbourhood is in terms of both locals and migrants reaching services and facilities conveniently, the more likely they are to have a greater sense of community in the three neighbourhood types. Furthermore, correlations between accessibility and sense of community for locals and migrants are strong in villages, redeveloped villages and commodity housing (Table 7.4), suggesting that accessibility is an important socio-spatial feature of neighbourhoods to contribute to the sense of community in the three neighbourhood types.

7.2.2.3 Accessibility and participation in organised activities

To a lesser extent, the level of accessibility is found to have a significant and positive correlation with participation in activities for locals and migrants in the three neighbourhood types (Appendix D: Table D.33). Such findings reveal that when facilities and services in a neighbourhood become more accessible, participation in activities increases as well. Table 7.4 shows that the associations between the level of accessibility and participation in organised activities for locals and migrants are weak in the three neighbourhood types, indicating that other influences on locals and migrants' participation in organised activities are stronger than the accessibility.

7.2.2.4 Accessibility and trust and reciprocity

The correlation analyses (Appendix D: Table D.34) find a significant association between the level of accessibility and trust for migrants only living in villages, indicating that as the level of accessibility increases, migrant residents' trust and reciprocity increase as well in villages. No association between these variables is found to be significant for locals living in villages. The perhaps reason is that the level of accessibility assessed by locals is low (0.12) in villages, indicating that locals are less likely to use facilities and services in villages.

7.2.2.5 Accessibility and feelings of safety

The correlation analyses (Appendix D: Table D.35) reveal that positive and significant correlations between accessibility and feelings of safety exist for locals and migrants in the three neighbourhood types, suggesting that residents who state that their neighbourhood is

easily accessible express a higher level of perceived safety. These findings are also confirmed by the interview analyses (Appendix G: Table G.66) which find that a number of the sample agree that the level of accessibility would have a positive effect on residents' feelings of safety for locals and migrants in the three neighbourhood types. Moreover, the association between the level of accessibility and sense of safety for locals and migrants in villages is the strongest in the three neighbourhood types (Table 7.4). It may be because the level of accessibility rated by residents in villages (0.06) is higher than redeveloped villages (0.04) and commodity housing (-0.13).

7.2.2.6 Accessibility and sense of place attachment

The correlation analyses (Appendix D: Table D.36) show that there are significant and positive correlations between accessibility and place attachment for locals and migrants in the three neighbourhood types, suggesting that the accessible neighbourhood would significantly contribute to local and migrant residents' feelings of place attachment. Moreover, Table 7.4 indicates that the strength of the association between accessibility and place attachment for locals and migrants is similar in villages, redeveloped villages and commodity housing. This suggests that accessibility is a vital socio-spatial feature of neighbourhoods to enhance residents' place attachment for locals and migrants in the three neighbourhood types.

Table 7.4 Evidence of the association between accessibility and dimensions of social cohesion for locals and migrants in the three neighbourhood types individually

Dimensions of social cohesion	Villages		Redeveloped villages		Commodity housing	
	Locals	Migrants	Locals	Migrants	Locals	Migrants
Social interaction	++	+++	+++	+	+++	++
Sense of community	++++	++++	++++	++++	++++	+++
Participation in organised activities	+++	++	++	+++	++	++
Trust and reciprocity		+++				
Sense of safety	++++	++++	++++	+++	+++	+++
Place attachment	+++	++++	++++	+++	+++	+++

+++++ Very strong ++++ Strong +++ Neither strong nor weak ++ Weak + Very weak

7.2.2.7 Summary: accessibility

Table 7.17 shows significant and positive associations between the level of accessibility and social cohesion for locals and migrants in villages, redeveloped villages and commodity housing. These findings indicate that when the level of accessibility is higher, residents' social cohesion may be stronger in the three neighbourhood types.

7.2.3 Overall measure of quality and social cohesion

There are positive and significant associations (to different degrees) between the quality of neighbourhoods and four dimensions of social cohesion in general and for villages and redeveloped villages: social interaction, sense of community, feelings of safety and sense of place attachment (see Table 7.5). In commodity housing, the quality of neighbourhoods is associated with three dimensions of social cohesion: the sense of community, feelings of safety and sense of place attachment (see Table 7.5). The association between the quality of neighbourhoods and social interaction is very weak or is not significant in general and for the three neighbourhood types individually, suggesting that other impacts on social interaction are stronger than the quality of neighbourhoods. The perhaps reason is that other socio-spatial features of neighbourhoods, like maintenance, are part of the quality of neighbourhoods. Maintenance may have a stronger impact on residents' social interaction than the perceived quality of neighbourhoods in the three neighbourhood types. According to locals and migrants in villages, redeveloped villages and commodity housing, the significant associations between the quality of neighbourhoods and dimensions of social cohesion for locals and migrants in the three neighbourhood types are discussed in the following section.

Table 7.5 Evidence of the association between the quality of neighbourhoods and dimensions of social cohesion with intervening indicators considered

Dimensions of social cohesion	Overall	Villages	Redeveloped villages	Commodity housing
Social interaction	+	+	++	
Sense of community	+++	+++	++++	+++
Feelings of safety	+++	+++	+++	+++
Sense of place attachment	++	+++	+++	+++

+++++ Very strong ++++ Strong +++ Neither strong nor weak ++ Weak + Very weak

7.2.3.1 Overall measure of quality and social interaction

The correlation analyses (Appendix D: Table D.37) reveal that a positive, but weak, correlation exists between the quality of neighbourhoods and social interaction for locals and migrants in redeveloped villages only, suggesting that locals and migrants rating that the quality of their neighbourhood is high are more likely to engage in social interaction in redeveloped villages. Moreover, no correlations between the quality of neighbourhoods and social interaction are significant for locals and migrants in villages and commodity housing (Table 7.6), indicating that other socio-spatial features of neighbourhoods may have a stronger influence on social interaction than the quality of neighbourhoods for locals and migrants in the two neighbourhood types.

7.2.3.2 Overall measure of quality and sense of community

The correlation analyses (Appendix D: Table D.38) find that a significant and positive correlation between the quality of neighbourhoods and sense of community exists for locals and migrants in the three neighbourhoods respectively. These findings suggest that locals and migrants who describe their neighbourhood as good to live in are likely to express a stronger sense of community. Moreover, Table 7.6 indicates that the quality of neighbourhoods is a relatively important predictor of residents' sense of community in all neighbourhood types.

7.2.3.3 Overall measure of quality and feelings of safety

The correlation analyses show positive and significant correlations between the quality of neighbourhoods and feelings of safety for locals and migrants in the three neighbourhood types (Appendix D: Table D.39). These results indicate that locals and migrants stating that the quality of their neighbourhood is high, they are more likely to perceive safety when they walk alone in their neighbourhood after dark. Furthermore, Table 7.6 shows evidence of correlations between the quality of neighbourhoods and feelings of safety for locals and migrants in the three neighbourhood types.

7.2.3.4 Overall measure of quality and sense of place attachment

Positive and significant correlations are found between the quality of neighbourhoods and place attachment for locals and migrants in the three neighbourhood types in the correlation analyses (Appendix D: Table D.40). These findings suggest that local and migrant respondents who state that the quality of their neighbourhood is high tend to express strong place attachment. Moreover, Table 7.6 also suggests that the quality of neighbourhoods is an important predictor of place attachment in the three neighbourhood types.

Table 7.6 Evidence of the association between the quality of neighbourhoods and dimensions of social cohesion for locals and migrants in the three neighbourhood types individually

Dimensions of social cohesion	Villages		Redeveloped villages		Commodity housing	
	Locals	Migrants	Locals	Migrants	Locals	Migrants
Social interaction			++	++		
Sense of community	+++	+++	++++	++++	+++	+++
Sense of safety	+++	+++	++	+++	+++	++
Place attachment	+++	+++	++++	+++	+++	+++

+++++ Very strong ++++ Strong +++ Neither strong nor weak ++ Weak + Very weak

7.2.3.5 Summary: overall measure of quality

Table 7.17 shows that associations between the quality of neighbourhoods and social cohesion

for locals and migrants in redeveloped villages are stronger than villages and commodity housing. This suggests that this socio-spatial feature of neighbourhoods is more important in predicting social cohesion for locals and migrants in redeveloped villages than villages and commodity housing.

7.2.4 The perceived character of the neighbourhood and social cohesion

Table 7.7 shows that sense of community, participation in organised activities and place attachment are associated with the perceived character of the neighbourhood in general and for villages and commodity housing. The perceived character of the neighbourhood has a positive impact on the sense of community and place attachment in redeveloped villages only. Furthermore, the association between the perceived character of the neighbourhood and social cohesion in commodity housing is strongest in the three neighbourhood types, indicating that the perceived character of the neighbourhood may be particularly important in predicting social cohesion in commodity housing. According to locals and migrants in the three neighbourhood types, the significant associations between the perceived character of the neighbourhood and dimensions of social cohesion for locals and migrants in the three neighbourhood types are explored in the following section.

Table 7.7 Evidence of the association between the perceived character of the neighbourhood and dimensions of social cohesion with intervening indicators considered

Dimensions of social cohesion	Overall	Villages	Redeveloped villages	Commodity housing
Social interaction	++	+		
Sense of community	+++	++	+++	+++
Participation in organised activities	+	+		++
Sense of place attachment	+++	++	++	++++

+++++ Very strong ++++ Strong +++ Neither strong nor weak ++ Weak + Very weak

7.2.4.1 The perceived character of the neighbourhood and social interaction

The correlation analyses (Appendix D: Table D.37) find a positive association between the perceived character of the neighbourhood and social interaction for locals in villages only. The interview analyses (Appendix G: Table G.71) show that almost 60% of the sample agree that there would be a positive association between the perceived character of the neighbourhood and social interaction for locals living in villages. These findings indicate that this socio-spatial feature is an important predictor of social interaction in villages.

7.2.4.2 The perceived character of the neighbourhood and sense of community

There are positive and significant correlations between the perceived character of the neighbourhood and the sense of community for locals and migrants in the three neighbourhood types in the correlation analyses (Appendix D: Table D.38). These findings suggest that locals or migrants who state that their built environment has a character are likely to report a stronger sense of community in the three neighbourhood types. Moreover, Table 7.8 shows that the extent of the association between the perceived character of the neighbourhood and sense of community for locals and migrants is not strong in the three neighbourhood types.

7.2.4.3 The perceived character of the neighbourhood and participation in organised activities

A very weak and positive correlation exists between the perceived character of the neighbourhood and participation in organised activities for locals and migrants in villages, and for migrants only in commodity housing (Appendix D: Table D.41and Table 7.8). These findings indicate that the perceived character of the neighbourhood is a very weak predictor of residents' participation in activities in villages and commodity housing.

7.2.4.4 The perceived character of the neighbourhood and sense of place attachment

The perceived character of the neighbourhood is positively and significantly correlated with residents' place attachment for locals and migrants in the three neighbourhood types in the correlation analyses (Appendix D: Table D.40), suggesting that when the perceived character of the neighbourhood is stronger, place attachment felt by locals or migrants is also stronger. Furthermore, Table 7.8 shows evidence of the association between these variables for locals and migrants in the three neighbourhood types individually.

Table 7.8 Evidence of the association between the perceived character of the neighbourhood and dimensions of social cohesion for locals and migrants in the three neighbourhood types individually

Dimensions of social cohesion	Villages		Redeveloped villages		Commodity housing	
	Locals	Migrants	Locals	Migrants	Locals	Migrants
social interaction	+++					
Sense of community	++	++	+++	++	+++	+++
Participation in organised activities	+	+				++
Place attachment	++	++	+++	++	++++	+++

+++++ Very strong ++++ Strong +++ Neither strong nor weak ++ Weak + Very weak

7.2.4.5 Summary: the perceived character of the neighbourhood

Table 7.17 reveals that there are very weak associations between the perceived character of the neighbourhood and social cohesion for locals and migrants in villages and redeveloped villages, indicating that other socio-spatial features of neighbourhoods may have a stronger influence on residents' social cohesion than the perceived character of the neighbourhood in the two neighbourhood types. Moreover, the correlation between the perceived character of the neighbourhood and social cohesion for locals and migrants in commodity housing is the strongest in the three neighbourhood types, suggesting that the perceived character of commodity housing is the strongest factor in predicting social cohesion in all neighbourhood types. It may be because the quality of commodity housing is the highest in the three neighbourhood types, and the character of commodity housing is part of the quality of neighbourhoods. This may indicate that the perceived character of commodity housing is also the highest in the three neighbourhood types.

7.2.5 Attractiveness and social cohesion

Three dimensions of social cohesion are significantly associated with the level of attractiveness in general and for villages and redeveloped villages. These dimensions are the sense of community, feelings of safety, and sense of place attachment (see Table 7.9). In commodity housing, the sense of community and the sense of place attachment are associated with the level of attractiveness.

Table 7.9 Evidence of the association between attractiveness and dimensions of social cohesion with intervening indicators considered

Dimensions of social cohesion	Overall	Villages	Redeveloped villages	Commodity housing
Sense of community	+++	+++	+++	+++
Feelings of safety	+++	+++	+++	
Sense of place attachment	+++	+++	++	+++

+++++ Very strong ++++ Strong +++ Neither strong nor weak ++ Weak + Very weak

7.2.5.1 Attractiveness and sense of community

The correlation analyses (Appendix D: Table D.38) find that positive and significant correlations exist between subjective indicators measuring attractiveness and sense of community for locals and migrants in villages, redeveloped villages and commodity housing. These results are confirmed by the interview analyses (Appendix G: Table G.75), which reveal that over 55% of the sample state positive and significant correlations between these indicators for locals and migrants in the three neighbourhood types. These findings suggest that the higher

locals or migrants state the appearance of their built environment, the more likely they are to express a stronger sense of community in all neighbourhood types. Table 7.10 presents evidence of correlations between attractiveness and sense of community for locals and migrants in the three neighbourhood types.

7.2.5.2 Attractiveness and feelings of safety

There are positive and significant correlations between indicators (both objective and subjective indicators) measuring attractiveness and sense of safety for locals and migrants in villages and redeveloped villages (Appendix D: Table D.39and Table 7.10), suggesting that a more attractive neighbourhood can increase locals or migrants' sense of safety in the two neighbourhood types.

7.2.5.3 Attractiveness and place attachment

The correlation analyses find significant and positive correlations between subjective indicators measuring attractiveness and sense of pace attachment for locals and migrants in the three neighbourhood types (Appendix D: Table D.40 and Table 7.10), indicating that locals or migrants who rate that the appearance of their built environment is high tend to perceive a stronger place attachment in all neighbourhood types.

Table 7.10 Evidence of the association between attractiveness and dimensions of social cohesion for locals and migrants in the three neighbourhood types individually

Indicators	Villages		Redeveloped villages		Commodity housing	
	Locals	Migrants	Locals	Migrants	Locals	Migrants
Sense of community	++	+++	+++	++	+++	+++
Sense of safety	+++	+++	++	+++		
Place attachment	++	+++	++	++	+++	+++

+++++ Very strong ++++ Strong +++ Neither strong nor weak ++ Weak + Very weak

7.2.5.4 Summary: attractiveness

Table 7.17 shows that significant and positive associations exist between residents' perceptions of the attractiveness of their neighbourhood and social cohesion in the three neighbourhood types. Furthermore, the strength of associations between residents' perceptions of the attractiveness of their neighbourhood and social cohesion for locals and migrants is similar in the three neighbourhood types.

7.2.6 Legibility and social cohesion

Social interaction, participation in activities and trust are significantly associated with the level of legibility in general and for villages, and legibility positively contributes to social interaction and participation in activities in redeveloped villages and commodity housing (Table 7.11). Moreover, the level of legibility has a very weak association with participation in organised activities in the three neighbourhood types, suggesting that other socio-spatial features of neighbourhoods have a more important impact on participation in activities than the level of legibility.

Table 7.11 Evidence of the association between legibility and dimensions of social cohesion with intervening indicators considered

Dimensions of social cohesion	Overall	Villages	Redeveloped villages	Commodity housing
Social interaction	++	++	+	+
Participation in organised activities	+	++	++	+
Trust and reciprocity	+++	+		

+++++ Very strong ++++ Strong +++ Neither strong nor weak ++ Weak + Very weak

7.2.6.1 Legibility and social interaction

The correlation analyses (Appendix D: Table D.37) find that a weak correlation exists between these indicators for locals living in villages and redeveloped villages, and for migrants living in villages and commodity housing, indicating that as the numbers of landmarks and rating of nodes increase, social interaction increases as well (Table 7.12).

7.2.6.2 Legibility and participation in organised activities

A very weak correlation is found between the level of legibility and participation in organised activities for locals and migrants in villages and commodity housing, while a significant correlation exists between these indicators for locals living in redeveloped villages only (Appendix D: Table D.41 and Table 7.12).

7.2.6.3 Legibility and trust and reciprocity

The correlation analyses show that there are positive and weak correlations between the level of legibility and trust for migrants in villages only (Appendix D: Table D.42 and Table 7.12), indicating that migrants are likely to report more trust where the legibility of the neighbourhood increase in villages. Peters et al. (2010) argue that the legibility of a park can increase users' social interaction. When people's social interaction increases, they may express more trust in

each other.

Table 7.12 Evidence of the association between legibility and dimensions of social cohesion for locals and migrants in the three neighbourhood types individually

Dimensions of social cohesion	Villages		Redeveloped villages		Commodity housing	
	Locals	Migrants	Locals	Migrants	Locals	Migrants
Social interaction	++	++	++			++
Participation in organised activities	++	++	+++		++	+
Trust and reciprocity		++				

+++++ Very strong ++++ Strong +++ Neither strong nor weak ++ Weak + Very weak

7.2.6.4 Summary: legibility

Table 7.17 shows that there are positive associations between legibility and social cohesion for locals in the three neighbourhood types, and for migrants in villages and commodity housing. The level of legibility is positively related to social interaction (Moulay et al., 2017), indicating that when the level of legibility is high, social interaction increases as well. People's social interaction contributes to more trust with each other and improves social cohesion (Buonfino and Hilder, 2006; Guest, 2008). In redeveloped villages, no correlation between these variables is significant for migrants, suggesting that other socio-spatial features have a stronger influence on social cohesion for migrants living in redeveloped villages than the legibility of their neighbourhood.

7.2.7 Neighbourhood boundaries and social cohesion

Table 7.13 shows evidence of the association between neighbourhood boundaries and dimensions of social cohesion with intervening indicators considered in general and for redeveloped villages and commodity housing. In general and for redeveloped villages, neighbourhood boundaries are positively associated with three dimensions of social cohesion: social interaction, the sense of community and feelings of safety. In commodity housing, the sense of community and the sense of safety are positively related to physical boundaries of the neighbourhood. Residents' sense of community and sense of safety are strongly associated with neighbourhood boundaries in the two neighbourhood types individually, which suggests that neighbourhood boundaries are the important predictor for increasing residents' sense of community and feelings of safety in redeveloped villages and commodity housing.

Table 7.13 Evidence of the association between neighbourhood boundaries and dimensions of social cohesion with intervening indicators considered

Dimensions of social cohesion	Overall	Villages	Redeveloped villages	Commodity housing
Social interaction	+		+	
Sense of community	++++		++++	++++
Feelings of safety	++++		++++	++++

+++++ Very strong ++++ Strong +++ Neither strong nor weak ++ Weak + Very weak

7.2.7.1 Neighbourhood boundaries and social interaction

There is a very weak correlation between neighbourhood boundaries and social interaction for locals and migrants in redeveloped villages, and no correlation exists between these indicators for locals and migrants in commodity housing (Appendix D: Table D.37 and Table 7.14). These results suggest that physical boundaries of a neighbourhood are a very weak predictor of social interaction in redeveloped villages.

7.2.7.2 Neighbourhood boundaries and sense of community

The existence of neighbourhood boundaries contributes to the sense of community for locals and migrants in redeveloped villages and commodity housing (Table 7.14). 84% of locals and 70% migrants feel that neighbourhood boundaries would have a positive and strong effect on their sense of community in redeveloped villages, and 89% of locals and 86% migrants said that it could also have a strong and positive influence on the sense of community in commodity housing. These findings indicate that the existence of neighbourhood boundaries is very important in enhancing residents' sense of community.

7.2.7.3 Neighbourhood boundaries and feelings of safety

Neighbourhood boundaries are also positively associated with the sense of safety for locals and migrants in redeveloped villages and commodity housing (Appendix D: Table D.39 and Table 7.14). 87% of locals and 79% of migrants express that neighbourhood boundaries would strongly contribute to their safety in redeveloped villages, and 95% of locals and 97% of migrants said that it could also have a strong and positive impact on feelings of safety in commodity housing. These findings indicate that the existence of neighbourhood boundaries is also very important in enhancing residents' feeling of safety.

Table 7.14 Evidence of the association between neighbourhood boundaries and dimensions of social cohesion for locals and migrants in redeveloped villages and commodity housing

Dimensions of social cohesion	Redeveloped villages		Commodity housing	
	Locals	Migrants	Locals	Migrants
Social interaction	+	+		
Sense of community	++++	++++	++++	++++
Sense of safety	++++	++++	++++	++++

+++++ Very strong ++++ Strong +++ Neither strong nor weak ++ Weak + Very weak

7.2.7.4 Summary: neighbourhood boundaries

Table 7.17 shows that the existence of physical boundaries of the neighbourhood has a positive influence on locals' or migrants' social cohesion in redeveloped villages and commodity housing. It suggests that neighbourhood boundaries are very vital for enhancing residents' social cohesion.

7.2.8 Natural surveillance and social cohesion

The association between indicators measuring natural surveillance and residents' feelings of safety is not conclusive in general and for villages (Table 7.15). The perhaps reason is that as the extent of active frontage increases, residents staying at home may feel unsafe in villages. Moreover, just one dimension of social cohesion (like the sense of safety) is positively and significantly associated with natural surveillance in redeveloped villages and commodity housing (Table 7.15).

Table 7.15 Evidence of the association between natural surveillance and dimensions of social cohesion for locals and migrants in the three neighbourhood types individually

Dimensions of social cohesion	Overall	Villages	Redeveloped villages	Commodity housing
Feelings of safety	**¿?**	**¿?**	++	

+++++ Very strong ++++ Strong +++ Neither strong nor weak ++ Weak + Very weak ¿? evidence is not conclusive

7.2.8.1 Natural surveillance and feelings of safety

The correlation analyses (Appendix D: Table D.39) show that significant and positive correlations are found between natural surveillance and residents' sense of safety for locals and migrants in redeveloped villages only. This finding indicates that as the extent of active frontage increases, locals' or migrants' sense of safety increases as well in redeveloped villages. However, no correlations between these indicators for locals and migrants are significant in villages and commodity housing (Table 7.16). Table 7.16 shows evidence of associations between natural surveillance and feelings of safety for locals and migrants in villages, redeveloped villages and commodity housing.

Table 7.16 Evidence of the association between natural surveillance and dimensions of social cohesion for locals and migrants in redeveloped villages and commodity housing

Dimensions of social cohesion	Villages		Redeveloped villages		Commodity housing	
	Locals	Migrants	Locals	Migrants	Locals	Migrants
Sense of safety			++	+++		

+++++ Very strong ++++ Strong +++ Neither strong nor weak ++ Weak + Very weak

7.2.8.2 Summary: natural surveillance

There are significant associations between indicators measuring natural surveillance and residents' social cohesion for locals and migrants in redeveloped villages only (Table 7.17), suggesting that when the extent of active frontage increases, locals or migrants' social cohesion increases as well in redeveloped villages. However, indicators of natural surveillance are not significantly related to social cohesion for locals and migrants in villages and commodity housing (Table 7.17). The perhaps explanation is that other socio-spatial features of neighbourhoods may have a stronger impact on social cohesion than natural surveillance in villages and commodity housing.

Table 7.17 Evidence of the association between socio-spatial features of neighbourhoods and social cohesion for locals and migrants respectively in the three neighbourhood types

Socio-spatial features	Villages		Redeveloped villages		Commodity housing	
	Locals	Migrants	Locals	Migrants	Locals	Migrants
Maintenance	+++	++++	++++	+++	+++	+++
Mixed land use						
Accessibility	+++	++++	+++	++	++	++
Character	++	+	++	+	+++	+++
Natural surveillance			++	+++		
Connectedness and permeability						
Attractiveness	++	+++	++	++	++	++
Residential density						
Legibility	+++	+++	+++		+	++
Neighbourhood boundaries			+++	+++	+++	+++
Perceived quality	+++	+++	++++	++++	+++	+++

+++++ Very strong ++++ Strong +++ Neither strong nor weak ++ Weak + Very weak

From the analyses of the above information, there are five socio-spatial features of neighbourhoods improving social cohesion for both locals and migrants in the three neighbourhood types, which are the level of maintenance, accessibility, the quality of neighbourhoods, the perceived character of the neighbourhood and attractiveness. Moreover, the level of legibility can contribute to social cohesion for locals and migrants in village and commodity housing, but this socio-spatial feature can enhance social cohesion for locals only, not for migrants in redeveloped villages. The possible explanation is that other socio-spatial features of neighbourhoods can better contribute to social cohesion for migrants in redeveloped neighbourhoods. In addition, neighbourhood boundaries are a positive socio-spatial feature for

creating cohesive neighbourhoods for locals and migrants in redeveloped villages and commodity housing only. Natural surveillance can positively impact social cohesion for locals and migrants in the redeveloped village only. However, this socio-spatial feature is not found to have an influence on social cohesion for locals and migrants in villages and commodity housing. The possible explanation is that other socio-spatial features of neighbourhoods may better enhance indicators of social cohesion in the two neighbourhood types.

7.3 Interviewees' perceptions of socio-spatial features of their neighbourhood

According to the results of Chapter Six and Chapter Seven, the socio-spatial features of neighbourhoods enhancing social cohesion for the whole sample (including both locals and migrants), as well as for the sub-samples of locals and migrants respectively in the three neighbourhood types are listed as follows:

- In villages, the results in the full sample analysis, as well as in the sub-sample analysis for locals and migrants indicate that six socio-spatial features of the neighbourhood can contribute to social cohesion. They are maintenance, accessibility, the quality of neighbourhoods, the perceived character of the neighbourhood, attractiveness and legibility.

- In redeveloped villages, the full sample analysis and sub-sample analysis show that seven socio-spatial features of the neighbourhood can increase social cohesion for both locals and migrants, as well as for locals and migrants respectively. They are maintenance, accessibility, the quality of neighbourhoods, the perceived character of the neighbourhood, attractiveness, neighbourhood boundaries and natural surveillance. However, there is a weak and positive relationship between legibility and social cohesion in the full sample, and a strong and positive relationship between them in the sub-sample for locals. In contrast, this relationship is not significant in the sub-sample for migrants. The results indicate that the positive relationship identified in the full sample was mainly driven by the data for the locals. There is heterogeneity between the locals and migrants in terms of the impact of legibility on social cohesion in a neighbourhood, although the full sample analysis indicates a weak positive relationship between legibility and social cohesion. As legibility increases, social cohesion is more likely to increase for locals.

- In commodity housing, the results show that seven socio-spatial features of the neighbourhood can improve social cohesion for both locals and migrants, as well as for locals and migrants respectively. They are maintenance, accessibility, the quality of neighbourhoods, the perceived character of the neighbourhood, attractiveness, legibility, and neighbourhood boundaries.

This section provides detailed information about residents' perceptions of the above socio-spatial features of neighbourhoods enhancing social cohesion for locals and migrants in villages, redeveloped villages, and commodity housing, respectively. The questions referred to in this section can be found in the walk-along interview question schedule in Appendix C1. In this section, the thematic coding analysis is applied to understand residents' opinions because the answers provided by these interviewees are various. According to these interviewees' answers, six main themes are identified, including facilities/services, character, landmarks and nodes, attractiveness, litter, and neigbourhood boundaries.

7.3.1 Facilities/services

The provision and the quality of facilities (including main facilities and supporting facilities) are frequently mentioned by a large number of interviewees, when residents are asked regarding the level of maintenance, the level of accessibility, natural surveillance and the quality of the neighbourhood in the three neighbourhood types,

Therein, when interviewees assess the maintenance of their neighbourhood in the three neighbourhood types (Appendix C1), the quality of facilities is mentioned 3 times in villages, 3 times in redeveloped villages and 4 times in commodity housing. According to residents' elaborations, a large number of interviewees mention a lot of problems causing the low level of maintenance in the three neighbourhood types, such as the poor quality of recreational facilities, the old basketball court, the broken lights, the blocked public toilets, and so on. This further implies that these problems can be dealt with by proper management and proper design in the three neighbourhood types. Moreover, some interviewees state that the pool of their neighbourhood is too large (see Figures 7.1, 7.2 and 7.3), which increases the difficulty of maintaining this pool and reduces the proportion of activity venues. This indicates that the proportion of various lands (like planting land, recreational facilities and water area, etc.) need to be reasonable in villages, redeveloped villages and commodity housing. These views are expressed below:

Villages:

(WI09, local, Yuexi village) "…the basketball court is very old...."

(WI14, local, Shengzhou village) "…the quality of recreational facilities is very bad..."

(WI05, migrant, Changtan village) "That blocked public toilet is dirty..."

Redeveloped villages:

(WI34, local, Yufengxincun) "…the pavilion (see figure 7.4) is occupied by a lot of wood placed by a resident ..."

(WI25, migrant, Nanronghuayuan) "…the poor lighting…"

(WI27, local, Haiyuyuan) "…the quality of seats is very poor…"

Commodity housing:

(WI40, local, Lianhuawanpan) "The pool is large…reduces the proportion of activity venues… nobody maintains the pool…"

(WI41, migrant, Lianhuawanpan) "…there is always no water in the pool … a lot of rubbish in the pool…"

(WI39, local, Baifuyuan) "…seats are very old and poor…"

(WI48, migrant, Fuyiyuansiqu) "…lots of lights are broken…"

Figure 7.1 The pool in Lianhuawanpan (1)

Figure 7.2 The pool in Lianhuawanpan (2)

Figure 7.3 The pool in Lianhuawanpan (3)

Figure 7.1 The pavilion in Yufengxincun

When interviewees are answered a question (Appendix C1) regarding the accessibility of their neighbourhood in the three neighbourhood types, facilities are mentioned 4 times in villages, 3 times in redeveloped villages and 4 times in commodity housing. Some interviewees mention some inaccessible items, such as the lack of recreational facilities and supporting facilities (e.g. lighting and seating), as well as the poor quality of many facilities in the three neighbourhood types. This indicates that the level of accessibility is low when the level of maintenance is low in a neighbourhood. Moreover, two interviewees (WI40 and WI41) state that the disabled have no access to the central pavilion due to steps (Figure 7.5). This indicates that facilities and services need to be accessible for all potential users, in particular the disabled.

Villages:

(WI03, local, Changtan village) "Recreational facilities are too far from my home…I need to walk for more than half an hour…"

(WI09, local, Yuexi village) "…I heard that there is a toilet in our village, but I do not know where it is…"

(WI19, migrant, Shengzhou village) "…the number of toilets is not enough…"

(WI08, local, Yuexi village) "…The number of seats is very few..."

Redeveloped villages:

(WI20, local, Nanronghuayuan) "… it does not have good illumination…on the basket court…"

(WI24, migrant, Nanronghuayuan) "Various facilities are very few..."

(WI32, local, Yufengxincun) "…there is not a public toilet…"

Commodity housing:

(WI40, local, Lianhuawanpan) "…very few recreational facilities...children have no spaces to play in…the disabled could not access the pavilion due to lots of steps …"

(WI41, migrant, Lianhuawanpan) "…the location of the central pavilion is high, it is not accessible for the disabled..."

(WI53, migrant, Baifuyuan) "…the lack of seats and the poor quality of seats…"

(WI47, migrant, Fuyiyuansiqu) "…very few recreational facilities..."

Figure 7.5 The central pavilion in Lianhuawanpan

Figure 7.6 Lots of rubbish around bins in Baifuyuan

One question is set to measure the extent of natural surveillance in redeveloped villages and commodity housing in Appendix C1. Many interviewees state that there are lots of unsafe items, such as the bad illumination, very few security guards, the lack of cameras, and so on in the two neighbourhood types. This indicates that the level of maintenance and accessibility may influence the extent of natural surveillance in a redeveloped village and commodity housing. It also implies that these problems causing the low extent of natural surveillance can be reduced by proper maintenance and proper design in the two neighbourhood types.

Redeveloped villages:

(WI21, local, Nanronghuayuan) "…is not safe because of the bad illumination and very few cameras…"
(WI32, migrants, Haiyuyuan) "Safe…there are some security guards at night…"
(WI34, local, Yufengxincun) "…not safe…few cameras…"

Commodity housing:

(WI40, local, Lianhuawanpan) "…unsafe…about ten thefts happened... very few security guards"
(WI52, migrant, Baifuyuan) "…very few security guards…feel unsafe…"
(WI47, local, Fuyiyuansiqu) "…safe…there are 2 security guards…and many cameras…"

Another question is set to assess the quality of the neighbourhood (Appendix C1). Some interviewees state that some problems may cause the low quality of their neighbourhood in the three neighbourhood types. These problems are the lack of recreational facilities, no accessible parks and damaged facilities, and so on, such as below. This suggests that other socio-spatial features of neighbourhoods (like accessibility and maintenance) may influence the quality of

neighbourhoods in the three neighbourhood types. When the level of maintenance and accessibility is low, the quality of the neighbourhood is also low in a village, redeveloped village and commodity housing.

Villages:

(WI03, local, Changtan village) "…its quality is not good...the river stinks…just one park in this village…a lack of recreational facilities..."

(WI05, migrant, Changtan village) "…the quality is bad because of very few recreational facilities..."

(WI08, local, Yuexi village) "…the quality of our village is not good…very few fitness facilities…"

(WI14, migrants, Shengzhou village) "…I like to do the exercise using fitness facilities…but very few fitness facilities…"

Redeveloped villages:

(WI34, local, Yufengxincun) "…bad…some facilities are damaged or occupied by residents…the river is used as a place for raising chickens by residents…"

(WI25, migrant, Nanronghuayuan) "…the quality of this neighbourhood is not good…the poor quality of seats…"

(WI31, migrant, Haiyuyuan) "…not good…no security guards…the camera is not working…"

Commodity housing:

(WI42, migrant, Baifuyuan) "…not good…damaged seats…poor quality of fitness facilities…"

(WI51, local, Baifuyuan) "The quality of this neighbourhood is not good…very few seats, recreational facilities for children and fitness facilities…"

(WI46, local, Fuyiyuansiqu) "…its quality is neither good nor bad…there are some fitness facilities, but…no recreational facilities…"

7.3.2 Character

In Appendix C1, one question is set to explore the perceived character of the neighbourhood. According to interviewees' answers, five factors are mentioned about the perceived character of their neighbourhood in the three neighbourhood types, they are buildings, landscape, layout patterns, landmarks and the location of the neighbourhood. Moreover, an interviewee (WI35) state that there is a positive relationship between the landmark and the perceived character of the neighbourhood. This indicates that the perceived character of a neighbourhood may be stronger when the level of legibility is higher.

Villages:

(WI15, locals, Shengzhou village) "…does not have a character…the building style and street layouts…are similar to other…"

(WI08, locals, Yuexi village) "No…the building style… are same as other…"

Redeveloped villages:

(WI35, migrant, Yufengxincun) "Yes…the building style is different from other neighbourhoods…the mobile neighbourhood shop is a landmark…is also a character of our neighbourhood…"

(WI25, migrant, Nanronghuayuan) "…does not have a character…the building style…is similar to other neighbourhoods…"

Commodity housing:

(WI38, local, Lianhuawanpan) "Yes…the colour of the buildings is special…the height of buildings…is higher than that of other neighbourhoods."

(WI51, local, Baifuyuan) "…no obvious character…The only difference…is that buildings of our neighbourhood are older."

(WI47, migrant, Fuyiyuansiqu) "Yes…This neighbourhood is located at the end of the road...the landscape style is very ordinary…"

7.3.3 Landmarks and nodes

In Appendix C1, two indicators (landmarks and nodes) are set to ask whether their neighbourhood is legible. When interviewees assess the legibility of their neighbourhood, they always mentioned that what is the landmark of their neighbourhood, like the memorial archway, turret, the activity center, the mobile shop, kindergarten and the flower bed, and so on. This implies that the existence of landmarks in a neighbourhood is very important to increase the legibility of a neighbourhood. It is also found that the landmark of a neighbourhood can be functional, visual, or cultural items. Moreover, interviewees also suggest that the existence of nodes can increase the legibility of a neighbourhood.

Villages:

(WI07, locals, Changtan village) "…is a legible neighbourhood…the landmark is the memorial archway."

(WI12, migrants, Yuexi village) "…I and my friends often have a meeting around the memorial archway…it is a key landmark of our village…"

(WI14, locals, Shengzhou village) "This village is legible because of the turret…it is the landmark of this village."

Redeveloped villages:

(WI27, locals, Haiyuyuan) "…there is a landmark…is the activity center..."

(WI32, migrants, Yufengxincun) "…the landmark is the mobile shop…some nodes also increase the level of legibility…"

Commodity housing:

(WI37, locals, Lianhauwanpan) "…the landmark is the kindergarten…everyone knows this place…"

(WI46, local, Fuyiyuansiqu) "…the landmark is the flower bed near the gate of the neighbourhood."

(WI50, migrants, Baifuyuan) "…no landmark in this neighbourhood…so the level of legibility may be low…"

7.3.4 Attractiveness

In Appendix C1, one question is set to measure the attractiveness of the neighbourhood. The interviewees mention some factors causing the low extent of attractiveness, like too dense planting, dead plants and the lack of greenery. This implies that when the level of maintenance is low, the extent of attractiveness is also low in a neighbourhood. The two socio-spatial features of the quality have a positive association in a neighbourood.

Villages:

(WI05, migrant, Changtan village) "…the attractiveness…is very low, because there is no greenery…"

(WI08, local, Yuexi village) "…this village is not attractive…there are no plants at all on some streets..."

(WI05, migrant, Shengzhou village) "There is too little greenery…the extent of greenery impacts the attractiveness…"

Redeveloped villages:

(WI21, local, Nanronghuayuan) "The attractiveness is low…most plants are dead…"

(WI31, migrant, Haiyuyuan) "…there are many dead plants because of the lack of maintenance…"

(WI34, local, Yufengxincun) "…many plants are dead…no one takes care of these plants"

Commodity housing:

(WI51, local, Baifuyuan) "The level of greenery is very bad, because lots of green spaces are used for parking..."

(WI52, local, Baifuyuan) "A lot of trees are cut…because trees may cause a number of mosquitoes..."

(WI42, migrant, Lianhuawanpan) "These trees are planted too densely..."

7.3.5 Litter (maintenance)

Some interviewees mention the extent of litter when they are asked regarding the level of maintenance in their neighbourhood (Appendix C1). This further implies that these problems can be dealt with by proper management and proper design.

Villages:

(WI08, local, Yuexi village) "…the rubbish is placed in disorder around the door of each house... Streets placing the rubbish seem to be dirty..."

(WI14, locals, Shengzhou village) "…some streets are dirty due to the existence of rubbish…"

(WI05, migrant, Changtan village) "…the blocked public toilet is very dirty…"

Redeveloped villages:

(WI21, local, Nanronghuayuan) "The household waste is very smelly…"

(WI31, migrant, Haiyuyuan) "…some places placing the rubbish are dirty…cleaners need to clean up the garbage once a day…"

(WI35, migrants, Yuefengxincun) "…there is rubbish on some streets…"

Commodity housing:

(WI42, migrant, Lianhuawanpan) "The maintenance…is low…there is a lot of rubbish around bins."

(WI46, locals, Fuyiyuansiqu) "…garbage should be cleaned up in time…"

(WI39, local, Baifuyuan) "…lots of rubbish around bins (see Figure 7.6)…"

7.3.6 Neigbourhood boundaries

When residents are asked regarding boundaries of their neighbourhood in redeveloped villages and commodity housing (Appendix C1), they emphasise the importance of neighbourhood boundaries and security guards. Moreover, many interviewees argue that the existence of neighbourhood boundaries and security guards can increase their feelings of safety in their neighbourhood.

Redeveloped villages:

(WI21, local, Nanronghuayuan) "…I like that my neighbourhood has boundaries…safe…"

(WI27, locals, Haiyuyuan) "…the wall and my neighbouhood and security guards are important…"

(WI32, migrants, Yufengxincun) "…it is safe…the wall is high…"

Commodity housing:

(WI46, locals, Fuyiyuansiqu) "…safe…it is closed by buildings and walls…"
(WI38, local, Lianhuawanpan) "…I hope the number of security guards should increases…the wall should be higher…"

(WI51, local, Baifuyuan) "…safe…because my neighbourhood is closed using buildings and…many security guards…"

7.4 Professionals' suggestions for creating cohesive neighbourhoods

In this section, six professionals are asked about suggestions for creating cohesive neighbourhoods according to the findings of Chapter Six and Chapter Seven through a WeChat interview (Appendix C2). These professionals consist of two landscape designers, two landscape professors and two neighbourhood managers.

When professionals are asked some questions about suggestions for creating a cohesive neighbourhood, a range of answers are provided. For this reason, the thematic coding analysis is also used to extract and understand these professionals' opinions. Generally, there are three main themes identified from these professionals' answers, which include professionals' experience in practice, life experience, and theoretical understandings.

7.4.1 Professionals' experience in practice

Some professionals involved in this research provide suggestions for creating cohesive neighbourhoods for locals and migrants through their experience in practice, including their experience in designing or in managing a neighbourhood.

1) Well-maintained neighbourhoods

In Q1 (Appendix C2), one question is set to ask professionals about suggestions to create a well-maintained village, redeveloped village and commodity housing. According to professionals' elaborations, five factors need to be considered to create well-maintained villages, redeveloped villages and commodity housing, including the quality of main facilities, the quality of supporting facilities, the quality of pavement, the extent of litter, and residents' awareness of maintenance. These are supported by some studies (Zandie et al., 2016; Prasad et al., 2018; Krellenberg et al., 2014; Cheshmehzangi et al., 2020). As a neighbourhood manager, participant WP4 argues that the level of maintenance of a neighbourhood is higher when a neighbourhood is managed in a close manner. This indicates that the level of maintenance may be positively related to the existence of neighbourhood boundaries.

(WP1, landscape designer) "…how to create a well-maintained village, redeveloped village and commodity housing…The parking spaces for motor vehicles and electric vehicles in the neighbourhood should be set reasonably, otherwise it is easy to park randomly...In the fitness facility area, some signs should be made…because the wrong usage will reduce the lifespan of fitness facilities…public toilets in the village should be cleaned in time."

(WP2, landscape designer) "From the designer's perspective, pavement materials should be durable…green spaces should be dominated by trees and grass…another important point is water features…there should be no or fewer water features in the three neighbourhood types…"

(WP3, neighbourhood manager) “The water in the pool…should be cleaned regularly to prevent the breeding of mosquitoes. The litter and graffiti should be clean in time… if the pavement is damaged the repair should be made in time…some facilities also should be inspected and repaired regularly.”

(WP4, neighbourhood manager) “With my management experience…if a neighbourhood is managed in a close manner, the maintenance of this neighbourhood may be higher…”

(WP5, landscape professor) “Firstly, the management of neighbourhood managers is a key for maintaining a neighbourhood…and then residents need to be responsible for maintaining their neighbourhood…their awareness of maintenance need to be strengthened…”

(WP6, landscape professor) “…local and durable materials should be used for some facilities, like seating… pavement materials also should be durable and easy to clean… because these materials can reduce the maintenance costs of a neighbourhood…Then, the management ability of the property company should be good…”

2) Accessible neighbourhoods

In Q2 (Appendix C2), one question is set to ask experts about suggestions to create accessible villages, redeveloped villages and commodity housing. Three factors are discussed by two landscape designers (WP1 and WP2) and two landscape professors (WP5 and WP6) for creating accessible villages, redeveloped villages and commodity housing, which include main facilities, supporting facilities and the sidewalk. Moreover, the qualities of main facilities and supporting facilities are mentioned by a landscape professor (WP6) in answering both Q1 and Q2, which indicates that the accessibility of a neighbourhood may be related to the level of maintenance in a neighbourhood. When the quality of some facilities is very poor, it may decrease the level of accessibility in a neighbourhood.

(WP1, landscape designer) “…wheelchair ramps and handrails should be provided if there are steps in the entrances and exits of the neighbourhood…Furthermore, blind signs also should be provided for blind people…”

(WP2, landscape designer) “In my opinion…In some public spaces, barrier-free passages should be provided…remember to consider disabled people, children and so on…”

(WP5, landscape professor) “…blind maps should be provided at important nodes. Some facilities, like shops, barbershops, etc… should be provided in the neighbourhood or around the neighbourhood. In addition to this, in villages…main facilities or parks should be located near the village government or other important locations...some supporting facilities, like lighting, seating and rain shelters should be considered at bus stops in villages…”

(WP6, landscape professor) “…the concept of smart technology should be integrated into the neighbourhood…self-service shopping machine should be provided in the neighbourhood... Moreover, sufficient formal or informal seating opportunities (like steps and retaining walls) should be provided for all residents…one important point is that seating arrangements should be various, like single users, couple users and family users…Parking spaces also should be sufficient for residents…the quality of facilities also influences the level of accessibility…”

3) Neighbourhoods with character

In Q3 (Appendix C2), one question is set to explore how to create a village, redeveloped village, or commodity housing with character in peri-urban areas. Two landscape designers (WP1 and WP2) and two landscape professors (WP5 and WP6) argue that a unique design theme of the neighbourhood is very important for creating a neighbourhood with character. Moreover, as a landscape professor, participant WP5 argues that the landmark of a neighbourhood is also important to create a neighbourhood with character. This indicates that the character of a neighbourhood may have a positive relationship with the level of legibility. When residents feel that their neighbourhood has a character, they are more likely to feel a high level of legibility in their neighbourhood. On the whole, a neighbourhood with character can be created through four factors, including the design theme of a neighbourhood, layout patterns, buildings and landscape elements.

(WP1, landscape designer) "In my opinion…the landscape theme of a neighbourhood should be determined...it should be consistent with architectural style and local culture…; The design of landscape elements in a neighbourhood should also be consistent with the landscape theme…in particular the main entrance of the neighbourhood…"

(WP2, landscape designer) "In my design experience, firstly, the landscape theme of the neighbourhood needs to be shown through various ways…such as using special plants, unique and brightly coloured sculptures, unique layout patterns or special materials… the landscape theme is very key to create a neighbourhood with character…"

(WP5, landscape professor) "For creating a neighbourhood with character…I think that…the landmark may be very important because it can make this neighbourhood looks unique…of course, the theme of the neighbourhood is also key…and the design of the whole neighbourhood should be consistent with the theme of the neighbourhood…"

(WP6, landscape professor) "Firstly, The neighbourhood should have a unique design theme…the new neighbourhood can be designed based on the design theme by using the irregular street layouts, local culture, etc…However, the regeneration of the existing neighbourhoods…like a village, need to blend with the existing built form and local character."

4) Attractive neighbourhoods

One question is set to ask professionals about suggestions for creating an attractive village, redeveloped village and commodity housing in Q4 (Appendix C2). The professionals' further answers indicate that plants and open spaces are important elements of attractiveness in a neighbourhood.

(WP1, landscape designer) "…residents should easily have access to open spaces on foot, in particular, old residents.…"

(WP2, landscape designer) "The design of plant landscapes should be beautiful…"

(WP3, neighbourhood manager) "…beautiful…trees should be regularly trimmed…"

(WP4, neighbourhood manager) "…an attractive neighbourood should be beautiful, clean… hedges should be trimmed in time."

(WP5, landscape professor) "…the level of maintenance may be related to the extent of attractiveness…the local and easy-to-maintain plants are recommended…"

(WP6, landscape professor) "…I think plants are a key factor…shaping plants should be avoided…"

5) Legible neighbourhoods

One question is set to ask professionals about suggestions for creating a legible village, redeveloped village and commodity housing in Q5 (Appendix C2). According to professionals' answers, the character of a neighbourhood has a close and positive relationship with the level of legibility. This indicates that when residents feel that their neighbourhood has a character, the level of legibility of this neighbourhood perceived by residents may be high. Furthermore, a landscape designer (WP2) and a landscape professor (WP5) argue that landmarks and nodes can crease the legibility of a neighbourhood. Ujang et al., (2018) also emphasise that the existence of landmarks and nodes is very important to increase the legibility of the neighbourhood.

(WP1, landscape designer) "In villages, redeveloped villages and commodity housing, Architectural style and landscape style should be consistent and prominent…these can increase the legibility of a neighbourhood."

(WP2, landscape designer) "…Firstly, we should investigate the surrounding neighbourhoods… we need to design a neighbourhood that is different from other surrounding neighbourhoods. A legible neighbourhood should be unique, special and unforgettable…landmarks and nodes can also increase the legibility of a neighbourhood…"

(WP3, neighbourhood manager) "…when there is a character in villages, redeveloped villages and commodity housing commodity, which can increase the legibility of these neighbourhoods."

(WP4, neighbourhood manager) "…if buildings' colour in a neighbourhood is different from other neighbourhoods, this neighbourhood is legible…people can remember this neighbourhood easily…"

(WP5, landscape professor) "For creating a legible village, redeveloped village and commodity housing, a design theme needs to be set in these neighbourhoods…buildings and landscape should be designed according to this design theme…there are also landmarks and nodes in these neighbourhoods, which should be consistent with the design theme…the landmark is very important…it should be located at the entrance of the neighbourhood or the centre of the neighbourhood…"

(WP6, landscape professor) "…the character of a neighbourhood can increase the level of legibility… As I said in Q3, a unique design theme is important to creating a neighbourhood with character…"

6) Neighbourhoods with boundaries

In Q6 (Appendix C2), one question is set to explore how to create a redeveloped village or commodity housing with boundaries in the peri-urban areas. The professionals involved in this research suggest that guards should be provided in the two neighbourhood types. Furthermore, materials of neighbourhood boundaries should be visual and acceptable for all residents, including locals and migrants.

(WP1, landscape designer) "…a neighbourhood can be closed by using boundary wall, river, green fence, buildings…the gated neighbourhood can improve social cohesion for locals and migrants…"
(WP2, landscape designer) "…a gated neighbourhood can be closed by various materials, like buildings, green fence…"
(WP3, neighbourhood manager) "…guards are very important for a gated neighbourhood, whether redeveloped villages or commodity housing…"
(WP4, neighbourhood manager) "Every gated neighbourhood should be equipped with security guards, which can improve the residents' sense of security…"
(WP5, landscape professor) "…the provision of security guards is important for gated neighbourhoods…For large neighbourhoods, more secondary entrances can be established..."
(WP6, landscape professor) "…materials of neighbourhood boundaries can be the river, green fence, buildings, etc…the enclosing methods of neighbourhoods should be diverse and visual…"

7) Safe neighbourhoods

One question is set to ask professionals about recommendations for creating a safe redeveloped village in Q5 (Appendix C2). According to professionals' explanations, a safe neighbourhood should be closed by neighbourhood boundaries, and security guards should be provided in the neighbourhood. These explanations indicate that neighbourhood boundaries have a positive association with natural surveillance. Moreover, some professionals offer suggestions for creating a safe neighbourhood from other factors, including the front facade of buildings, cameras and face recognition system. This implies that natural surveillance is positively related to the level of maintenance and accessibility in a neighbourhood. Moreover, the participant (WP6) suggests that visually attractive streets can increase residents' sense of safety. This indicates that there may be a positive relationship between the extent of attractiveness and the natural surveillance in a neighbourhood.

(WP1, landscape designer) "…using the "face swipe" or "card swipe"…can create a safe redeveloped village…"

(WP2, landscape designer) "To create a safe redeveloped village…the closed management of the neighbourhood is recommended…using face recognition system…can improve the level of safety…"

(WP3, neighbourhood manager) "…security guards must be provided in a safe neighbourhood…"

(WP4, neighbourhood manager) "The provision of security guards is the most important factor to create a safe neighbourhood…and then the provision of cameras is also important…"

(WP5, landscape professor) "…there may be two ways to create a safe neighbourhood…buildings of the neighbourhood should face streets and sidewalks…"

(WP6, landscape professor) "…Firstly, many elements can improve residents' sense of safety in redeveloped villages, like cameras and security guards, etc…Secondly, buildings, doors and windows should face streets…Thirdly, the visually attractive and interesting streets may also increase people's sense of safety… "

8) High-quality neighbourhoods

The last question is set to ask professionals about recommendations for creating a high-quality village, redeveloped village and commodity housing in Q8 (Appendix C2). Experts involved in this research state that an attractive, well-maintained and accessible neighbourhood may be high-quality. This suggests that the above socio-spatial features of neighbourhoods (like accessibility, maintenance, attractiveness, etc.) may positively influence the quality of neighbourhoods in the three neighbourhood types.

(WP1, landscape designer) "A high-quality neighbourhood should be modern…the provision of various facilities should be adequate…the pedestrian and vehicle diversion system is used…"

(WP2, landscape designer) "…various recreational facilities and fitness facilities are provided for residents of different age groups…the landscape design of the neighbourhood should be reasonable…the removal of the rubbish is very timely…"

(WP3, neighbourhood manager) "…a high-quality neighbourhood should be clean, attractive, accessible…"

(WP4, neighbourhood manager) "…the landscape of the neighbourhood should be beautiful… a good neighbourhood must be clean and well-maintained…"

(WP5, landscape professor) "…the answer of this question may be positively related to those socio-spatial features mentioned earlier…For example, if the level of maintenance is high, the quality of the neighbourhood is also high…if the quality of a neighbourhood is high, this neighbourhood should also be attractive…"

(WP6, landscape professor) "…a high-quality neighbourhood should be well-maintained, accessible, attractive, and so on in China…"

7.4.2 Professionals' life experience

Some suggestions for creating cohesive neighbourhoods for locals and migrants are also provided by some professionals involved in this research through their life experiences.

1) Well-maintained neighbourhoods

According to two neighbourhood managers' suggestions (WP3 and WP4) for creating a well-maintained neighbourhood, the design of some facilities or public spaces should suit the preferences of both local and migrant residents, especially in the redeveloped villages. Because most locals in the redeveloped villages still retain some life habits of farmers (Wang et al., 2017), some of them like to raise chickens/ducks or grow vegetables around their houses. When they cannot find some spaces to do these things, they may privately occupy or destroy some public facilities or spaces. This may reduce the level of maintenance in the neighbourhood.

(WP3, neighbourhood manager) "In my redeveloped village…some facilities…like the pavilion. It is occupied by villagers to store things or raise chickens/ducks…I think that the existence of some facilities should consider users' usage requirements."

(WP4, neighbourhood manager) "In my friend's redeveloped neighbourhood…some locals raise ducks under the flower shelf, which is too dirty…I do not like to go there in the evening, because the lighting is poor in his neighbourhood."

2) Accessible neighbourhoods

As a neighbourhood manager, the participant WP3 argues that the accessibility of parking is very important. In urban and peri-urban areas, high-density development often indicates relatively limited parking provision (Burton, 2001). The Participant WP3 suggests that the underground parking lot should be recommended when the neighbourhood cannot offer adequate parking spaces on the ground.

(WP3, neighbourhood manager) "In my neighbourhood, parking spaces are not sufficient for residents, this is a serious problem for us…my suggestion is that the underground parking garages should be recommended…"

7.4.3 Professionals' theoretical understandings

Theoretical understandings are mainly based on the existing information from the academic literature or policy documents. Professionals involved in this research provide some suggestions to create a cohesive neighbourhood according to their theoretical knowledge.

1) Accessible neighbourhoods

Two landscape designers' answers (WP1 and WP2) to Q2 (Appendix C2) according to the existing documents are that the sidewalk ramp needs to be considered in villages, redeveloped villages and commodity housing. The sidewalk ramp has an important influence on the accessibility of a neighbourhood (Prasad et al., 2018). The sidewalks may impact casual

interaction by increasing the opportunities for walking (Michael et al., 2006; Wilkerson et al., 2012).

> (WP1, landscape designer) "The sidewalk ramp needs to be less than 2.5%… I mean… in villages, redeveloped villages and commodity housing. This regulation comes from the standard for urban residential area planning and design…it was published by the Ministry of Housing and Urban-Rural Development (2018)…"
>
> (WP2, landscape designer) "Regarding the accessibility of a neighbourhood…The sidewalk ramp is a key consideration…I think that some existing books about landscape design are useful for landscape designers…I often use the recommendations of some existing studies or books…"

2) Neighbourhoods with character

As a landscape professor, the participant WP6 indicates that a neighbourhood with character can be created by using irregular street layouts, and street blocks can be of varying short lengths.

> (WP6, landscape professor) "…the new neighbourhood can be designed based on the design theme by using the irregular street layouts …According to the existing literature, …street blocks can be of varying short lengths to allow for a variety…"

7.5 Conclusion

Chapter Seven explores the socio-spatial features of the quality contributing to social cohesion in villages, redeveloped villages and commodity housing using the sub-samples of locals and migrants, respectively. Compared to the full sample analysis in the last chapter, the sub-sample analysis in this chapter provides further insights on the relationship between socio-spatial features of neighbourhoods and social cohesion based on the two groups of residents (i.e., locals and migrants). For example, one interesting finding is that there is a weak and positive relationship between legibility and social cohesion in the full sample, and a strong and positive relationship between them in the sub-sample for locals. In contrast, this relationship is not significant in the sub-sample for migrants. This finding highlights the importance of the sub-sample analysis, i.e., the results indicate that the positive relationship identified in the full sample is mainly driven by the data for the locals. There is heterogeneity between the locals and migrants in terms of the impact of legibility on social cohesion in a neighbourhood, although the full sample analysis indicates a weak positive relationship between legibility and social cohesion.

This chapter also discusses detailed information about residents' perceptions of each socio-spatial feature of neighbourhoods enhancing social cohesion, as well as professionals'

suggestions about how to create a cohesive village, redeveloped village and commodity housing. In addition, recommendations for neighbourhood planners, designers and property managers regarding how to create a socially cohesive village, redeveloped village, and commodity housing respectively will be made in Chapter Eight.

Chapter 8 Conclusion

8.1 Introduction

This chapter is organised as follows. Section 8.2 shows the summary of this research. Section 8.3 outlines the contributions to knowledge made by this thesis. Section 8.4 summarises the main findings on the impacts of socio-spatial features of quality of the neighbourhood on social cohesion for the whole sample (including both locals and migrants), as well as for the sub-samples of locals and migrants respectively in villages, redeveloped villages and commodity housing. Section 8.5 makes recommendations to neighbourhood planners, designers and property managers in peri-urban areas in China regarding how to help create a socially cohesive neighbourhood in the three neighbourhood types. Section 8.6 explains the limitations of this research. Section 8.7 discusses the scope of future work. Section 8.8 provides concluding remarks.

8.2 Overview of the research contribution

In this research, a number of significant relationships between the socio-spatial features of peri-urban neighbourhoods and the social cohesion for locals and migrants are explored in the peri-urban areas in Guangzhou. The research aim of this study is addressed by achieving four objectives as follow:

1) To identify socio-spatial features of the quality of neighbourhoods in the peri-urban areas of Panyu District;
2) To define social cohesion in neighbourhoods in the Chinese peri-urban context;
3) To examine which socio-spatial features of the peri-urban neighbourhoods, if any, contribute to social cohesion;
4) To make recommendations for landscape planners, designers and property managers of new and existing neighbourhoods to enhance social cohesion in peri-urban China.

To achieve the above research objectives, the following research process was applied. Firstly, the literature review was conducted to a) identify socio-spatial features of the quality of neighbourhoods in the peri-urban areas, b) determine dimensions of social cohesion, and c) explore the suitable methods of collecting and analysing data. Secondly, three research methods were employed to collect data, including site survey, household questionnaire survey and walk-along interview. These data are concerning socio-spatial features of the quality of

neighbourhoods, dimensions of social cohesion, and intervening variables. Thirdly, all data collected were analysed by employing descriptive analysis, correlation, regression and content analyses. Finally, the WeChat interview was applied to discuss recommendations regarding how to create a socially cohesive village, redeveloped village and commodity housing respectively for neighbourhood planners, designers and property managers in light of future urbanisation in peri-urban China.

8.3 Contributions to knowledge

The existing literature argues that high-quality built environments may engender a higher level of social cohesion, like a higher sense of safety, a higher sense of community, a higher level of trust, and a higher place attachment (Moulay and Ujang, 2016; Zhang and Zhang, 2017; Lu et al., 2018; Duchowny et al., 2020). This study provides empirical evidence to test these claims in the Chinese peri-urban context which has not been done before now.

In the peri-urban areas in China, there are substantial differences between locals and migrants, which can result in clashes between these two groups (Qian et al., 2012). However, there is very little literature on how social cohesion may occur between different groups, such as locals and migrants. This research contributes to sociological research by examining dimensions of social cohesion based on two groups of residents (locals and migrants). To ascertain the impacts that socio-spatial features of the quality of the neighbourhood have on the level of social cohesion, the three neighbourhood types lived in by both locals and migrants in rapidly urbanising peri-urban neighbourhoods in Panyu District are selected, according to the ratio of migrants (i.e. a high percentage of migrants, 50:50 migrants and locals, and a low percentage of migrants in each neighbourhood), housing types, age of neighbourhood and the number of households. The specific detailed reasons for choosing these neighbourhoods are provided in Section 3.2.2. This study provides the extent and nature of the associations between socio-spatial features of quality of the neighbourhood and social cohesion for locals and migrants in villages, redeveloped villages and commodity housing. The results of this research seem to support existing policy, practice, and theory to some extent. Moreover, this research contributes to the existing literature by making comparisons of socio-spatial features of neighbourhoods, dimensions of social cohesion, as well as associations between socio-spatial features of neighbourhoods and social cohesion among the three neighbourhood types. This research also compares impacts of social-spatial features of the quality of the neighbourhood on social cohesion between locals and migrants in villages, redeveloped villages and commodity housing.

Existing empirical literature does not clearly define the concept of socio-spatial features of high-quality neighbourhoods and has not used a large number of indicators measuring these socio-spatial features in the peri-urban areas in China. This research defines the concept of socio-spatial features of high-quality neighbourhoods and identifies indicators of these socio-spatial features of the neighbourhoods at different scales. Moreover, since there is no consensus about the definition of social cohesion and its dimensions at the neighbourhood level both in political rhetoric and academic research, this study contributes to sociological research by defining social cohesion and its dimensions at the neighbourhood level within the Chinese context. In addition to this, the data regarding socio-spatial features of the neighbourhood and social cohesion are collected and analysed utilising qualitative and quantitative methods. The multi-method approach is employed in this study to measure socio-spatial features of the neighbourhood, dimensions of social cohesion, as well as the association between the quality of neighbourhoods and social cohesion.

Last but not the least, this research makes recommendations to neighbourhood planners, designers and property managers in peri-urban areas in China regarding how to create a socially cohesive neighbourhood in villages, redeveloped villages and commodity housing respectively. These recommendations are for practitioners who participate in the design, creation, or renewal of neighbourhoods in peri-urban areas in China, with a view to maximising their potential for social cohesion. The research also makes significant contributions in two crucial areas. Firstly, the study is related to the fundamental idea that an important and emergent social issue in China can be addressed by planning and design decision-making. This is one of the original and significant contributions of this study because social issues of this kind might normally be expected to be addressed through policy frameworks, politics, etc. By bringing this into urban planning and design practice discourse, this study acts to elevate the importance of planning and design practice into work more than just the delivery of urban aesthetics, for instance. Secondly, the study contributes to methodological innovation evident in drawing from complex social science arenas and translating this for application in a planning and design arena. The methodological contribution of this study is also of great significance and can be very valuable to future researchers in this field.

8.4 Socio-spatial features of neighbourhoods which contribute to social cohesion

According to the results in Chapter Six and Chapter Seven, the main findings of the socio-spatial features of neighbourhoods enhancing social cohesion for the whole sample (including

both locals and migrants), as well as for the sub-samples of locals and migrants respectively in the three neighbourhood types are summarised as follows:

- **In villages**, the results in the full sample analysis, as well as in the sub-samples analysis for locals and migrants indicate that six socio-spatial features of the neighbourhood can contribute to social cohesion. They are ***maintenance, accessibility, the quality of neighbourhoods, the perceived character of the neighbourhood, attractiveness*** and ***legibility***.

- **In redeveloped villages**, the full sample analysis and sub-samples analysis show that seven socio-spatial features of the neighbourhood can increase social cohesion for both locals and migrants, as well as for locals and migrants respectively. They are ***maintenance, accessibility, the quality of neighbourhoods, the perceived character of the neighbourhood, attractiveness, neighbourhood boundaries*** and ***natural surveillance.*** However, there is a weak and positive relationship between ***legibility*** and social cohesion in the full sample, and a strong and positive relationship between them in the sub-sample for locals. In contrast, this relationship is not significant in the sub-sample for migrants. The results indicate that the positive relationship identified in the full sample was mainly driven by the data for the locals. There is heterogeneity between the locals and migrants in terms of the impact of legibility on social cohesion in a neighbourhood, although the full sample analysis indicates a weak positive relationship between legibility and social cohesion. As legibility increases, social cohesion is more likely to increase for locals.

- **In commodity housing**, the results show that seven socio-spatial features of the neighbourhood can improve social cohesion for both locals and migrants, as well as for locals and migrants respectively. They are ***maintenance, accessibility, the quality of neighbourhoods, the perceived character of the neighbourhood, attractiveness, legibility*** and ***neighbourhood boundaries***.

The following sections provide a summary of findings on the impacts of socio-spatial features of quality of the neighbourhood on social cohesion for the whole sample (including both locals and migrants), as well as for the sub-samples of locals and migrants respectively in villages, redeveloped villages and commodity housing.

8.4.1 The need for well-maintained neighbourhoods

Existing theory and practice suggest that high-level maintenance is a socio-spatial feature of a high-quality built environment (Carmona, et al., 2007; Dempsey, 2008; Cooper et al., 2014). The results of this research show that maintenance of the neighbourhood has positive and significant associations with five dimensions of social cohesion for the full sample of both locals and migrants, as well as the sub-sample of locals and migrants respectively in villages, redeveloped villages and commodity housing, including social interaction, sense of community, participation in organised activities, sense of safety and place attachment. These positive associations are supported by existing studies (Hisyam et al., 2012; Hand *et al.*, 2012; Zhang and Zhang, 2017; Lu et al., 2018; Duchowny et al., 2020).

The strength of the association between maintenance and three dimensions of social cohesion (i.e. sense of community, feelings of safety and place attachment) for both locals and migrants is similar and strong in the three neighbourhood types, indicating that maintenance is an important predictor of these dimensions of social cohesion for locals and migrants. Moreover, a positive, but not strong association is found between maintenance and social interaction for locals and migrants in the three neighbourhood types, suggesting that other socio-spatial features of the neighbourhood may have a stronger impact on social interaction than the level of maintenance. Furthermore, the level of maintenance also has a positive and significant correlation with participation in organised activities for locals and migrants in the three neighbourhood types. An interesting finding is that the level of maintenance has a stronger impact on participation in organised activities for locals living in villages and redeveloped villages than those living in commodity housing.

Overall, these findings suggest that there are positive and significant associations between the level of maintenance and social cohesion for locals and migrants in the three neighbourhood types, indicating that when the level of maintenance is higher, residents' social cohesion for locals and migrants increase as well in the three neighbourhood types. Therefore, this research suggests that providing a well-maintained built environment can help support positive social activities for locals and migrants should be meaningful and valid in the three neighbourhood types.

8.4.2 Accessible neighbourhoods

The level of accessibility is frequently cited in many studies as a vital element of a good neighbourhood (Alawadi et al., 2020; Tang et al., 2020; Abass and Tucker, 2020; Damurski et al., 2020). In this research, accessibility of the neighbourhood is found to have positive associations with five dimensions of social cohesion for the full sample of both locals and migrants, as well as the sub-sample of locals and migrants respectively in villages, redeveloped villages and commodity housing, including social interaction, sense of community, participation in organised activities, sense of safety and place attachment. These results support the theory and practice which considers accessibility to be a factor positively associated with these dimensions of social cohesion (see Shamsuddin and Ujang, 2008; Maas et al., 2009; Tsai, 2014; Sun, 2016). Moreover, the level of accessibility is found to be positively related to the indicator of trust and reciprocity in the full sample analysis of locals and migrants and the sub-sample analysis for migrants in villages only. However, there is no indication in existing theory which claims that the indicators measuring trust and reciprocity can be affected by the level of accessibility of neighbourhoods. This points to a potential gap in knowledge in relation to how accessible the neighbourhood – and neighbours – are for migrants in the peri-urban Chinese context which requires more research.

The associations between accessibility and three dimensions of social cohesion (i.e. sense of community, sense of safety and place attachment) for locals and migrants are strong in villages, redeveloped villages and commodity housing, suggesting that accessibility is an important socio-spatial feature of neighbourhoods to contribute to these dimensions of social cohesion for locals and migrants in the three neighbourhood types. Furthermore, accessibility is found to be positively, but weakly associated with social interaction and participation in organised activities for locals and migrants in the three neighbourhood types, indicating that other influences on locals and migrants' social interaction and participation in organised activities are stronger than the accessibility. Moreover, the level of accessibility is positively related to the indicator of trust and reciprocity in the full sample analysis and the sub-sample analysis for migrants in villages only. However, no association between these variables is found to be significant in the sub-sample for locals living in villages. This indicates that the positive relationship identified in the full sample was mainly driven by the data for the migrants. There is heterogeneity between the locals and migrants in terms of the impact of accessibility on trust and reciprocity in villages, although the full sample analysis indicates a positive relationship between the two. As accessibility increases, trust and reciprocity are more likely to increase for migrants in a

village.

In general, the research shows that the level of accessibility has a strong and significant association with social cohesion for locals and migrants in villages, redeveloped villages and commodity housing. Therefore, this research suggests the design and planning for accessible neighbourhoods can contribute to improving levels of social cohesion for locals and migrants in different neighbourhood types in the peri-urban Chinese context.

8.4.3 Neighbourhoods with character

The character of a neighbourhood is often claimed that it is invariably described as a socio-spatial feature of the high-quality built environment (Barton et al., 2003; Carmona et al., 2004; Davison and Rowden 2012). The results of this research show that the character of the neighbourhood has positive associations with two dimensions of social cohesion for the full sample of both locals and migrants, as well as the sub-sample of locals and migrants respectively in villages, redeveloped villages and commodity housing, including place attachment and sense of community. These results concur with existing studies regarding the positive impact of the perceived character of the neighbourhood on the two dimensions of social cohesion (Kim and Kaplan, 2004; Zhang and Zhang, 2017). Moreover, social interaction is positively related to the perceived character of the neighbourhood for the full sample of both locals and migrants, as well as the sub-sample of locals and migrants respectively in commodity housing only. A positive association is also found between the two in the full sample analysis of locals and migrants and the sub-sample analysis for locals in villages only. This indicates that the positive relationship identified in the full sample was mainly driven by the data for the locals in villages. These results support the theory that residents who rate that the perceived character of their neighbourhood as good are more likely to interact with their neighbours (Rasidi et al., 2012). In addition, a positive, but very weak association occurs between the perceived character of the neighbourhood and participation in activities for the full sample of locals and migrants, as well as the sub-sample of locals and migrants respectively in villages only. These results are consistent with the claim that the neighbourhood could be designed to provide opportunities for communal and organized activities for residents (Moulay and Ujang, 2016). A positive association is also found between the two in the full sample analysis of locals and migrants and the sub-sample analysis for migrants in commodity housing only. This suggests that the positive relationship identified in the full sample was mainly driven by the data for the migrants.

Defining the perceived character of a place is a complex mechanism (Tewari and Beynon, 2018). However, the character of a neighbourhood should be localized and specific to the built environment under discussion (Carmona et al., 2003). To assess accurately the character of a neighbourhood, residents' opinions are used to measure this socio-spatial feature of quality. According to the results in Section 7.4.1, the level of legibility (e.g. the landmark) may have a positive relationship with the character of a neighbourhood. When residents feel that the level of legibility is high, they are more likely to feel that their neighbourhood has a character. Therefore, this research suggests that the landmark is a key element when the sense of character of a neighbourhood is created or designed through the built environment in peri-urban neighbourhoods in China.

8.4.4 Attractive neighbourhoods

The attractiveness of a neighbourhood as a socio-spatial feature of high-quality neighbourhoods is widely accepted by theorists and practitioners (Barton et al., 2003; Ettema and Schekkerman, 2016). The attractiveness of a neighbourhood is found to have positive associations with three dimensions of social cohesion for the full sample of both locals and migrants, as well as the sub-sample of locals and migrants respectively in villages and redeveloped villages, including a sense of community, sense of safety and place attachment. Moreover, two dimensions of social cohesion have a positive impact on the attractiveness of a neighbourhood for the full sample of both locals and migrants, as well as the sub-sample of locals and migrants respectively in commodity housing only, including a sense of community and place attachment. These positive associations found between the attractiveness of a neighbourhood and these dimensions of social cohesion (i.e. sense of community, feelings of safety and place attachment) support existing studies (Sakip et al., 2012; Rogers and Sukolratanametee, 2009).

In this research, the association between the objective indicator of attractiveness (i.e. the proportion of open spaces) and social cohesion is weak in villages and redeveloped villages only, and no associations are found between these variables in commodity housing. It may be because the proportion of open spaces might contribute to residents' perceptions of the extent of attractiveness. This also may be because other forms of attractiveness are more significant, including ornamentation and decoration, as well as the personalization of properties (Moughtin et al., 1999, cited by Dempsey, 2009). These aspects are not within the scope of this study because existing literature does not indicate that they may have an impact on social cohesion. However, these elements may have a direct impact on residents' opinions of attractiveness

which were not measured in this research. Therefore, further research is needed to understand the extent of attractiveness fully and the associations between the extent of attractiveness and social cohesion in neighbourhoods.

8.4.5 Legible neighbourhoods

Legibility is a socio-spatial feature of a successful place, including the neighbourhood (Shuhana and Ujang, 2012; Ujang et al., 2018), which are found to have a positive, but weak impact on social cohesion for locals and migrants in villages and commodity housing, and for locals in redeveloped villages only.

According to existing empirical studies, legible spaces can support positive social interaction among users by strengthening their attention, clarifying their perception and mental awareness towards public places (Yeung, 1996; Bounds, 2008; Ujang, 2012). This study shows that legibility is positively associated with indicators measuring positive social interaction for the full sample of both locals and migrants in the three neighbourhood types. Furthermore, a weak correlation exists between these indicators for locals living in villages and redeveloped villages, and for migrants living in villages and commodity housing, indicating that as the numbers of landmarks and rating of nodes increase, social interaction increases as well. Furthermore, the use of visual cues could increase familiarity with facilities and green spaces. As the activity spaces are more visually and physically integrated, the potential participation in activities can increase (Moulay et al., 2017). The claim is illustrated by this research. There are positive and weak correlations between legibility and participation in organized activities in the full sample analysis for both locals and migrants in the three neighbourhood types. A positive correlation is also found between these variables for locals and migrants in villages and commodity housing and for locals living in redeveloped villages only. In addition, this research shows a positive and weak correlation between legibility and feelings of trust in the whole sample analysis for both locals and migrants and the sub-sample analysis for migrants in villages only. Peters et al. (2010) argue that the legibility of a park can increase users' social interaction. When people's social interaction increases, they may express more trust in each other.

Overall, the associations between legibility and social cohesion are positive and weak for locals and migrants living in villages and commodity housing and for locals living in redeveloped villages, suggesting that other socio-spatial features of the neighbourhood may better contribute to social cohesion for locals and migrants in these neighbourhoods. No correlations between

these variables are significant for migrants living in redeveloped villages, indicating that other socio-spatial features may also have a stronger influence on social cohesion for migrants living in redeveloped villages than the legibility of their neighbourhood. Therefore, this research suggests that a legible neighbourhood can improve social cohesion for locals and migrants in the three neighbourhood types. However, further research is needed to understand the level of legibility fully because the indicators of legibility are just related to the neighbourhood scale.

8.4.6 The importance of boundaries

Although physical neighbourhood boundaries such as walls and gates are commonly criticised in Western contexts, gated neighbourhoods are regarded as a highly desirable housing form among habitants in the context of China (Yip, 2012). In China, neighbourhood boundaries are widely accepted by residents living inside and outside neighbourhoods (Breitung, 2012). In this research, there are positive and strong associations between neighbourhood boundaries and two dimensions of social cohesion for the full sample of both locals and migrants, as well as the sub-sample of locals and migrants respectively in redeveloped villages and commodity housing only, including sense of community and sense of safety. These results support the claim that the physical boundaries of a neighbourhood significantly and positively affect residents' sense of community and sense of safety (Yip, 2012; Breitung, 2012; Rafiemanzelat, 2016). Moreover, neighbourhood boundaries have a positive, but weak impact on social interaction in the full sample analysis and the sub-sample analysis in redeveloped villages only. The results are supported by existing studies (Tezel, 2011; Mousavinia et al., 2019). However, no correlation exists between these indicators in the full sample analysis and the sub-sample analysis in commodity housing, indicating that other socio-spatial features of the neighbourhood may better contribute to social interaction in commodity housing.

Overall, the research indicates that the existence of neighbourhood boundaries has a significant association with social cohesion for locals or migrants in redeveloped villages and commodity housing. Therefore, this research suggests that the existence of neighbourhood boundaries is important to improve social cohesion for locals and migrants in the two neighbourhood types, challenging the broad conclusions in western research.

8.4.7 Safe neighbourhoods

Natural surveillance is a socio-spatial feature of a high-quality neighbourhood (Jamme et al., 2018; Jacobs and Cherbonneau, 2019). In the Chinese context, there are very few studies that discuss natural surveillance. However, a vast body of literature states that there is a positive association between natural surveillance and safety in Western contexts (Foster et al., 2016; Dong, 2017; Mousavinia et al., 2019). This claim is supported by the results of this research finds that a positive and significant correlation exists between natural surveillance and a sense of safety for the full sample of both locals and migrants, as well as the sub-sample of locals and migrants respectively in redeveloped villages only. However, the associations between natural surveillance and social cohesion do not exist in commodity housing, indicating that other socio-spatial features of the quality may better contribute to social cohesion in commodity housing.

Overall, natural surveillance can contribute to social cohesion for locals and migrants in redeveloped villages. Therefore, this research suggests that safe neighbourhoods as a way of increasing social cohesion for locals and migrants might be useful in redeveloped villages only.

8.4.8 High-quality neighbourhoods

Residents' perceptions of the quality of their built environment are regarded as a socio-spatial feature of high-quality neighbourhoods (Gao et al., 2016; Chen and Lin, 2016; Jing et al, 2020). This research finds that positive and strong correlations exist between respondents' perceptions of the quality of the neighbourhood and three dimensions of social cohesion in the full sample analysis and the sub-sample analysis in the three neighbourhood types, including sense of community, feelings of safety and place attachment. These findings support the claim that a high-quality neighbourhood can strengthen residents' sense of community, sense of safety and place attachment (Francis et al., 2012; Sun, 2016; Weimann et al., 2017; Zhang and Zhang, 2017; Van der et al., 2019; Wu et al., 2019). These results indicate that the quality of neighbourhoods is a relatively important predictor of residents' sense of community, sense of safety and place attachment for locals and migrants in all neighbourhood types.

This study also reveals that there are positive, but weak associations between respondents' perceptions of the quality of the neighbourhood and social interaction in the whole sample analysis in villages and redeveloped villages only. This finding supports the theory that residents who rate their built environment as a good neighbourhood to live in are more likely to interact with their neighbours (Nash and Christie, 2003; Lloyd et al., 2016). Moreover, a

positive, but weak, correlation exists between these variables for the sub-sample of locals and migrants respectively in redeveloped villages only. However, no correlations between the quality of neighbourhoods and social interaction are significant in the sub-sample analysis in villages and commodity housing, indicating that other socio-spatial features of neighbourhoods may have a stronger influence on social interaction than the quality of neighbourhoods for locals and migrants in the two neighbourhood types.

Residents' opinions of the quality of their neighbourhood are significantly associated with the level of maintenance and the extent of attractiveness (Carmona et al., 2004, p. 25; Dempsey, 2009; Franci et Al., 2012; Su et al., 2014; Koohsari et al. 2013; Kemperman and Timmermans, 2014). Therefore, this research recommends that both improving residents' perceived quality and the physical quality of public spaces within a neighbourhood are important to enhance social cohesion for locals and migrants in the three neighbourhood types.

8.4.9 High-density and mixed-use neighbourhoods

Residential density is a key socio-spatial feature of the built environment (Forsyth et al., 2007; Wang et al., 2019). Sivam et al., (2012) argue that sustainability could be achieved through a high-density form of residential developments. In rapidly developing Asian countries, like China, most neighbourhood planners and local governments endorse a compact city approach associated with the high-density built environment. In fact, at the city scale, it is considered to be the most sustainable choice due to population growth and land scarcity (Zhu, 2012; Bardhan et al., 2015; Shi and Yang, 2015; Wang and Shaw, 2018). However, there is an increasing concern that high density in China is leading to negative social consequences (Wang and Shaw, 2018). According to Wang et al., (2019), residential density is negatively related to the participation of residents' social activity. In western countries, whilst high-density development is seen to be more sustainable, this could not be confirmed in China (Wang and Shaw, 2018).

Mixed land use, linked to high density, is widely identified as an important socio-spatial feature of sustainable neighbourhoods (Burton, 2002; Burton and Mitchell, 2006; Grant, 2005; Foord, 2010). The high-density neighbourhood has a positive effect on the extent of mixed uses (Hajna et al., 2015). The extent of mixed uses is an essential premise of the popular paradigms of sustainable development and new urbanism (Bernick and Cervero, 1997). In China, although mixing land uses is also an important planning strategy of land-use planning in recent years (Wu et al., 2018), the concept of mixed land use is not defined by the existing planning

management system, and its corresponding management model is not included in policy (Shi and Yang, 2015).

In this research, residential density is not found to affect social cohesion in the whole sample analysis in villages, redeveloped villages and commodity housing. Moreover, the extent of facilities is not related to social interaction in the whole sample analysis in any of the three neighbourhood types. Although these results call into question the claim that the mixed-use built environment would increase the opportunities for social interaction (Bahadure and Kotharkar, 2015), it does not disprove the claim that mixed-use neighbourhoods can be cohesive. Furthermore, there is a negative association between the extent of facilities and feelings of safety in the whole sample analysis in villages only. Such a result supports existing studies that when the number of facilities increases, residents' sense of safety decreases (Wilcox et al. 2004; Baum et al., 2015; Dong, 2017). In redeveloped villages and commodity housing, mixed land uses are not found to be related to feelings of safety in the whole sample analysis. Overall, residential density and mixed land use are not found to have a positive association with social cohesion for locals and migrants in the three neighbourhood types. Caution is necessary in interpreting the findings in this research because of the neighbourhood scale of these variables, skewing the results due to the small number of cases. In the future, more neighbourhoods need to be selected to explore these associations. Therefore, this research does not recommend that high-density and mixed-use neighbourhoods can enhance social cohesion for locals and migrants in the three neighbourhood types.

8.4.10 Connected and permeable neighbourhoods

Connectedness and permeability are described as a socio-spatial feature of the high-quality built environment (Aldous, 1992; Moughtin, C., 2003; Cozens, 2011). Many proposals of urban block size support small blocks. For instance, Carmona et al., (2010) state that small block sizes provide pedestrians with more route choices through the layout of paths, streets and roads. However, other academics discuss the relevance of larger blocks. For example, Vialard (2012) shows that smaller blocks can produce less diversity in terms of buildings size and shape. However, there is not any research into this in China.

This research finds that the connectedness of a neighbourhood is negatively associated with residents' perceived safety in the whole sample analysis in all neighbourhood types. Such results support the claim that there is a negative relationship between these variables (Dong,

2017). Moreover, Abdullah et al., (2018) and Brown and Werner (1985) argue that residents living in more connected and permeable neighbourhoods tend to have a lower level of social cohesion. This is consistent with the results of this research. Therefore, this research does not suggest that connected and permeable neighbourhoods can improve social cohesion for locals and migrants in the three neighbourhood types.

8.5 Recommendations for creating cohesive neighbourhoods in peri-urban China

Pulling together the findings already discussed in this chapter with discussions with residents and professionals involved in this research in Chapter Seven, a set of recommendations regarding how to create a socially cohesive village, redeveloped village and commodity housing are made respectively for neighbourhood planners, designers and property managers in light of future urbanisation in the peri-urban context.

8.5.1 Suggestions for creating well-maintained, accessible and attractive neighbourhoods

According to residents and professionals' answers, many socio-spatial features of neighbourhoods have a positive influence on the perceived quality of neighbourhoods, which are the level of accessibility, maintenance and attractiveness, and so on. This finding indicates that when the levels of accessibility, maintenance and the extent of attractiveness increase, the perceived quality of the neighbourhood is also improved in villages, redeveloped villages and commodity housing.

With regards to the maintenance of the neighbourhood, three indicators are used to improve residents' understanding of maintenance, including the pavement condition, the quality of facilities and the extent of litter. Most interviewees express that the level of maintenance is low because of the poor quality of main facilities (e.g. food shops, schools and supermarkets and so on) and supporting facilities. This indicates that the quality of facilities is a key indicator of maintenance in the neighbourhood. Moreover, some residents state that the extent of litter has a negative impact on the maintenance of their neighbourhood. This implies that enough sorting bins should be provided in the neighbourhood, and these bins should be placed in a prominent position. According to discussions with residents and professionals, some recommendations creating well-maintained neighbourhoods are made from the six elements, including the quality of main facilities, the quality of supporting facilities, the quality of pavement of streets, the extent of litter and graffiti, the maintenance cost, and residents' awareness of maintenance

(Table 8.1).

Considering the accessibility of the neighbourhood, both residents and professionals express that if various facilities and services could not be provided in their neighbourhood, they should be offered around their neighbourhood. These facilities and services need to be accessible for all potential users, including the elderly, disabled and young children in the neighbourhood or around the neighbourhood. Furthermore, some residents and professionals mention that some supporting facilities also impact the accessibility of the neighbourhood, such as lighting, seating, shading, signage, rain shelter, and so on. Therefore, some recommendations for creating accessible neighbourhoods are made from three factors, they are the provision of main facilities and services, the provision of supporting facilities and the sidewalk ramp (Table 8.1).

As Section 7.3.4 shows, residents state that too dense planting, dead plants and the lack of greenery can contribute to low perceptions of attractiveness in the three neighbourhood types. This indicates that the level of maintenance is an important factor affecting the extent of attractiveness, which is consistent with the finding from Dempsey's (2009) study. According to the interviews with residents and professionals, the suggestions for creating an attractive neighbourhood are shown in Table 8.1.

Table 8.1 Suggestions for creating well-maintained, accessible and attractive neighbourhoods

Indicators	Suggestions for creating well-maintained, accessible and attractive neighbourhoods	Villages	Redeveloped villages	Commodity housing
For neighbourhood designers and planners:				
Main facilities	• Main facilities should be designed to suit the preferences of both local and migrant residents.	√	√	√
	• Main facilities should be placed at a reasonable location.	√	√	√
	• In the fitness facility area or the children's playground, some signs should be made to indicate the right usage method and suitable age range, etc.	√	√	√
	• Main facilities should be provided around the neighbourhood when they cannot be offered within the neighbourhood.	√	√	√
	• Main facilities and services in the neighbourhood should be easily accessible on foot for all residents, in particular, disabled people, older people and young children.	√	√	√
	• Residents can easily reach public transport on foot in villages. • The public transport service in villages should be convenient for people (e.g., more routes, higher frequency and longer operating hours).	√		

Indicators	Suggestions for creating well-maintained, accessible and attractive neighbourhoods	Villages	Redeveloped villages	Commodity housing
	• The pedestrian-and-vehicle dividing system is recommended in the neighbourhood. Furthermore, underground parking garages are recommended when the neighbourhood cannot offer adequate parking spaces on the ground.		√	√
	• The parking spaces for motor vehicles and electric vehicles in the neighbourhood should be set reasonably and sufficiently.	√	√	√
Supporting facilities	• Local and durable materials are recommended for supporting facilities (like public seating).	√	√	√
	• The neighbourhood (particularly recreational spaces), needs to provide sufficient supporting facilities, such as lighting, seating, parking, shading, signage, public toilets, rain shelter, and so on.	√	√	√
	• Sufficient formal seating opportunities (like benches) or informal seating opportunities (like steps and retaining walls) should be provided for all residents, in particular, disabled people, older people and young children. • Public seating should be placed at a reasonable location, e.g. at the door of residents' houses (or building blocks) or in the place between two houses (or two building blocks). • Seating arrangements should be various for different users' groups, such as single users and couple users. • Public seating should be placed in both sunny and shady areas to provide different usage demands for residents.	√	√	√
	• Signs should be provided in the neighbourhood for all residents, in particular residents with vision problems.	√	√	√
	• Sun/rain shelters should be provided for potential users, in particular at the bus stops, and in recreational spaces.	√	√	√
	• Comfortable and various illuminations should be provided, in particular in the recreational spaces and by the road.	√	√	√
pavement materials	• Local, durable and non-slip pavement materials are recommended for streets and footways.	√	√	√
	• Environmentally safe and easy-to-maintain pavement materials should be used in the children's playground.	√	√	√
Maintenance cost	• The maintenance cost of the neighbourhood should be considered when new neighbourhoods are created. For example, large pools should be avoided for small neighbourhoods. • The local and easy-to-maintain plants are recommended.		√	√
Sidewalk	• The sidewalk ramp should be less than 2.5%. • Barrier-free passages should be provided at the	√	√	√

Indicators	Suggestions for creating well-maintained, accessible and attractive neighbourhoods	Villages	Redeveloped villages	Commodity housing
	entrance to the neighborhood or in recreational places.			
For neighbourhood managers:				
Main facilities	• The main facilities (particularly recreational facilities) should be inspected and repaired regularly.	√	√	√
	• For a small neighbourhood, the mobile neighbourhood shop and self-service shopping machine are recommended if commercial facilities (like shops) could not be provided in the neighbourhood and around the neighbourhood.		√	√
Supporting facilities	• Supporting facilities, like lighting, seating, public toilets and signs, and so on, should be inspected and repaired regularly.	√	√	√
Litter and graffiti	• Enough sorting bins should be provided in the neighbourhood, and these sorting bins should be placed in a prominent position.	√	√	√
	• Streets and footways should be cleaned regularly.	√	√	√
	• The clutter of streets should be reduced (like boards, adverts and building waste).	√	√	√
Pavement condition	• Pavements per street need to be inspected and repaired regularly.	√	√	√
Plants	• Hedges and trees should be regularly trimmed and cut back.	√	√	√
Residents' awareness of maintenance	• Residents' awareness of maintenance should be strengthened through education and publicity.	√	√	√
A system of reporting problems	• The property management should provide a system for residents to report problems about the quality of the neighbourhood.	√	√	√

8.5.2 Suggestions for creating legible neighbourhoods with character

With regards to the perceived character of the neighbourhood, residents and professionals involved in this research consistently mention four factors in the neighbourhood types: the design theme of a neighbourhood, layout patterns, buildings and landscape elements. Moreover, both residents and professionals argue that landmarks in neighbourhoods are also important to create a neighbourhood with character. This indicates that the character of a neighbourhood may have a positive relationship with the perceived legibility. In addition, residents and professionals state that two factors can impact the level of legibility in the three neighbourhood types, which include landmarks and nodes. Therefore, neighbourhood planners and designers should consider the following suggestions for creating legible neighbourhoods and neighbourhoods with character at the design or regeneration stage in the three neighbourhood types (Table 8.2).

Table 8.2 Suggestions for creating legible neighbourhoods with character

Indicators	Suggestions for creating legible neighbourhoods with character	Villages	Redeveloped villages	Commodity housing
For neighbourhood designer and planners:				
Design theme	• The neighbourhood should have a unique design theme.		√	√
Layout patterns	• Irregular street layouts (like various sizes and shapes of streets) should be considered. • The staggered, forked, and T-junctions should be considered as part of the layout.	√	√	√
Buildings	• The building style should be consistent with the design theme of the neighbourhood.	√	√	√
Landscape	• The landscape style should be consistent with the design theme of the neighbourhood.	√	√	√
	• The landscape elements should be consistent with the design theme of the neighbourhood. • The landscape elements can be designed by employing the following items: local culture, such as the dragon boat culture; life habits of local residents, such as drying vegetables and planting vegetables.	√	√	√
	• At least one landmark should be offered in the neighbourhood. • At least one of the landmarks should be located in a prominent position, e.g. at the entrance of the neighbourhood or the center of the neighbourhood. • Landmarks should provide a playful, visual, or rest value to all residents, in particular, disabled people, older people, and young children.	√	√	√
	• Nodes should be located in a prominent position, e.g. at the end of a road or at the corner.	√	√	√
Others	• The regeneration of the existing neighbourhoods need to blend with the existing built form and local character.	√	√	√

8.5.3 Suggestions for safe neighbourhoods

According to professionals' explanations, neighbourhood boundaries have a positive association with natural surveillance. This indicates that the two socio-spatial features can contribute to creating a safe neighbourhood. In Chapter Seven, natural surveillance is found to be related to social cohesion for both locals and migrants in redeveloped villages only. Therefore, the recommendations for improving the extent of nature surveillance are made (Table 8.3) for neighbourhood designers, planners, and property managers in redeveloped villages only. Furthermore, neighbourhood boundaries are discussed in redeveloped villages

and commodity housing only, not villages. This is because the administrative boundaries are applied in villages, rather than physical boundaries. The recommendations for creating neighbourhoods with boundaries are offered (reported in Table 8.3) for neighbourhood designers, planners, and property managers in redeveloped villages and commodity housing.

Table 8.3 Suggestions for safe neighbourhoods

Indicators	Suggestions for safe neighbourhoods	Villages	Redeveloped villages	Commodity housing
For neighbourhood designers and planners:				
Front facade of buildings	• The front facade of buildings should face streets.		√	
Streets	• The visually attractive and interesting streets are recommended to enable people to enjoy and explore. Streets can be designed through employing various items: the unique neighbourhood theme; local culture, such as the dragon boat culture; life habits of local residents, such as drying vegetables and planting vegetables.		√	
Neighbourhood boundaries	• Various materials of neighbourhood boundaries can be acceptable for residents, such as boundary walls, rivers, green fences, buildings, and so on. • Materials of neighbourhood boundaries should be visual and easy-to-maintained.		√	√
For neighbourhood managers:				
Cameras	• Surveillance cameras should be installed in the neighbourhood. They should be mainly placed at the entrance of the neighbourhood, on the boundary wall, and places having any potential risks.		√	√
Face recognition system	• The face recognition system should be recommended		√	√
Security guards	• The 24-hour security guards should be provided.		√	√

8.6 Limitations of research

In this research, the results shown in Chapters Seven and Eight are based on a small number of neighbourhoods located in Guangzhou. It can be said that there are limitations related to the specific case studies. If a study design incorporating a great number of neighbourhoods with various degrees of quality may be advantageous, but it is not possible to achieve within limited resources and time. In addition to this, care should be taken when the results of this research are applied in other cities due to many differences, like cultural differences.

Another limitation of this study is associated with the conducted statistical analyses. Socio-spatial features of the quality of the neighbourhood were reduced to a lot of independent indicators, but the influence of these independent indicators on each other cannot be considered because of the nature of these analyses which ruled out inclusions of inter-correlations and inter-relationships between independent variables. Furthermore, this limitation is also related to the types of indicators measuring the concepts. Translating some indicators (e.g. subjective measures of socio-spatial features of the quality) into meaningful and practical planning guidelines might be difficult (Llewelyn-Davies, 2000). The robustness of these indicators might be called into question when they are translated into practice or policy. Therefore, some of the findings should be regarded as tentative when indicators are operationalised at different levels.

In addition to this, time is also a limitation. Since the dimensions of social cohesion between locals and migrants are not static, they can be affected by various factors (such as people and experience) over time. Residents' length of residence has been collected and analysed in this research, but residents' (particularly migrants) diverse movement trajectories over a number of years, which have great research values (Massey and Massey, 2005, p. 55; Rishbeth and Powell, 2013), could not be collected due to time restraints and are not explored in this research. Finally, each dimension of social cohesion is surveyed based on two groups (locals and migrants), but the specific reasons regarding findings of each dimension of social cohesion between locals and migrants are not explored in this research because these aspects are beyond the scope of this study.

8.7 Scope for future work

This research was based on a small number of neighbourhoods located in Guangzhou, which can be extended to include a larger number of neighbourhoods with larger variation in socio-spatial features of the quality of their neighbourhood to explore more completely their relationships with social cohesion. Moreover, this research was only carried out in the peri-urban areas in Guangzhou. At a later date, it can be conducted in other areas (e.g. urban areas) of other cities in China. When a broader meaning of indicators for socio-spatial features of the quality of the neighbourhood is measured (e.g. legibility), the difficulties encountered should be addressed by the researcher. To illustrate this, embracing the subjective nature of such features (e.g. more indicators measuring residents' subjective opinions) could reinforce the whole research design.

Furthermore, there are other impacts on social cohesion alongside socio-spatial features of the quality of the neighbourhood. These other impacts could be developed to get a deeper understanding of social cohesion. For example, Bünte (2019) argues that residents' movement trajectories have important research values to measure social cohesion. Therefore, a qualitative study using a longitudinal approach to investigate the changing process of residents' social cohesion can be valuable for further studies.

A large number of characteristics like residents' sex, age and gender were included in this research, but there is scope to explore the influence that socio-spatial features of the quality of the neighbourhood have on specific users (e.g. disabled residents, children and teenagers) in a neighbourhood. They are specific users upon whom socio-spatial features of the quality of the neighbourhood may have a specific influence (Lin et al., 2017).

Finally, the recommendations for neighbourhood planners, designers and managers to enhance social cohesion in the three neighbourhood types are made based on the analyses of various data and discussions about suggestions with 6 professionals. Further work should evaluate the effectiveness of these strategies when they are implemented in the design or property management process.

8.8 Concluding remarks

The findings of this research suggest that there are five socio-spatial features of neighbourhoods which can improve social cohesion for both locals and migrants in the three neighbourhood types: level of maintenance, accessibility, quality of neighbourhoods, perceived character of the neighbourhood, and attractiveness. Moreover, the level of legibility can contribute to social cohesion for locals and migrants in villages and commodity housing, but this socio-spatial feature was found to enhance social cohesion for locals only, not for migrants in redeveloped villages. In addition, neighbourhood boundaries were found to be a positive socio-spatial feature for creating cohesive neighbourhoods for locals and migrants in redeveloped villages and commodity housing only. Natural surveillance can impact positively social cohesion for locals and migrants in the redeveloped village only. However, this socio-spatial feature is not found to have an influence on social cohesion for locals and migrants in villages and commodity housing. Overall, these results indicate that socio-spatial features of the quality do contribute to social cohesion for locals and migrants in villages, redeveloped villages and commodity housing, but the nature and strength of associations differ between different socio-spatial

features of the quality in these neighbourhoods. These findings are supported by existing theory, policy, and practice that socio-spatial features of the quality of a neighbourhood positively impact residents' social cohesion.

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Appendices

Appendix A. Household questionnaire survey

The University Of Sheffield.

Neighbourhood name: _____

Dear Householder

Researchers at the University of Sheffield are carrying out an important research about your neighbourhoods. This research aims to find out what is best about your neighbourhoods environment.

Your house is located within a carefully selected sample area and your responses to our questions will be highly valued and are vitally important for the project. We would very much appreciate your time and effort in filling out this questionnaire.

We would like to ask you or your spouse/partner to complete this questionnaire. (The householder is an owner/joint owner of a property or, if renting, the tenant/ joint tenant). This will take a short amount of your time, and your answers will be kept strictly confidential, private and anonymous. If you are unhappy answering any questions, please leave them blank.

Please use ticks to answer the questions. In case of any questions about this questionnaire, please contact Linyan Dai, the lead researcher of this research at LDai6@sheffield.ac.uk or Dr. Nicola Dempsey, the supervisor for this research, at N.Dempsey@sheffield.ac.uk.

Thank you in advance for your help.

First we would like to ask you some questions about your current address

1. What type of accommodation do you live in?
□ House built by locals above ground floor (accommodation)
□ House built by locals above ground floor (shops)
□ Dormitories of factories
□ Makeshift shacks in the farm land
□ Old houses just having one floor
□ Others _____
If shacks or old houses, please go to question 4.

2. How many floors are there in your house or building living by you?
Please state number: _____

3. Please answer which floor do you live in?
Please state number: _____

4. Do you (or other household member) own or rent your home?
□ Own outright
□ Own with a mortgage or loan
□ Pay rent by yourself
□ Pay part rent by employer, part rent by yourself
□ Pay rent by employer
If rent, please go to question 6.

5. If own, are there other families share rooms with you in your house?
□ Yes □ No
If yes, please go to question 7.
If no, please go to question 9.

6. If rent, are there other families share rooms with you in your accommodation?
□ Yes □ No
If no, please go to question 9.

7. Not counting your family, how many families are local or non-local in your dwelling?
Local:_____ Non-local:_____

8. How do you share your dwelling with other families? (For example, your landlord lives the ground floor, you and other families live the first and second floor.)
_____

9. How many bedrooms are there in your home?
Please state number: _____

10. Which place were you born in?
□ Hunan Province □ Hubei Province
□ Jiangxi Province □ Sichuang Province
□ Henan Province □ Hebei Province
□ Yunnan Province □ Fujian Province
□ Guangxi Province □ Hainan City
□ Guangzhou City （including Panyu）
□ Guangdong Province's other places _____
□ Others _____

11. What is your Hukou currently?
□ Guangzhou Hukou □ Non- Guangzhou Hukou
If non-Guangzhou Hukou, please go to question 13.

12. How many years do you hold the Guangzhou Hukou?
Please state number: _____

13. Do you think you are a local or migrant, why?
□ Local □ Migrant
Why? _____

14. How long have you lived in your current home?
_____ years _____ months

15. Do you expect to move from your home within the next few years?
□ Yes □ No
If no, please go to question 17.

16. If yes, why do you expect to move within the next few years?
□ Changing tenure (e.g. from renting to owning)
□ Accommodation condition
□ Location reasons
□ Job reasons
□ Economic reasons

17. If no, why do not you expect to move within the next few years?
□ Changing tenure (e.g. from renting to owning)
□ Accommodation condition
□ Location reasons
□ Job reasons
□ Economic reasons

18. Which neighbourhood is your last dwelling located?
□ Same neighbourhood
□ Others _____
If same neighbourhood, please answer question 20.

19. Why did you move here?
□ Changing tenure (e.g. from renting to owning)
□ Accommodation condition
□ Location reasons
□ Job reasons
□ Economic reasons

Now, thinking a little more about your neighbourhood, that is the area within approximately 5-10 minutes walk from your house……

20. How safe do you feel walking alone in your neighbourhood after dark?

□ Very safe □ Fairly safe □ A bit unsafe
□ Very unsafe □ Never go out alone after dark

21. Do you agree that the building of more houses （say at least twice as many） in your neighbourhood would be a good thing?

□ Strongly agree □ Tend to agree □ Neither agree nor disagree
□ Tend to disagree □ Strongly disagree

22. What effect do you think the building of more houses would have on the following?

	Positive effect	No effect	Negative effect
Appearance of the area	□	□	□
Green space	□	□	□
On-street parking	□	□	□
Interaction between locals and migrants	□	□	□
Sense of safety	□	□	□

	Increase	No effect	Decrease
Traffic levels	□	□	□
Property values	□	□	□
Pollution	□	□	□

23. How would you rate the following aspects of your neighbourhood (that is the area within 5-10 minutes walk from your home)?

	Very good	Fairly good	Neither good nor bad	Fairly bad	Very bad
Your neighbourhood as a place to live					
Attractiveness of neighbourhood					
Neighbourhood' s character					
Street lighting					
Open space and parks					
Provision of shops					
Provision of recreational facilities					
Condition of other homes/gardens s within th neighbourhood					
Overall measure of quality					

24. Where was your last place of residence?

□ Same neighbourhood □ another neighbourhood

If same neighbourhood, please go to question 26.

25. In your neighbourhood, how much of a problem are the following?

	Not a problem	Minor problem	Serious problem
Crime in the area (stole bike chicken…)			
Litter and graffiti			
Pavement condition per street			
Poor condition / quality of public space			
Lack of parking			
Amount of traffic			

26. How would you rate the following aspects of your last neighbourhood you lived in (that is the area within 5-10 minutes walk from your home)?

	Very good	Fairly good	Neither good nc bad	Fairly bac	Very bac
Your neighbourhood as a place to live					
Attractiveness of neighbourhood					
Neighbourhood' s character					
Street lighting					
Open space and parks					
Provision of shops					
Provision of recreational facilities					
Condition of other homes/gardens s within th neighbourhood					
Overall measure of quality					

27. How strongly do you agree or disagree with each of the following statements?

	Strongly agree	Tend to agree	Neither agree nor disagre	Tend to disagree	Strongly disagree
I can easily reach public transport services on foot					
I can easily access to green space on foot in the neighbourhood					
I feel safe and comfortable wating for public transport services in this neighbourhood					
Public transport is frequent and reliable in this neighbourhood					
Public transport goes when and where I want it to go					

28. Approximately how often do you use neighbourhood open space/parks for the following?

		Most days	At least once a week	At least once a month	Occasionally	Never	No access
Sport	Playing table tennis						
	Playing basketball						
	Playing football						
	Playing badminton						
	Others:						
Exercise	Walking						
	Running						
	Tai chi						
	Fitness facilities						
	Others:						
Recreation	Square dance						
	Playing poker						
	Playing mahjong						
	Playing chess						
	Others:						
Walking the dog							
Being in a natural environment							
Taking children to play							
Meeting friends/families							
Relaxing/ sitting							
Other_____							

29. How adequately do you think your neighbourhood open space/ parks provide opportunities for you to do the following?

	Completely adequate	Fairly adequate	Neither adequate nor inadequate	Fairly inadequate	Completely inadequate
Sport (Playing table tennis, basketball, football ,badminton etc)					
Exercise (walking, running and tai chi etc)					
Recreation (square dance, playing poker, mah-jong and chess etc)					
Walking the dog					
Being in a natural environment					
Taking children to play					
Meeting friends/families					
Relaxing/ sitting					
Other_____					

30. Approximately how often do you use the following services <u>in your neighbourhood</u>?

	Most days	At least once a week	At least once a month	occasionally	Don't use	Not applicable
Corner shop/ convenience store						
Temporary vegetable market						
Restaurant/ cafe/ takeaway						
Changtan Village's cultural centre						
Butcher's shop						
Motorcycle repair shop						
Bottled water store						
Hardware store						
Auto repair shops						
Internal medicine clinic						
Others						

31. In this nieghbourhood, do you think which services may be necessary?

	Please tick if you think it is necessary
Gym	
Public fitness facilities	
Children's entertainment facilities	
Supermarket/ vegetable market	
China mobile service hall	
Post office	
Library	
Internet bar	
Bank/ Automatic Teller Machine	
Others	

32. Do you think the use of the boundary wall would be good thing in your neighbourhood?

□ Strongly agree □ Tend to agree
□ Tend to disagree □ Strongly disagree

33. What effect do you think the use of boundary wall would have on the following in your neighbourhood?

	Positive effect	No effect	Negative effect
Sense of safety			
Sense of community			

34. If you are a local, do you have migrant friends or relatives?
If you are a migrant, do you have local friends or relatives?
□ Yes □ No
If no, please go to question 38.

35. Following the above question, if you are a local, how many migrant friends or relatives live in your neighbourhood? If you are a migrant, how many local friends or relatives live in your neighbourhood?
□ None □ One or two
□ Three or four □ Five or more
If none, please go to question 38.

36. Not counting the people you live with, if you are a local, how often do you see migrant friends/ relatives living in your neighbourhoods? If you are a migrant, how often do you see local friends/ relatives living in your neighbourhoods?
□ Every day / Most days □ At least once a week
□ At least once a month □ At least once a year
□ Never

37. Do you regularly see your friends and family socially in your neighbourhood? (At least once a month)
□ Yes □ No

38. If you are a local, would you like to have migrant friends in your neighbourhood?
If you are a migrant, would you like to have local friends in your neighbourhood?
□ Yes □ No
1) If yes, why?
_____
2) If no, why not?
_____

39. In your free time, which of the following activities do you undertake regularly (that is, at least once a month)?

	Within your neighbourhood	Outside your neighbourhood but within the city	Outside the city
Sports/ exercise groups (including taking part, coaching or watching)			
Adult education groups			
Local community or neighbourhood groups (including residents' associations, parent-teacher associations)			
Children's hobby groups			
Laoxiang groups			
Party members' group			
Other groups_____			

40. If you are a local, do you have migrant neighbours in your neighbourhood?
If you are a migrant, do you have local neighbours in your neighbourhood?
□ Yes □ No
If no, please answer question 40.

41. How many of your local or non-local neighbours would you say that:

	None	A few	Some	Most	All
You have a chat with / greet					
You would ask to borrow food/ tools from					
You know by name					
You avoid contact with					

42. How strongly do you agree or disagree with each of the following statements?

	Strongly agree	Tend to agree	Neither agree nor disagree	Tend to disagree	Strongly disagree
If I am a local (migrant) and need a favour, I could rely on my migrant (local) neighbours in this neighbourhood to help me					
I feel that I am unable to influence decisions in the neighbourhood					
I am proud of my neighbourhood					
Compared with other neighbourhoods, this one has many advantages					
This is a friendly neighbourhood					
I feel that I belong to this neighbourhood					
People from different backgrounds get on well together in this neighbourhood					

43. Do you agree that physically separating locals and migrants' housing in your neighbourhood would be a good thing? Why?

□ Strongly agree □ Tend to agree □ Neither agree nor disagree
□ Tend to disagree □ Strongly disagree
Why? _____

44. What effect do you think physically separating locals and migrants' housing in your neighbourhood would have on the following?

	Positive effect	No effect	Negative effect
Interaction between locals and migrants			
Trust between locals and migrants			
Perceived safety for locals or migrants			

45. Do you think the following services / facilities are used currently by whom, and should be used by whom?

	Currently used by locals only	Currently used by migrants only	Currently used by both locals and migrants	Should be used by locals only	Should be used by migrants only	Should be used by both locals and migrants
Internal medicine clinic						
Cultural centre						

Personal and Household information

46. Are you:

□ Male □ Female

47. Please tick your age group:

□ 18 to 24 yrs □ 25 to 34 yrs
□ 35 to 44 yrs □ 45 to 54 yrs
□ 55 to 64 yrs □ 65 yrs or above

48. Which of the following best describes your economic status?

□ Employed/self-employed full-time (more than 30 hours a week)
□ Employed/self-employed part-time (less than 30 hours a week)
□ Unemployed / seeking work
□ Full-time student at college / university
□ Looking after family / home □ Retired
□ Long term sick or disabled □ Other

49. Please give the full title by which your job (or your last job) is known (include rank or grade if you have one).

_____

50. How many motorcycles, bicycles or cars are available in your household? (Please state number)

Motorcycles:_____ Bicycles:_____
Cars:_____

51. How many people are there in your household?

Please write number: _____

52. Which of the following headings best describes the composition of your household? (Tick the option which matches your household type)

□ One adult under 60
□ One adult aged 60 or over
□Two adults both under 60
□ Two adults, at least one 60 or over
□ Three or more adults, 18 or over
□ 1- parent family with children, at least one under 18
□ 2- parent family with children, at least one under 18

53. Can you please look at the list below and give us your total income and your total household income as an annual amount?

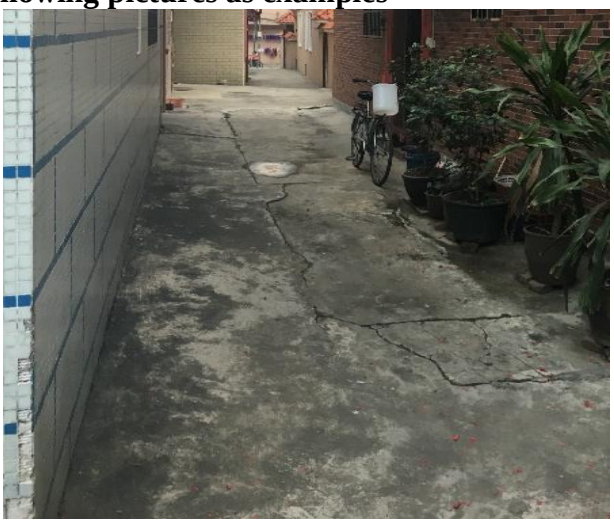
Annual salary (CNY)	You	Household (Total including you)
Under 20000		
20000- 49999		
50000- 79999		
80000- 99999		
100000-14999		
15000-199999		
200000-249999		
250000-299999		
Above 300000		

Thank you very much for your time and help in filling out the questionnaire

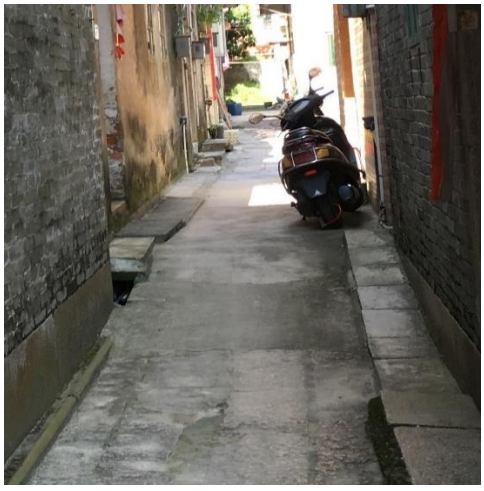
Appendix B. Site survey

Pavement condition – Code applying the following pictures as examples

1 Serious problem



2 Minor problem



3 Not a problem

4 Good condition

5 Very good condition

The extent of litter – Code using the following pictures as examples

1 Heavily littered with substantial accumulations

2 Refuse with minor accumulations

3 Refuse apart from some small items

4 No litter

5 Very clean

Dead and active street frontage – apply the following pictures as examples

Dead street frontage

Active street frontage

Table B.1 Site survey data in the nine neighbourhoods

Street name	Length of streets	Pavement condition	Degree of litter	Natural surveillance
Changtan Village				
Changtan Rd	510	5	4	5
Changtaner lane	40	3	3	2
Changtansan lane	45	3	3	4
Changtansi lane	85	3	3	2
Changtanwu lane	125	3	3	1
Changtanliu lane	85	3	2	2
Changtanqi lane	130	3	3	4
Changtanba lane	170	5	2	3
Changtanjiu lane	40	3	2	2
Changtanshi lane	30	3	3	2
Changtanshiyi lane	32	2	2	3
Changtanshier lane	45	2	2	3
Changtanshisan lane	40	1	2	2
Changtanshisi lane	40	3	2	3
Changtanshiwu lane	45	2	3	2
Changtanlubei St	150	3	2	2
Xincunkaohe Rd	770	5	4	3
Qiaodong St	890	3	3	2
Qiaoxi St	890	5	4	3
Changdixincun Rd	690	5	3	3
Qiaodongnanjiesan lane	150	4	3	3
Qiaodongnanjieer lane	155	4	4	2
Qiaodongnanjieerxiangheng Lane	110	4	3	2
Qiaodongnanjieyi lane	100	4	3	3
Qiaodongbeijieyi lane	50	4	3	2
Changtanxincun Road	140	4	2	3
Changtanxincunyi lane	50	4	3	4
Changtanxincuner lane	50	4	3	4
Changtanxincunsan lane	55	4	4	3
Changtanxincunsi lane	58	4	3	4
Changtanxincunwu lane	98	4	4	2
Changtanxincunliu lane	58	4	3	3
Changtanxincunqi lane	58	3	3	4
Changtanxincunba lane	60	4	2	4
Changtanxincunjiu lane	70	4	4	4
Changtanxincunshi lane	72	3	3	3
Changtanxincunshiyi lane	71	4	3	2
Changtanxincunshier lane	69	4	3	3

Street name	Length of streets	Pavement condition	Degree of litter	Natural surveillance
Changtanxincunshisan lane	70	4	4	3
Changtanxincunshisi lane	68	4	3	4
Changtanxincunshiwu lane	67	4	3	3
Changtanxincunshiliu lane	25	2	4	4
Changtanxincunshiqi lane	60	2	3	3
Changtanxincunshiba lane	75	2	3	4
Yuexi Village				
Shihua Rd	1200	5	5	5
Yingtangda St	240	4	3	4
Yingtanghou St	475	4	3	3
Yingtangdajieyi lane	160	2	2	1
Yingtangdajieer lane	160	2	3	2
Yingtangdajiesan lane	160	2	3	2
Yingtangdajiesi lane	160	2	3	3
Yingtangdajiewu lane	160	2	3	3
Yingtangdajieliu lane	160	2	3	3
Yingtangdajieqi lane	160	3	3	2
Yingtangdajieba lane	160	3	4	3
Yingtangdajiejiu lane	100	2	2	2
Yingtangdajieshi lane	100	2	2	3
Yuexierda Rd	195	3	3	1
Yuexida Rd	780	3	2	3
Yi St	165	5	3	4
Er St	160	5	4	4
San St	164	5	4	4
Si St	160	5	2	4
Wu St	163	5	4	4
Liu St	158	5	2	4
Qi St	155	5	3	4
Ba St	150	5	4	4
Jiu St	145	2	3	4
Yuexidadaoyiheng Rd	160	3	2	1
Tangdahou St	400	3	3	1
Yongshengyi St	163	4	4	3
Yongshengyijieyi Lane	37	2	2	2
Yongshengyijieer Lane	40	3	2	2
Yongshengyijiesan Lane	120	3	3	2
Yongshengyijiesi Lane	35	2	2	1
Yongshengyijiewu Lane	120	2	3	2
Yongshengyijieliu Lane	70	2	2	2
Yongshengyijieqi Lane	73	2	2	2
Yongshengyijieba Lane	75	2	2	2
Yongshengyijiejiu Lane	50	2	2	2
Yongshengerjie	180	4	4	4
Yongshengerjieyi Lane	55	2	2	2
Yongshengerjieer Lane	45	2	2	2
Tangdayi St	280	3	4	3
Tangdayijieyi Lane	50	3	3	2
Tangdayijieer Lane	70	3	3	2
Tangdayijiesan Lane	75	3	3	2
Tangdayijiesi Lane	55	3	3	2
Tangdayijiewu Lane	55	3	3	2
Tangdayijieliu Lane	76	2	2	2
Tangdayijieqi Lane	66	2	2	3
Tangdayijieba Lane	120	2	2	2
Tangdaer St	190	3	4	3
Tangdaerjieyi Lane	57	2	3	2
Tangdaerjieer Lane	40	2	3	2
Tangdaerjiesan Lane	70	2	3	2
Tangdaerjiesi Lane	140	2	2	1
Tangdaerjiewu Lane	150	2	3	2
Tangdaerjieliu Lane	80	1	2	1
Tangdaerjieqi Lane	40	3	3	2
Tangdaerjieba Lane	98	2	3	2
Xiyueyi St	250	3	3	4
Xiyueyijieyi Lane	20	2	2	2
Xiyueyijieer Lane	142	2	2	3
Xiyueyijiesan Lane	90	2	2	2
Xiyueyijiesi Lane	25	3	3	2
Xiyueyijiewu Lane	100	2	2	3

Street name	Length of streets	Pavement condition	Degree of litter	Natural surveillance
Xiyueyijieliu Lane	90	2	2	2
Xiyueyijieqi Lane	90	2	2	2
Xiyueyijieba Lane	130	2	2	2
Xiyueyijiejiu Lane	27	2	2	2
Xiyueyijieshi Lane	65	2	2	3
Xiyueyijieshiyi Lane	67	2	2	2
Xiyueyijieshier Lane	78	2	2	2
Xiyueer St	500	3	4	3
Xiyueerjieyi Lane	30	2	2	2
Xiyueerjieer Lane	100	2	2	3
Xiyueerjiesan Lane	50	2	2	2
Huayuanjieyi Lane	40	3	3	4
Huayuanjieer Lane	30	2	2	2
Huayuanjiesan Lane	30	2	2	3
Dongchengdong St	250	2	2	2
Dongchengxi St	180	4	4	4
Dongchengdongjieyi Lane	17	2	3	2
Dongchengdongjieer Lane	110	2	3	3
Dongchengdongjiesan Lane	75	2	3	2
Dongchengdongjiesi Lane	87	2	3	3
Dongchengdongjiewu Lane	77	1	2	1
Dongchengdongjieliu Lane	88	1	1	1
Dongchengdongjieqi Lane	30	2	3	2
Dongchengdongjieba Lane	93	1	1	2
Dongchengdongjiejiu Lane	80	2	3	2
Dongchengdongjieshi Lane	65	2	2	2
Dongchengdongjieyi Lane	50	2	2	2
Dongchengda Rd	410	4	3	4
Dongchengdongjiexiayi Lane	18	2	2	2
Dongchengdongjiexiaer Lane	35	2	2	2
Dongchengdongjiexiasan Lane	35	2	2	2
Dongchengdongjiexiasi Lane	15	2	3	2
Dongchengxi Rd	245	4	4	2
Yuchang St	50	5	5	5
A Lane	30	4	2	2
B Lane	30	4	3	2
C Lane	30	4	3	2
D Lane	75	3	3	2
Yuexidadaolian Lane	70	4	4	2
Shengzhou Village				
Huancun Rd	1000	5	5	3
Shengzhouda Rd	77	3	4	4
A St	70	5	4	4
B St	70	5	4	4
C St	70	5	5	4
D St	70	5	4	4
Nantangda St	300	3	3	2
Nantangdajieyi Lane	33	2	3	2
Nantangdajieer Lane	42	2	4	2
Nantangdajiesan Lane	35	3	4	2
Nantangdajiesi Lane	40	2	2	2
Nantangdajiewu Lane	43	2	2	2
Nantangdajieliu Lane	70	2	2	2
Nantangdajieqi Lane	50	4	3	4
Nantangdajieba Lane	55	2	2	1
Nantangdajiechang Lane	98	2	2	2
Nanshenglidajie	180	3	3	4
Nanshenglidajieyi Lane	50	1	2	2
Nanshenglidajieer Lane	50	2	2	2
Nanshenglidajiesan Lane	46	4	4	2
Nanshenglidajiesi Lane	50	2	2	1
Nanshenglidajiewu Lane	50	2	2	2
Tongqing Lane	40	2	1	1
Rixin Lane	72	2	3	3
Renhe Lane	43	3	2	2
Bang Lane	12	2	2	3
Sheng Lane	100	2	3	3
Qinren Lane	89	3	2	3
Yingyuanda St	70	3	2	2
Yingyuandajieyi Lane	10	2	3	1

Street name	Length of streets	Pavement condition	Degree of litter	Natural surveillance
Yingyuandajieer Lane	18	3	2	2
Yingyuandajiesan Lane	20	2	2	3
Yingyuandajiesi Lane	120	3	2	3
Yingyuandajiewu Lane	40	2	3	3
Yingyuandajieliu Lane	50	3	2	2
Yingyuandajieqi Lane	35	1	2	1
Citangda St	110	4	2	4
Citangdajieyi Lane	40	2	2	2
Citangdajieer Lane	40	2	1	1
Citangdajiesan Lane	40	2	2	1
Zhengdaoda St	200	4	4	4
Zhengdaodajieyi Lane	30	4	2	3
Zhengdaodajieer Lane	15	3	2	2
Zhengdaodajiesan Lane	50	4	4	3
Zhengdaodajiesi Lane	30	2	3	2
Zhengdaodajiewu Lane	40	3	2	2
Zhengdaodajieliu Lane	20	4	4	3
Zhengdaodajieqi Lane	240	3	2	2
Zhengdaodajieba Lane	45	4	2	2
Zhengdaobeida St	120	3	3	3
Zhengdaobeidajieyi Lane	34	2	4	2
Zhengdaobeidajieer Lane	10	2	2	2
Zhengdaobeidajiesan Lane	65	2	3	3
Zhengdaobeidajiesi Lane	74	2	3	2
Zhengdaobeidajiewu Lane	74	2	2	3
Zhengdaobeidajieliu Lane	80	2	2	2
Shuyuanyi Lane	50	4	4	3
Shuyuaner Lane	90	2	4	2
Shuyuansan Lane	55	2	4	3
Shuyuansi Lane	85	4	2	3
Shuyuanerxiangsi Lane	50	2	3	2
Liuheng Lane	30	2	3	2
Shuyuanerxiangyiheng Lane	30	4	3	2
Shuyuanerxiangerheng Lane	30	2	4	2
Shuyuanerxiangsanheng Lane	30	4	3	3
Shuyuanerxiangsiheng Lane	30	2	3	2
Nanrong huayuan				
Er St	70	5	5	4
San St	75	5	4	4
Si St	100	5	5	4
Wu St	260	5	5	4
Liu St	280	5	4	4
Qi St	300	5	4	4
A St	110	5	4	3
B St	260	5	4	3
C St	240	5	3	3
D St	140	5	5	4
E St	65	5	4	3
F St	65	5	5	4
G St	65	5	4	5
H St	65	5	5	3
Yufengxincun				
Yi St	240	5	5	5
Er St	220	5	5	5
San St	220	5	5	4
Si St	300	5	5	4
Wu St	500	5	5	4
Liu St	370	5	5	4
Qi St	360	5	5	4
Ba St	330	5	5	4
Jiu St	280	5	5	4
Shi St	210	5	5	4
A St	240	5	5	4
B St	70	5	4	3
C St	65	5	4	3
D St	400	5	4	3
E St	480	5	5	4
F St	200	5	5	4
Haiyuyuan				
A-1	180	4	4	4

Street name	Length of streets	Pavement condition	Degree of litter	Natural surveillance
B-1	150	5	3	3
C-1	50	5	4	3
D-1	145	4	3	4
E-1	145	5	4	4
F-1	140	4	3	4
A-2	190	5	5	3
B-2	150	5	5	3
C-2	35	5	5	2
D-2	150	5	5	4
E-2	260	5	5	4
F-2	270	5	5	4
G-2	150	5	5	4
H-2	150	5	5	3
I-2	100	5	5	3
J-2	25	5	5	2
Baifuyuan				
A St	20	5	5	5
B St	50	4	4	3
C St	120	4	5	4
D St	130	4	4	3
E St	60	3	5	2
F St	15	4	4	2
Lianhuawanpan				
A St	35	5	5	4
B St	140	5	5	4
C St	90	5	2	4
D St	170	5	3	3
Fuyiyuansiqu				
A St	30	5	5	5
B St	80	4	4	3
C St	220	5	5	4
D St	170	4	4	4

Table B.2 Site survey data in the nine neighbourhoods

Indicators	Changtan Village	Yuexi Village	Shengzhou Village	Nanrong huayuan	Haiyuyuan	Yufeng xincun	Lianhua wanpan	Fuyiyuan siqu	Baifuyuan
gro_resi	675.33	546.35	2095.49	28.11	34.76	63.15	22.06	114.04	16.76
gro_hhold	4990.24	8379.89	6377.35	98.44	121.97	216.68	66.17	209.68	50.29
gro_land				2.57	2.45	2.33	1.78	2.13	2.33
net_resi	79.68	44.25	78.15	20.24	24.68	44.20	14.12	77.54	11.73
net_hhold	588.81	678.77	237.83	70.88	86.60	151.68	42.35	142.58	35.20
noperson	7.39	15.34	3.04	3.50	3.51	3.43	3.00	1.84	3.00
intensity_str	0.06	0.03	0.08	0.12	0.1	0.09	0.77	0.37	0.88
no_facili_neg	30	99	31	5	3	9	6	3	5
no_facili_hec	6.8	3.0	8.5	0.5	0.9	1.0	0.4	1.3	0.35
rati_res_nonres	0.13	0.09	0.04	2.57	2.45	2.33	1.78	2.13	2.33
no_juncti	399	633	354	44	53	103	19	11	7
no_junc_perhec	1.95	2.11	1.34	17.39	19.06	11.65	8.52	2.82	4
faci_bus_sit	1	3	4						
pavem_sit	3.48	2.68	2.77	5	4.81	5	5	4.5	4
litter_sit	2.98	2.69	2.77	4.36	4.44	4.81	3.75	4.5	4.5
facili_sit	1	3	3	2	3	3	3	3	1
pro_opspaces	0.008	0.006	0.01	0.28	0.29	0.30	0.36	0.32	0.30
no_opspa_ha	0.01	0.03	0.03	0.4	0.36	0.11	0.91	0.51	0.57
no_beh_ha	0.43	0.72	0.81	12	6.79	7.53	14.55	11.54	6.29
no_tolet_ha	0.005	0.007	0.008	0.4	0.36	0.11	0.45	0	0.57
no_bus_ha	1	1	1						
no_bushr	0.5	10	1.25						
no_landmark_ha	0.005	0.003	0.008	0.4	0.36	0.22	0.91	0.26	0.57
no_ node_ha	0.020	0.020	0.015	0.4	0.357	0.112	1.364	0.513	0
rat of node	1	3	4	0	1	1	3	2	0
active_frontage	2.93	2.45	2.44	3.71	3.38	3.94	3.75	4	3.17

Appendix C1. Walk-along Interview

The University Of Sheffield.

Dear Householder:

I would like you to answer some questions about your neighbourhood. These questions are insensible. However, if you would not like to answer any questions, you could leave them blank. All information you provide will be kept strictly confidential and private. Completing these questions should take about 30 minutes.

Thank you in advance for your help.

1. Firstly, would you say that your neighbourhood has its own character?
☐ Yes ☐ No ☐ Do not know

2. Do you think what the character of your neighbourhood is? Why?

3. How would you rate the level of maintenance (such as the pavement condition, the quality of facilities and the extent of litter, etc.) in your neighbourhood?

4. How would you rate the level of accessibility in your neighbourhood? You can consider this question from the following aspects:

- If you can easily reach public transport services on foot
- If you can easily access open spaces on foot
- Your perceptions of provision of facilities, such as shops, recreational facilities, parking, toilet etc.

5. How would you rate the extent of attractiveness in your neighbourhood?

6. How would you rate the level of legibility in your neighbourhood? For example, what are the landmarks and nodes in you neighbourhood? How are these landmarks and nodes?

7. How would you rate the boundaries of your neighbourhood?

8. Do you feel that you neighbourhood is safe? Why?

9. How would you rate the quality of your neighbourhood?

10. Could you tell me if the following socio-spatial features of quality of the neighourooods have an effect on social interaction in your neighbourhood? Please show if they have a positive influence, negative influence or no influence.

Socio-spatial features of quality	Positive effect	No effect	Negative effect
Accessibility			
Perceived character			
Natural surveillance			
Attractiveness			
Legibility			
Neighbourhood boundaries			
Perceived quality			

11. Could you tell me if the following socio-spatial features of quality of neighourooods have an effect on social networks in your neighbourhood? Please show if they have a positive influence, negative influence or no influence.

Socio-spatial features of quality	Positive effect	No effect	Negative effect
Accessibility			
Perceived character			
Natural surveillance			
Attractiveness			
Legibility			
Neighbourhood boundaries			
Perceived quality			

12. Could you tell me if the following socio-spatial features of quality of neighourooods have an effect on sense of community in your neighbourhood? Please show if they have a positive influence, negative influence or no influence.

Socio-spatial features of quality	Positive effect	No effect	Negative effect
Accessibility			
Perceived character			
Natural surveillance			
Attractiveness			
Legibility			
Neighbourhood boundaries			
Perceived quality			

13. Could you tell me if the following socio-spatial features of quality of neighourooods have an effect on participation in organised activities in your neighbourhood? Please show if they have a positive influence, negative influence or no influence.

Socio-spatial features of quality	Positive effect	No effect	Negative effect
Accessibility			
Perceived character			
Natural surveillance			
Attractiveness			
Legibility			
Neighbourhood boundaries			
Perceived quality			

14. Could you tell me if the following socio-spatial features of quality of neighourooods have an effect on trust and reciprocity in your neighbourhood? Please show if they have a positive influence, negative influence or no influence.

Socio-spatial features of quality	Positive effect	No effect	Negative effect
Accessibility			
Perceived character			
Natural surveillance			
Attractiveness			
Legibility			
Neighbourhood boundaries			
Perceived quality			

15. Could you tell me if the following socio-spatial features of quality of neighourooods have an effect on sense of safety in your neighbourhood? Please show if they have a positive influence, negative influence or no influence.

Socio-spatial features of quality	Positive effect	No effect	Negative effect
Accessibility			
Perceived character			
Natural surveillance			
Attractiveness			
Legibility			
Neighbourhood boundaries			
Perceived quality			

16. Could you tell me if the following socio-spatial features of quality of neighourooods have an effect on sense of place attachment in your neighbourhood? Please show if they have a positive influence, negative influence or no influence.

Socio-spatial features of quality	Positive effect	No effect	Negative effect
Accessibility			
Perceived character			
Natural surveillance			
Attractiveness			
Legibility			
Neighbourhood boundaries			
Perceived quality			

17. Could you tell me if the following aspects of maintenance have an effect on social interaction in your neighbourhood? Please show if they have a positive influence, negative influence or no influence.

Dimensions of social cohesion	Pavement	Facilities and services (like recreational facilities, parking etc.)	Litter and graffiti
Social interaction			
social networks			
Sense of community			
participation in organised activities			
trust and reciprocity			
sense of safety			
sense of place attachment			

Appendix C2. WeChat Interview

The University Of Sheffield.

Dear professional:

I would like you to answer some questions about your neighbourhood. These questions are insensible. However, if you would not like to answer any questions, you could leave them blank. All information you provide will be kept strictly confidential and private. Completing these questions should take about 1 hour.

Thank you in advance for your help.

1. Could you give me some suggestions for creating a well-maintain village, redeveloped village and commodity housing respectively in the peri-urban area?

2. Could you give me some suggestions for creating an accessible village, redeveloped village and commodity housing respectively in the peri-urban area?

3. Could you give me some suggestions for creating a neighbourhood with character in villages, redeveloped villages and commodity housing respectively in the peri-urban area?

4. Could you give me some suggestions for creating a safe redeveloped village in the peri-urban area?

5. Could you give me some suggestions for creating an attractive village, redeveloped village and commodity housing respectively in the peri-urban area?

6. Could you give me some suggestions for creating a legible village, redeveloped village and commodity housing respectively in the peri-urban area?

7. Could you give me some suggestions for creating a neighbourhood with boundaries in redeveloped villages and commodity housing respectively in the peri-urban area?

8. Do you think about how to create a high-quality neighbourhood to improve social cohesion for locals and migrants in the three neighbourhood types of the peri-urban area?

Appendix D. Correlation analyses

Table D.1 Correlations between maintenance and social cohesion in general

Dimensions of social cohesion	Indicators	fac_bus_sit	pavem_sit	litt_sit	fac_sit	fac_light_q	fac_opspac_q	othome_q	litt_graff_q	pavem_q
Social interaction	no_chat	.137*							-.074*	
	no_borr									
	no_know	.214**			.100**		.072*			
	no_avoid			.120**						
Social networks	regul_see_fri									
	no_fri	-.158**							-.099**	
	f_see_fri			-.088*						
Sense of community	proud	.149**			.142**	.241**	.209**	.234**	.125**	
	fri_neigh	.100*	.102**	.125**		.126**	.077*	.207**	.082**	
	fri_diffback	.128*	.128**	.145**		.089**		.159**		
Participation in organized activities	sport	.186**	-.147**	-.142**	.104**		.134**	.076*	.110**	.114**
	adult_edu					.075*	.235**			
	community	.102*	-.080**	-.095**	.119**	.087**	.098**	.078**		
	childhob					.098**				
Trust and reciprocity	relyon	.129*	-.110**	-.106**						
safety	safety		-.067*			.301**	.125**	.186**	.081**	
	crime	.219**	-.123**	.076*	-.068*	.101**	.123**	.155**	.322**	.191**
	safe_transp	.313**			.207**	.222**	.178**	.228**	.267**	.123**
Sense of place attachment	proud	.149**			.142**	.241**	.209**	.234**	.125**	
	belong	.121**	.149**	.190**		.119**		.174**		

Table D.2 Correlations between maintenance and social cohesion in villages

Dimensions of social cohesion	Indicators	fac_bus_sit	pavem_sit	litt_sit	fac_sit	fac_light_q	fac_opspac_q	othome_q	litt_graff_q	pavem_q
Social interaction	no_chat	.137*			.130*					
	no_borr									.130*
	no_know	.214**			.161**		.152**			
	no_avoid							-.125*		-.121*
Social networks	regul_see_fri									
	no_fri	-.158**							-.127*	
	f_see_fri									.144*
Sense of community	proud	.149**			.129**	.205**	.221**	.188**		
	fri_neigh	.100*				.202**	.112*	.128**	.098*	
	fri_diffback	.128**				.155**	.115*	.107*		-.101*
Participation in organized activities	sport	.186**	-.193**	-.193**	.215**		.305**	.129**	.146**	.203**
	adult_edu									
	community	.102*			.102*	.105*	.112*	.098*		
	childhob					.142**				
Trust and reciprocity	relyon	.129*	-.128*	-.128*	.142*					
safety	safety					.330**	.200**	.203**	.099*	
	crime	.219**			.109*	.093*	.108*	.136**	.331**	.127**
	safe_transp	.313**			.207**	.222**	.178**	.228**	.267**	.123**
Sense of place attachment	proud	.149**			.129**	.205**	.221**	.188**		
	belong	.121**				.165**		.157**		

Table D.3 Correlations between maintenance and social cohesion in redeveloped villages

Dimensions of social cohesion	Indicators	fac_bus_sit	pavem_sit	litt_sit	fac_sit	fac_light_q	fac_opspac_q	othome_q	litt_graff_q	pavem_q
Social interaction	no_chat									
	no_borr									
	no_know							.139*		
	no_avoid			.203**	.193**					
Social networks	regul_see_fri									
	no_fri						.135*			
	f_see_fri				-.217**					
Sense of community	proud			.117*	.165**	.297**	.148*	.199**	.196**	
	fri_neigh							.276**		
	fri_diffback							.251**		
Participation in organized activities	sport	.	.181**				.179**		.185**	.130*
	adult_edu									
	community			.235**	.161**		.186**			
	childhob							.132*		
Trust and reciprocity	relyon								-.147*	
safety	safety			.321**	.240**	.346**	.154**	.195**		
	crime		.235**			.115*	.205**		.238**	.190**
	safe_transp									
Sense of place attachment	proud			.117*	.165**	.297**	.148*	.199**	.196**	
	belong							.193**		

Table D.4 Correlations between maintenance and social cohesion in commodity housing

Dimensions of social cohesion	Indicators	fac_bus_sit	pavem_sit	litt_sit	fac_sit	fac_light_q	fac_opspac_q	othome_q	litt_graff_q	pavem_q
Social interaction	no_chat									
	no_borr		.130*		.148*					
	no_know									
	no_avoid						-.132*			
Social networks	regul_see_fri									
	no_fri							-.130*		
	f_see_fri									
Sense of community	proud			.128*	.159**	.256**	.280**	.325**	.192**	.160**
	fri_neigh						.135*	.263**		
	fri_diffback							.152**		
Participation in organized activities	sport						.114*			
	adult_edu									
	community	.	.199**	-.160**	.185**					
	childhob									-.115*
Trust and reciprocity	relyon									
safety	safety		-.162**	.175**		.170**		.158**	.153**	.121*
	crime		-.564**	.629**	-.336**		.192**	.213**	.413**	.299**
	safe_transp									
Sense of place attachment	proud			.128*	.159**	.256**	.280**	.325**	.192**	.160**
	belong							.189**		

Table D.5 Correlations between mixed land uses and social cohesion in general

Dimensions of social cohesion	Indicators	no_facili_neg	no_facili_hec	ratio_resi_nonresi
Social interaction	no_chat			-.069*
	no_borr			
	no_know	.079*		-.095**
	no_avoid	-.071*	.079*	.084*
Social networks	regul_see_fri			
	no_fri			
	f_see_fri	.095*	-.095*	
Sense of community	proud			
	fri_neigh	-.124**	.098**	.087**
	fri_diffback	-.162**	.157**	.111**
Participation in organized activities	sport	.201**	-.108**	-.173**
	adult_edu			
	community	.164**	-.094**	-.151**
	childhob			
Trust and reciprocity	relyon	.097**		-.130**
safety	safety			-.109**
	crime		-.120**	
	safe_transp		-.241**	-.313**
Sense of place attachment	proud			
	belong	-.205**	.190**	.129**

Table D.6 Correlations between mixed land uses and social cohesion in villages

Dimensions of social cohesion	Indicators	no_facili_neg	no_facili_hec	ratio_resi_nonresi
Social interaction	no_chat			-.137*
	no_borr			
	no_know			-.214**
	no_avoid			
Social networks	regul_see_fri			
	no_fri		.141*	.158**
	f_see_fri			
Sense of community	proud			-.149**
	fri_neigh		-.093*	-.100*
	fri_diffback		-.120**	-.128**
Participation in organized activities	sport	.193**		-.186**
	adult_edu			
	community			-.102*
	childhob			
Trust and reciprocity	relyon	.128*		-.129*
safety	safety			
	crime		-.242**	-.219**
	safe_transp		-.241**	-.313**
Sense of place attachment	proud			-.149**
	belong			-.121**

Table D.7 Correlations between mixed land uses and social cohesion in redeveloped villages

Dimensions of social cohesion	Indicators	no_facili_neg	no_facili_hec	ratio_resi_nonresi
Social interaction	no_chat			
	no_borr			
	no_know			
	no_avoid			-.203**
Social networks	regul_see_fri			
	no_fri			
	f_see_fri		.206*	
Sense of community	proud		-.162**	-.117*
	fri_neigh			
	fri_diffback			
Participation in organized activities	sport	.196**		
	adult_edu			
	community	.208**		-.235**
	childhob			
Trust and reciprocity	relyon			
safety	safety	.256**		-.321**
	crime	.236**	.157**	
	safe_transp			
Sense of place attachment	proud		-.162**	-.117*
	belong		-.110*	

Table D.8 Correlations between mixed land uses and social cohesion in commodity housing

Dimensions of social cohesion	Indicators	no_facili_neg	no_facili_hec	ratio_resi_nonresi
Social interaction	no_chat			
	no_borr	.130*		-.130*
	no_know			
	no_avoid	-.141*		.141*
Social networks	regul_see_fri			
	no_fri			
	f_see_fri			
Sense of community	proud		-.236**	
	fri_neigh		-.114*	
	fri_diffback			
Participation in organized activities	sport			
	adult_edu			
	community	.199**		-.199**
	childhob			
Trust and reciprocity	relyon			
safety	safety	-.162**	-.143*	.162**
	crime	-.564**	-.531**	.564**
	safe_transp	.	.	.
Sense of place attachment	proud		-.236**	
	belong			

Table D.9 Correlations between accessibility and social cohesion in general

Dimensions	Indicators	opspa1	tolet	bus	nobus	transfoot	fretrans	wwtrans	opspa2	shop	recre	parki	osport	oexerc	orecre	owkdog	oenviron	oplay
Social interaction	no_chat	.078*															.098**	.083*
	no_borr						-.085*											
	no_know	.113**										.076*				.069*		
	no_avoid	-.097**		.138*	-.167**		.133**	.097*								-.069*		
Social networks	re_see_fri									.098*								
	no_fri				-.124*			.203**		-.077*								
	f_see_fri									.157**								
Sense of community	proud			.119**	.181**	.138**	.163**		.222**		.116**	.111**	.123**	.120**	.169**	.128**	.148**	.149**
	fri_neigh	-.063*		.139**			.304**					.077**	.108**	.130**		.090**	.180**	.170**
	fri_difback	-.097**		.169**			.310**							.151**	.059*	.095**	.177**	.167**
	Geton_wi																	
Participation in activities	sport	.173**	.193**		.105*				.141**	.085**		.103**	.098**	.087**	.147**	.131**	.077**	
	Adult_edu																	
	community	.142**							.069*	.073*	.095**	.126**	.119**	.113**	.094**	.095**	.114**	.095**
	childhob														.060*			
Trust	relyon	.139**	.128*															
	Trust_wi																	
safety	safety	.084**		.211**			.335**	.154**		-.095**								.059*
	crime			.182**	.139**	.121**	.159**		.093**							.071*		
	safe_transp	.313**		.500**	.319**	.495**	.214**		.101*	.162**	.215**	.215**	.238**	.114*	.180**	.156**		
place attachment	proud			.119**	.181**	.138**	.163**		.222**		.116**	.111**	.123**	.120**	.169**	.128**	.148**	.149**
	belong	-.114**					.184**		.069*	-.078**							.073*	.078**

Table D.10 Correlations between accessibility and social cohesion in villages

Dimensions	Indicators	opspa1	tolet	bus	nobus	transfoot	fretrans	wwtrans	opspa2	shop	recre	parki	osport	oexerc	orecre	owkdog	oenviron	oplay
Social interaction	no_ chat	.137*									.120*	.165**	.113*					
	no_ borr																	
	no_ know	.214**							.128*	.119*	.149**	.114*	.133*		.118*			
	no_ avoid			.138*	-.167**			.161**			.151**	.168**	.111*	.131*				
Social networks	re_see _fri									.204**								
	no_fri	-.158**			-.124*		.116*	.220**		-.116*								.118*
	f_see _fri									.184**								
Sense of community	proud	.149**		.119**	.181**	.138**	.192**		.222**		.196**	.121**	.177**	.158**	.249**	.175**	.150**	.166**
	fri_ neigh	.100*		.139**			.281**	.111*			.112*	.181**	.190**	.171**	.118**	.179**	.249**	.259**
	fri_ difback	.128**		.169**			.254**				.109*	.188**	.157**	.241**	.186**	.205**	.246**	.276**
	Geton _wi																	
Participation in organized activities	sport	.186**	.193**		.105*		.114*		.197**	.127**					.136**			
	Adult _edu																	
	community childhob	.102*					.107*		.120**			.099*	.105*	.089*	.144**	.095*	.089*	.119**
Trust and reciprocity	relyon	.129*	.128*															
	Trust _wi																	
safety	safety			.211**			.198**	.115*			.127**	.163**	.182**	.204**	.170**	.182**	.195**	.177**
	crime	.219**		.182**	.139**	.121**	.208**			.173**		.090*	.118**		.090*	.117**		
	safe_ transp	.313**		.500**	.319**	.495**	.214**		.101*	.162**	.215**	.215**	.238**	.114*	.180**	.156**		
Sense of place attachment	proud	.149**		.119**	.181**	.138**	.192**		.222**		.196**	.121**	.177**	.158**	.249**	.175**	.150**	.166**
	belong	.121**							.130**	-.115*	.119**		.092*	.138**	.147**		.146**	.106*

Table D.11 Correlations between accessibility and social cohesion in redeveloped villages

Dimensions	Indicators	opspa1	tolet	bus	nobus	transfoot	fretrans	wwtrans	opspa2	shop	recre	parki	osport	oexerc	orecre	owkdog	oenviron	oplay
Social interaction	no_chat																	
	no_borr																	
	no_know														-.145*			
	no_avoid	.298**																
Social networks	re_see_fri																	
	no_fri	.156*																
	f_see_fri																	
Sense of community	proud										.140*	.187**		.212**	.137*	.122*	.284**	.241**
	fri_neigh	.264**								.163**	.233**	.211**	.208**	.433**	.185**	.204**	.359**	.280**
	fri_difback	.322**							-.127*	.125*	.252**	.136*	.156**	.424**	.200**	.249**	.360**	.288**
	Geton_wi																	
Participation in organized activities	sport								.131*							.111*		
	Adult_edu										.132*	.135*	.138*	.132*	.136*		.137*	.136*
	community	.126*							.146*		.130*	.131*		.129*		.149**	.162**	
	childhob									-.138*		.117*					.110*	.153**
Trust and reciprocity	relyon														-.155*			
	Trust_wi																	
safety	safety	.315**									.263**	.218**	.192**	.275**		.184**	.219**	.181**
	crime	.134*						.211**	.166**									
	safe_transp																	
Sense of place attachment	proud										.140*	.187**		.212**	.137*	.122*	.284**	.241**
	belong	.188**								.133*	.215**	.131*	.159**	.324**	.225**	.173**	.318**	.352**

Table D.12 Correlations between accessibility and social cohesion in commodity housing

Dimensions	Indicators	opspa1	tolet	bus	nobus	transfoot	fretrans	wwtrans	opspa2	shop	recre	parki	osport	oexerc	orecre	owkdog	oenviron	oplay
Social interaction	no_chat																.176**	.128*
	no_borr	.148*																
	no_know																	
	no_avoid	.128*							-.137*							-.124*		
Social networks	re_see_fri																	
	no_fri															-.126*		
	f_see_fri																	.149*
Sense of community	proud	.159**							.335**		.148**	.133*	.167**		.183**	.144*		
	fri_neigh	.316**							.170**				.120*					
	fri_difback	.265**											.122*				.149**	
	Geton_wi																	
Participation in organized activities	sport	-.124*										.179**		.126*	.147*	.121*		
	Adult_edu																	
	community	.185**								.125*		.115*						
	childhob	-.129*									.136*							
Trust and reciprocity	relyon	-.163**																.153*
	Trust_wi																	
safety	safety	.391**													-.134*			
	crime	-.336**							.134*	-.165**	-.151**							
	safe_transp																	
Sense of place attachment	proud	.159**					.148**		.335**			.133*	.167**		.183**	.144*		
	belong						.222**											

Table D.13 Correlations between connectedness and permeability and social cohesion in general and the three neighbourhood types separately

Dimensions of social cohesion	Indicators	General		Villages		Redeveloped villages		Commodity housing	
		no_juncti	no_juncti_perhec	no_juncti	no_juncti_perhec	no_juncti	no_juncti_perhec	no_juncti	no_juncti _perhec
Social interaction	no_chat								
	no_borr							.130*	
	no_know		-.071*						
	no_avoid		.090*			.203**		-.141*	
Social networks	regul_see_fri								
	no_fri			.141*	.141*				
	f_see_fri	.094*							
Sense of community	proud					.117*			-.236**
	fri_neigh	-.160**	.074*	-.093*	-.093*				-.114*
	fri_diffback	-.210**	.099**	-.120**	-.120**				
Participation in organized activities	sport	.146**	-.130**				-.196**		
	adult_edu								
	community	.124**	-.104**			.235**	-.208**	.199**	
	childhob								
Trust and reciprocity	relyon		-.108**						
safety	safety	-.094**	-.132**			.321**	-.256**	-.162**	-.143*
	crime		-.158**	-.242**	-.242**		-.236**	-.564**	-.531**
	safe_transp	-.241**	-.241**	-.241**	-.241**				.
Sense of place attachment	proud					.117*			-.236**
	belong	-.255**	.128**						

Table D.14 Correlations between attractiveness and social cohesion in general and the three neighbourhood types separately

Dimensions of social cohesion	Indicators	General		Villages		Redeveloped villages		Commodity housing	
		pro_opspaces	per_attractiv	pro_opspaces	per_attractiv	pro_opspaces	per_attractiv	pro_opspaces	per_attractiv
Social interaction	no_chat								
	no_borr							.130*	
	no_know		.101**		.157**				
	no_avoid					.203**		-.141*	
Social networks	regul_see_fri								
	no_fri			-.141*					
	f_see_fri	-.110*							
Sense of community	proud	.063*	.313**		.301**	.117*	.305**		.343**
	fri_neigh	.153**	.247**	.093*	.181**		.315**		.259**
	fri_diffback	.190**	.189**	.120**	.155**		.263**		.133*
Participation in organized activities	sport	-.123**			.113*				
	adult_edu								
	community	-.060*	.063*			.235**		.199**	
	childhob						.132*		
Trust and reciprocity	relyon								
safety	safety	.110**	.239**		.285**	.321**	.229**		.195**
	crime		.090**	.242**	.119**				
	safe_transp	.241**	.213**	.241**	.213**			.	.
Sense of place attachment	proud	.063*	.313**		.301**	.117*	.305**		.343**
	belong	.251**	.230**		.233**		.235**		.169**

Table D.15 Correlations between residential density and social cohesion in general

Dimensions of social cohesion	Indicators	percapita area_n	area_hhold_n	ratio_resland_to opspac_hec	percapita area_resi	Area_hhold _resi	avernoperson_ hhold_n	intensity_ street	housesize
Social interaction	no_chat			-.069*					
	no_borr								
	no_know			-.095**					
	no_avoid	-.092**		-.083*	-.092**				
Social networks	regul_see_fri								
	no_fri						.072*		
	f_see_fri	.107*	.107*	.100*		.096*		-.102*	
Sense of community	proud			-.080**			-.088**		.162**
	fri_neigh	-.089**	-.118**	-.153**	-.073*	-.134**	-.163**		.119**
	fri_diffback	-.156**	-.183**	-.191**	-.151**	-.203**	-.200**		.128**
Participation in organized activities	sport	.133**	.185**	.079**	.079**	.155**	.070*	-.147**	
	adult_edu								
	community	.123**	.148**		.091**	.129**		-.119**	
	childhob				.067*				
Trust and reciprocity	relyon	.069*	.081*			.071*			
safety	safety			-.110**			-.186**	.084**	.065*
	crime	.124**	.064*		.119**		-.129**		-.102**
	safe_transp	.241**		-.313**	-.053	-.241**	-.241**	.241**	-.218**
Sense of place attachment	proud			-.080**			-.088**		.162**
	belong	-.191**	-.215**	-.256**	-.173**	-.233**	-.246**	.254**	.219**

Table D.16 Correlations between residential density and social cohesion in villages

Dimensions of social cohesion	Indicators	percapita area_n	area_hhold_n	ratio_resland_to opspac_hec	percapita area_resi	Area_hhold _resi	avernoperson_ hhold_n	intensity_ street	housesize
Social interaction	no_chat			-.137*					
	no_borr								
	no_know			-.214**					
	no_avoid								
Social networks	regul_see_fri								
	no_fri	-.141*		.158**		.141*	.141*	-.141*	
	f_see_fri								-.217**
Sense of community	proud			-.149**					.116**
	fri_neigh	.093*		-.100*		-.093*	-.093*	.093*	
	fri_diffback	.120**		-.128**		-.120**	-.120**	.120**	
Participation in organized activities	sport		.193**	-.186**	-.193**				
	adult_edu								
	community			-.102*					
	childhob								
Trust and reciprocity	relyon		.128*	-.129*	-.128*				
safety	safety								
	crime	.242**		-.219**		-.242**	-.242**	.242**	-.121**
	safe_transp	.241**		-.313**		-.241**	-.241**	.241**	-.218**
Sense of place attachment	proud			-.149**					
	belong			-.121**					

Table D.17 Correlations between residential density and social cohesion in redeveloped villages

Dimensions of social cohesion	Indicators	percapita area_n	area_hhold_n	ratio_resland_to opspac_hec	percapita area_resi	Area_hhold _resi	avernoperson_ hhold_n	intensity_ street	housesize
Social interaction	no_chat								
	no_borr								
	no_know								
	no_avoid	.203**	.203**	-.203**	.203**	.203**		-.203**	
Social networks	regul_see_fri								
	no_fri								
	f_see_fri								
Sense of community	proud	.117*	.117*	-.117*	.117*	.117*		-.117*	.280**
	fri_neigh								.209**
	fri_diffback								.226**
Participation in organized activities	sport						-.196**		
	adult_edu								
	community	.235**	.235**	-.235**	.235**	.235**	-.208**	-.235**	
	childhob								
Trust and reciprocity	relyon								
safety	safety	.321**	.321**	-.321**	.321**	.321**	-.256**	-.321**	.157**
	crime						-.236**		-.171**
	safe_transp								
Sense of place attachment	proud	.117*	.117*	-.117*	.117*	.117*		-.117*	
	belong								

Table D.18 Correlations between residential density and social cohesion in commodity housing

Dimensions of social cohesion	Indicators	percapita area_n	area_hhold_n	ratio_resland_to opspac_hec	percapita area_resi	Area_hhold _resi	avernoperson_ hhold_n	intensity_ street	housesize
Social interaction	no_chat								
	no_borr	.123*	.123*	-.130*	.123*	.123*		-.123*	
	no_know								
	no_avoid			.141*					
Social networks	regul_see_fri								
	no_fri								
	f_see_fri								.169*
Sense of community	proud	.258**	.258**		.258**	.258**	-.284**	-.258**	.121*
	fri_neigh						-.117*		.160**
	fri_diffback								.156**
Participation in organized activities	sport								
	adult_edu								
	community	.117*	.117*	-.199**	.117*	.117*		-.117*	
	childhob	.133*	.133*		.133*	.133*	-.121*	-.133*	
Trust and reciprocity	relyon								
safety	safety			.162**					
	crime			.564**			-.298**		
	safe_transp								
Sense of place attachment	proud	.258**	.258**		.258**	.258**	-.284**	-.258**	
	belong								

Table D.19 Correlations between legibility and social cohesion in general and the three neighbourhood types

Dimensions of social cohesion		General			Villages			Redeveloped villages			Commodity housing		
	Indicators	no_ landmark	no_ node	rat of node	no_ landmark	no_ node	rat of node	no_ landmark	no_ node	rat of node	no_ landmark	no_ node	rat of node
Social interaction	no_chat			.112**			.137*						
	no_borr											.130*	
	no_know	.102**		.140**	.209**		.214**						
	no_avoid		-.091**					.167*	.193**				
Social networks	regul_see_fri												
	no_fri				-.180**		-.158**						
	f_see_fri								-.217**				
Sense of community	proud				.125**		.149**		.165**		-.128*		-.282**
	fri_neigh		-.119**		.119**		.100*						-.140*
	fri_diffback	.061*	-.166**		.152**		.128**						
Participation in organized activities	sport	.069*	.154**	.168**	.089*	.131**	.186**	.165**					
	adult_edu												
	community	.121**	.144**	.089**			.102*	.243**	.161**		.160**	.199**	
	childhob		.060*										
Trust and reciprocity	relyon		.116**	.138**			.129*						
safety	safety	.070*		.096**	.104*			.318**	.240**		-.175**	-.162**	-.170*
	crime		-.060*		.283**	-.150**	.219**	.186**			-.629**	-.564**	-.643**
	safe_transp	.341**	-.105*	.313**	.341**	-.105*	.313**						.
Sense of place attachment	proud				.125**		.149**		.165**		-.128*		-.282**
	belong	.063*	-.177**		.127**		.121**						

Table D.20 Correlations between socio-spatial features of neighbourhoods and social cohesion in general

Dimensions of social cohesion	Indicators	acti_frontage	character_q	boundary	neigh_liv	quality_neg
Social interaction	no_chat					
	no_borr					
	no_know		.086*			
	no_avoid			.145**	.085*	
Social networks	regul_see_fri			-.137*		
	no_fri			.106*		
	f_see_fri			-.128*		
Sense of community	proud		.301**		.307**	.334**
	fri_neigh	.121**	.210**	.080*	.303**	.303**
	fri_diffback	.116**	.125**	.085*	.263**	.277**
Participation in organized activities	sport	-.134**	.093**			.067*
	adult_edu					
	community	-.073*	.088**		.080**	.079**
	childhob					
Trust and reciprocity	relyon	-.080*				
safety	safety		.163*		.308**	.216**
	crime	-.060*			.097**	.100**
	safe_transp	-.313**			.147**	.254**
Sense of place attachment	proud		.301**		.307**	.334**
	belong	.169**	.172**		.262**	.232**

Table D.21 Correlations between socio-spatial features of neighbourhoods and social cohesion in villages

Dimensions of social cohesion	Indicators	acti_frontage	character_q	boundary	neigh_liv	quality_neg
Social interaction	no_chat	-.137*				
	no_borr					
	no_know	-.214**	.147**			
	no_avoid				.140*	
Social networks	regul_see_fri					
	no_fri	.158**				
	f_see_fri					
Sense of community	proud	-.149**	.261**		.314**	.284**
	fri_neigh	-.100*	.164**		.313**	.256**
	fri_diffback	-.128**	.101*		.291**	.213**
Participation in organized activities	sport	-.186**	.165**			
	adult_edu					
	community	-.102*	.090*		.129**	
	childhob					
Trust and reciprocity	relyon	-.129*				
safety	safety		.193*		.309**	.247**
	crime	-.219**				.112*
	safe_transp	-.313**			.147**	.254**
Sense of place attachment	proud	-.149**	.261**		.314**	.284**
	belong	-.121**	.18 7**		.251**	.194**

Table D.22 Correlations between socio-spatial features of neighbourhoods and social cohesion in redeveloped villages

Dimensions of social cohesion	Indicators	acti_frontage	character_q	boundary	neigh_liv	quality_neg
Social interaction	no_chat				.178**	
	no_borr					
	no_know				.161*	.169*
	no_avoid			.230**		
Social networks	regul_see_fri					
	no_fri					
	f_see_fri					
Sense of community	proud		.283**		.288**	.385**
	fri_neigh		.219**		.348**	.390**
	fri_diffback		.175**		.287**	.342**
Participation in organized activities	sport	.196**				
	adult_edu					
	community	.208**				.168**
	childhob					
Trust and reciprocity	relyon					
safety	safety	.256**	.170**		.239**	.263**
	crime	.236**				
	safe_transp					
Sense of place attachment	proud		.283**		.288**	.385**
	belong		.174**		.261**	.286**

Table D.23 Correlations between socio-spatial features of neighbourhoods and social cohesion in commodity housing

Dimensions of social cohesion	Indicators	acti_frontage	character_q	boundary	neigh_liv	quality_neg
Social interaction	no_chat					
	no_borr	.123*				
	no_know					
	no_avoid		-.121*			
Social networks	regul_see_fri					
	no_fri					
	f_see_fri					
Sense of community	proud	.258**	.383**		.310**	.382**
	fri_neigh		.242**		.208**	.316**
	fri_diffback		.073*		.147*	.331**
Participation in organized activities	sport					
	adult_edu		.141*			
	community	.117*	.122*			
	childhob	.133*				
Trust and reciprocity	relyon					
safety	safety		.124*		.319**	.137*
	crime				.175**	.122*
	safe_transp					
Sense of place attachment	proud	.258**	.383**		.310**	.382**
	belong				.184**	.265**

Table D.24 Correlations between participation in the four organized activities within the neighbourhood and outside the neighbourhood (but within the city)

	Par_sport_city	Par_aduedu_city	Par_communitygroup_city	Par_childhobby_city	Par_laoxiang_city	Par_party_city
Par_sport_neigh	-.265**					
Par_aduedu_neigh						
Par_communitygroup_neigh	-.094**		-.064*			
Par_childhobby_neigh			.093**			.062*

Table D.25 Correlations between participation in the four organized activities within the neighbourhood and outside the city

	Par_sport_outcity	Par_aduedu_outcity	Par_communitygroup_out	Par_childhobby_outcity	Par_laoxiang_outcity	Par_party_outcity
Par_sport_neigh						
Par_aduedu_neigh						
Par_communitygroup_neigh		.063*				
Par_childhobby_neigh					.082**	

Table D.26 Correlations between maintenance and social interaction for locals and migrants respectively in the three neighbourhood types

Neighbourhood type	L/M	Indicators	fac_bus_sit	pavem_sit	litt_sit	fac_sit	fac_light_q	fac_opspac_q	othome_q	litt_graff_q	pavem_q
Villages	Locals	no_chat									
		no_borr									.170*
		no_know	.182*					.197*			.158*
		no_avoid									
	Migrants	no_chat	.248**	-.203**	-.203**	.247**					
		no_borr						.225**			
		no_know	.244**			.186*		.179*			
		no_avoid									
Redeveloped villages	Locals	no_chat									
		no_borr				.233*					
		no_know									
		no_avoid			.310**	.243*					
	Migrants	no_chat					-.181*				
		no_borr	.			.249*				.229*	
		no_know	.								
		no_avoid	.								
Commodity housing	Locals	no_chat	.								
		no_borr	.					.205*			.174*
		no_know	.								
		no_avoid	.								
	Migrants	no_chat	.								
		no_borr	.	.209*	-.180*	.181*					
		no_know	.								
		no_avoid	.								

Table D.27 Correlations between maintenance and sense of community for locals and migrants respectively in the three neighbourhood types

Neighbourhood type	L/M	Indicators	fac_bus_sit	pavem_sit	litt_sit	fac_sit	fac_light_q	fac_opspac_q	othome_q	litt_graff_q	pavem_q
Villages	Locals	Proud1	.244**	-.126*	-.126*	.214**	.170**	.280**	.233**	.199**	
		Friendly_neigh					.136*	.153*			
		Friendly_differback						.129*			
	Migrants	Proud1					.235**	.232**	.144*		
		Friendly_neigh					.262**		.133*	.183**	
		Friendly_differback	.169**				.181**		.152*		
Redeveloped villages	Locals	Proud1	.			.164*	.249**	.220**	.192*	.192*	
		Friendly_neigh	.						.215**		
		Friendly_differback	.						.250**		
	Migrants	Proud1	.			.214**	.275**		.213**		
		Friendly_neigh	.						.358**		
		Friendly_differback	.						.264**	.208**	
Commodity housing	Locals	Proud1	.		.182*	.215**	.243**	.318**	.358**	.240**	
		Friendly_neigh	.						.281**		
		Friendly_differback	.						.253**		
	Migrants	Proud1	.				.269**	.248**	.292**	.157*	.217**
		Friendly_neigh	.						.256**		
		Friendly_differback	.								

Table D.28 Correlations between maintenance and participation in organized activities for locals and migrants respectively in the three neighbourhood types

Neighbourhood type	L/M	Indicators	fac_bus_sit	pavem_sit	litt_sit	fac_sit	fac_light_q	fac_opspac_q	othome_q	litt_graff_q	pavem_q
Villages	Locals	Par_sport		-.253**	-.253**	.217**		.294**	.128*	.148*	.275**
		Par_aduedu									
		Par_communi	.235**	-.209**	-.209**	.257**	.125*	.185**			
		Par_childhobby					.187**				
	Migrants	Par_sport	.235**	-.136*	-.136*	.205**		.329**		.167**	.139*
		Par_aduedu									
		Par_communi	-.182**			-.165*					
		Par_childhobby								-.151*	
Redeveloped villages	Locals	Par_sport	.	.219**	.195*			.219**		.209**	
		Par_aduedu	.						.181*		
		Par_communi	.		.328**	.221**		.281**	.155*		
		Par_childhobby	.				.173*				
	Migrants	Par_sport	.					.277**		.158*	.185*
		Par_aduedu	.						-.172*		
		Par_communi	.								
		Par_childhobby	.								
Commodity housing	Locals	Par_sport	.					.204*			
		Par_aduedu	.								
		Par_communi	.	.242**	-.223**	.196*					
		Par_childhobby	.								-.268**
	Migrants	Par_sport	.								
		Par_aduedu	.								
		Par_communi		.160*		.175*		.169*			
		Par_childhobby	.			.157*					

Table D.29 Correlations between maintenance and sense of safety for locals and migrants respectively in the three neighbourhood types

Neighbourhood type	L/M	Indicators	fac_bus_sit	pavem_sit	litt_sit	fac_sit	fac_light_q	fac_opspac_q	othome_q	litt_graff_q	pavem_q
Villages	Locals	Sense of safety					.328**	.145*	.220**		
		Crime	.187**			.126*		.303**	.199**	.378**	.216**
		Safe_transport_v	.392**			.206**	.179**	.278**	.247**	.310**	.177**
	Migrants	Sense of safety					.331**	.253**	.185**	.158*	
		Crime	.278**				.146*	.274**	.	.267**	
		Safe_transport_v	.257**	-.132*	-.132*	.215**	.271**		.216**	.217**	
Redeveloped villages	Locals	Sense of safety	.		.240**	.203**	.335**	.188*	.164*	.	
		Crime	.	.238**	.199*		.220**	.214**		.279**	
		Safe_transport_v	.	.	.		.	.	.	.	
	Migrants	Sense of safety	.	.229**	.437**	.289**	.349**		.231**		
		Crime	.	.200*				.368**	.209**	.352**	.347**
		Safe_transport_v	.	.	.	.	.		.	.	.
Commodity housing	Locals	Sense of safety	.		.304**		.268**		.185*		.185*
		Crime	.		.640**	-.276**		.239**	.278**	.342**	.238**
		Safe_transport_v	.								
	Migrants	Sense of safety	.							.182*	
		Crime	.		.622**	-.393**		.161*	.169*	.470**	.354**
		Safe_transport_v									

Table D.30 Correlations between maintenance and place attachment for locals and migrants respectively in the three neighbourhood types

Neighbourhood type	L/M	Indicators	fac_bus_sit	pavem_sit	litt_sit	fac_sit	fac_light_q	fac_opspac_q	othome_q	litt_graff_q	pavem_q
Villages	Locals	Proud2	.244**	-.126*	-.126*	.214**	.170**	.280**	.233**	.199**	
		Belong					.225**				
	Migrants	Proud2					.235**	.232**	.144*		
		Belong						.152*	.187**		
Redeveloped villages	Locals	Proud2				.164*	.249**	.220**	.192*	.192*	
		Belong							.230**		
	Migrants	Proud2				.214**	.275**		.213**		
		Belong		-.164*		.235**	.159*		.174*		
Commodity housing	Locals	Proud2			.182*	.215**	.243**	.318**	.358**	.240**	
		Belong							.211*		
	Migrants	Proud2					.269**	.248**	.292**	.157*	.217**
		Belong							.176*		

Table D.31 Correlations between accessibility and social interaction for locals and migrants respectively in the three neighbourhood types

Neig type	L/M	Indicators	opspa1	tolet	bus	nobus	transfoot	fretrans	wwtrans	opspa2	shop	recre	parki	osport	oexerc	orecre	owkdog	oenviron	oplay
V	L	N_chat												.156*	.177*				
		N_borrow																	
		N_know	.182*					.230**				.172*	.212**	.207**					
		N_avoid						-.176*			.223**		-.212**						
	M	N_chat	.248**	.247**	.	.203**													
		N_borrow																	
		N_know	.244**	.186*												.178*	.180*		.184*
		N_avoid						-.192*						.203**	.265**	.228**	.220**		
Rv	L	N_chat																	
		N_borrow								-.200*									
		N_know																	
		N_avoid								.394**	.238*			.307**			.222*		
	M	N_chat																	
		N_borrow																	.196*
		N_know																	
		N_avoid	.																
C	L	N_chat																.227**	.247**
		N_borrow																	
		N_know																	
		N_avoid										-.196*							
	M	N_chat																	
		N_borrow	.181*											.188*					
		N_know																	
		N_avoid	-.176*							.179*									

Table D.32 Correlations between accessibility and sense of community for locals and migrants respectively in the three neighbourhood types

Neig type	L/M	Indicators	opspa1	tolet	bus	nobus	transfoot	fretrans	wwtrans	opspa2	shop	recre	parki	osport	oexerc	orecre	owkdog	oenviron	oplay
V	L	Proud1	.244**	.214**		.126*	.264**	.245**	.204**	.281**		.222**	.178**	.271**	.178**	.255**	.273**	.298**	.287**
		Friendly_ neigh					.152*			.302**				.127*	.171**	.190**	.342**	.208**	.252**
		Friendly_ differback					.176**			.236**		-.126*			.145*	.133*	.302**	.215**	.222**
	M	Proud1								.179**		.258**		.151*		.152*		.211**	
		Friendly_ neigh					.145*		.130*	.277**	.177**				.203**	.198**			
		Friendly_ differback	.169**				.197**		.170**	.288**	.138*			.148*	.251**	.196**	.183**	.158*	.186**
Rv	L	Proud1													.229**		.183*		
		Friendly_ neigh								.237**				.314**	.246**	.234**	.462**	.194*	.205**
		Friendly_ differback								.290**				.314**	.197*	.200**	.383**		.263**
	M	Proud1															.230**	.180*	
		Friendly_ neigh								.306**			.263**		.165*	.181*	.390**	.193*	.174*
		Friendly_ differback								.383**	-.202*		.261**				.465**	.303**	.197*
C	L	Proud1	.215**	-.394**								.335**			.175*	.193*		.258**	.202*
		Friendly_ neigh		-.236**						.315**		.286**				.247**			
		Friendly_ differback								.251**						.251**			
	M	Proud1		-.194*						.175*		.317**							
		Friendly_ neigh								.316**									
		Friendly_ differback								.278**									

Table D.33 Correlations between accessibility and participation in organized activities for locals and migrants respectively in the three neighbourhood types

Neig type	L/M	Indicators	opspa1	tolet	bus	nobus	transfoot	fretrans	wwtrans	opspa2	shop	recre	parki	osport	oexerc	orecre	owkdog	oenviron	oplay
V	L	Pa_sport_nei		.217**	.	.253**		.176**				.173**	.177**					.146*	
		Pa_edu_nei																	
		Pa_comgp_nei	.235**	.257**	.	.209**	.189**	.130*		.212**		.185**	.166**		.159*	.193**	.182**	.183**	.192**
		Pa_chihob_nei								.148*								.155*	
	M	Pa_sport_nei	.235**	.205**	.	.136*	.138*			.174**		.225**							
		Pa_edu_nei																	
		Pa_comgp_nei	-.182**	-.165*	.													.136*	
		Pa_chihob_nei																	
Rv	L	Pa_sport_nei	.281**																
		Pa_edu_nei																	
		Pa_comgp_nei	.281**											.193*	.175*				
		Pa_chihob_nei																.177*	.166*
	M	Pa_sport_nei										.198*			.231**	.200*	.173*		.201*
		Pa_edu_nei																	
		Pa_comgp_nei								.174*									
		Pa_chihob_nei								.163*					.192*				
C	L	Pa_sport_nei													.175*			.182*	.178*
		Pa_edu_nei																	
		Pa_comgp_nei	.196*																
		Pa_chihob_nei																	
	M	Pa_sport_nei													.181*				
		Pa_edu_nei																	
		Pa_comgp_nei	.175*													.173*			
		Pa_chihob_nei	.157*	-.220**						.222**									

Table D.34 Correlations between accessibility and trust for locals and migrants respectively in villages

Neig type	L/M	Indicators	opspa1	tolet	bus	nobus	transfoot	fretrans	wwtrans	opspa2	shop	recre	parki	osport	oexerc	orecre	owkdog	oenviron	oplay
V	L	Trust_q																	
		Trust_inview																	
	M	Trust_q	.219**	.230**	.	.200*													
		Trust_inview																	

Table D.35 Correlations between accessibility and safety for locals and migrants respectively in the three neighbourhood types

Neig type	L/M	Indicators	opspa1	tolet	bus	nobus	transfoot	fretrans	wwtrans	opspa2	shop	recre	parki	osport	oexerc	orecre	owkdog	oenviron	oplay
V	L	Safety					.280**			.146*				.144*	.142*	.169**	.222**	.135*	.130*
		Crime	.187**	.126*			.134*	.283**	.177**	.170**			.220**						
		Safetran	.392**	.206**			.471**	.343**	.480**	.197**	-.148*		.212**	.284**	.301**	.390**	.217**	.255**	.197**
	M	Safety					.169**			.245**	.169**				.191**	.199**	.187**	.199**	.227**
		Crime	.278**				.211**			.222**					.159*	.164*		.133*	.183**
		Safetran	.257**	.215**		.132*	.527**	.294**	.508**	.227**				.147*	.127*				
Rv	L	Safety								.441**				.226**	.214**	.156*	.276**		.172*
		Crime								.211**	.201*								
		Safetran													.	.	.	.	.
	M	Safety	.420**											.293**	.211**	.228**	.264**		.176*
		Crime									.197*		.228**						
		Safetran																	
C	L	Safety		-.189*						.533**								-.164*	
		Crime	-.276**	-.354**						.182*				-.213*					
		Safetran								.									
	M	Safety								.270**									
		Crime	-.393**	-.250**									-.219**						
		Safetran											.						

Table D.36 Correlations between accessibility and place attachment for locals and migrants respectively in the three neighbourhood types

Neig type	L/M	Indicators	opspa1	tolet	bus	nobus	transfoot	fretrans	wwtrans	opspa2	shop	recre	parki	osport	oexerc	orecre	owkdog	oenviron	oplay
V	L	Proud2	.244**	.214**		.126*	.264**	.245**	.204**	.281**		.222**	.178**	.271**	.178**	.255**	.273**	.298**	.287**
		Belong								.191**	.146*			.131*			.324**	.245**	.213**
	M	Proud2													.229**		.183*		
		Belong								.202**				.320**	.253**	.271**	.443**	.225**	.252**
Rv	L	Proud2	.215**	-.394**								.335**			.175*	.193*		.258**	.202*
		Belong								.265**									
	M	Proud2								.179**		.258**		.151*		.152*		.211**	
		Belong										.309**		.152*	.145*	.139*			
C	L	Proud2															.230**	.180*	
		Belong								.205*							.203*	.268**	
	M	Proud2	.	-.194*						.175*		.317**							
		Belong								.183*									

Table D.37 Correlations between socio-spatial features of neighbourhoods and social interaction for locals and migrants respectively in the three neighbourhood types

Neighbourhood types	L/M	Indicators	neigh_liv	quality_neg	character _q	no_landmark	no_ node	rat of node	boundary
Villages	Locals	No_chat							
		No_borrow							
		No_know			.177*	.174*		.182*	
		No_avoid							
	Migrants	No_chat						.248**	
		No_borrow							
		No_know				.240**		.244**	
		No_avoid							
Redeveloped villages	Locals	No_chat	.215*						
		No_borrow				-.220*			
		No_know							
		No_avoid				.294**	.243*		.231*
	Migrants	No_chat							
		No_borrow							
		No_know	.203*	.221*					
		No_avoid							.260**
Commodity housing	Locals	No_chat							
		No_borrow							
		No_know							
		No_avoid			-.176*				
	Migrants	No_chat							
		No_borrow				.180*	.209*		-.189*
		No_know							
		No_avoid							

Table D.38 Correlations between socio-spatial features of neighbourhoods and sense of community for locals and migrants respectively in the three neighbourhood types

Neighbourhood type	L/M	Indicators	neigh_liv	quality_neg	character _q	pro_opspaces	per_attractiv
Villages	Locals	Proud1	.320**	.327**	.235**		.217**
		Friendly_neigh	.291**	.264**			
		Friendly_differback	.245**	.206**			
	Migrants	Proud1	.275**	.226**	.252**		.351**
		Friendly_neigh	.323**	.248**	.211**		.238**
		Friendly_differback	.312**	.209**	.139*	.166**	.218**
Redeveloped villages	Locals	Proud1	.304**	.459**	.328**		.305**
		Friendly_neigh	.417**	.377**	.307**		.328**
		Friendly_differback	.332**	.335**	.225**		.251**
	Migrants	Proud1	.250**	.339**	.224**		.290**
		Friendly_neigh	.224**	.411**			.277**
		Friendly_differback	.201*	.357**			.264**
Commodity housing	Locals	Proud1	.283**	.359**	.216**		.235**
		Friendly_neigh	.165*	.358**			
		Friendly_differback		.394**	.423**		.292**
	Migrants	Proud1	.334**	.399**	.267**		.281**
		Friendly_neigh	.249**	.288**			
		Friendly_differback	.190*	.283**			

Table D.39 Correlations between socio-spatial features of neighbourhoods and feelings of safety for locals and migrants respectively in the three neighbourhood types

Neighbourhood types	L/M	Indicators	neigh_liv	quality_neg	pro_opspaces	per_attractiv	boundary	acti_frontage
Villages	Locals	Sense of safety	.285**	.296**	.140*	.326**		
		Crime		.130*	.148*			.299**
		Safe_transport_v	.146*	.332**	.413**	.286**		
	Migrants	Sense of safety	.325**	.194**		.245**		.420**
		Crime			.365**	.149*		
		Safe_transport_v	.163*	.186**		.169**		
Redeveloped villages	Locals	Sense of safety	.229**	.190*	.240**	.181*		
		Crime			.199*			
		Safe_transport_v						
	Migrants	Sense of safety	.234**	.350**	.437**	.270**		
		Crime	.192*	.184*		.181*		
		Safe_transport_v						
Commodity housing	Locals	Sense of safety	.448**	.211*	-.237**	.231**		
		Crime	.263**		-.525**			
		Safe_transport_v	.					
	Migrants	Sense of safety	.208**			.160*		
		Crime			-.598**			
		Safe_transport_v						

Table D.40 Correlations between socio-spatial features of neighbourhoods and sense of place attachment for locals and migrants respectively in the three neighbourhood types

Neighbourhood types	L/M	Indicators	neigh_liv	quality_neg	character _q	pro_opspaces	per_attractiv
Villages	Locals	Proud2	.320**	.327**	.235**		.217**
		Belong	.329**	.245**			.141*
	Migrants	Proud2	.275**	.226**	.252**		.351**
		Belong	.147*	.161*	.179**		.244**
Redeveloped villages	Locals	Proud2	.304**	.459**	.328**		.305**
		Belong	.346**	.396**	.212**		.252**
	Migrants	Proud2	.250**	.339**	.224**		.290**
		Belong		.181*			.202*
Commodity housing	Locals	Proud2	.283**	.359**	.329**		.403**
		Belong		.249**			
	Migrants	Proud2	.334**	.399**	.423**		.292**
		Belong	.210**	.278**			.227**

Table D.41 Correlations between socio-spatial features of neighbourhoods and participation in organized activities for locals and migrants respectively in the three neighbourhood types

Neighbourhood types	L/M	Indicators	character _q	no_landmark	no_ node	rat of node
Villages	Locals	Par_sport_neigh	.142*		.224**	
		Par_aduedu_neigh				
		Par_communitygroup_neigh		.144*		.235**
		Par_childhobby_neigh				
	Migrants	Par_sport_neigh	.169**	.190**		.235**
		Par_aduedu_neigh				
		Par_communitygroup_neigh		-.138*		-.182**
		Par_childhobby_neigh				
Redeveloped villages	Locals	Par_sport_neigh		.269**		.
		Par_aduedu_neigh				
		Par_communitygroup_neigh		.344**	.221**	.
		Par_childhobby_neigh				
	Migrants	Par_sport_neigh	.165*			
		Par_aduedu_neigh				
		Par_communitygroup_neigh				
		Par_childhobby_neigh				
Commodity housing	Locals	Par_sport_neigh				
		Par_aduedu_neigh				
		Par_communitygroup_neigh		.223**	.242**	
		Par_childhobby_neigh				
	Migrants	Par_sport_neigh				
		Par_aduedu_neigh				
		Par_communitygroup_neigh	.222**		.160*	
		Par_childhobby_neigh				

Table D.42 Correlations between legibility and trust for locals and migrants respectively in the three neighbourhood types

Neighbourhood types	L/M	Indicators	no_landmark	no_ node	rat of node
Villages	Locals	Trust_q			
	Migrants	Trust_q			.219**
Redeveloped villages	Locals	Trust_q	-.196*		
	Migrants	Trust_q			
Commodity housing	Locals	Trust_q			
	Migrants	Trust_q			

Appendix E. Regression analyses

Table E.1 Standard Regression Analysis: Z-score of social interaction indicators (dependent variable) for villages, redeveloped villages and commodity housing separately

	Independent variables	Independent variables	Unstandardized Coefficients-B	Standardized Coefficients-Beta	Sig	Collinearity Statistics		R	R Square	Adjust R Square
						Tolerance	VIF			
V	1. FQON variables	(Constant)	-.077		.063			.174	.030	.027
		Zscore_legib_sit	.191	.174	.002	1.000	1.000			
	2. FQON variables and intervening variables	(Constant)	-.542		.000			.297	.088	.079
		Pay rent by employer	.592	.233	.000	.977	1.024			
		Use_facilities	.323	.157	.004	.999	1.001			
		Household income	.059	.143	.009	.977	1.023			
Rv	1. FQON variables	(Constant)	-.037		.377			.174	.030	.026
		Zscore_ overmeasure_q	.135	.174	.010	1.000	1.000			
	2. FQON variables and intervening variables	(Constant)	-.135		.008			.284	.080	.072
		Zscore_ overmeasure_q	.131	.169	.010	.999	1.001			
		Guangdong Province's other places except Guangzhou City	.305	.224	.001	.999	1.001			
C	1. FQON variables									
	2. FQON variables and intervening variables	(Constant)	.047		.826			.385	.148	.130
		Use_facilities	.243	.150	.014	.992	1.009			
		D_house_q	1.036	.259	.000	.986	1.014			
		Length of residence	.124	.169	.006	.966	1.035			
		Two adults, at least one 60 or over	-.872	-.135	.027	.983	1.017			

Table E.2 Standard Regression Analysis: Z-score of positive social interaction (dependent variable) for villages, redeveloped villages and commodity housing separately

	Independent variables	Independent variables	Unstandardized Coefficients-B	Standardized Coefficients-Beta	Sig	Collinearity Statistics		R	R Square	Adjust R Square
						Tolerance	VIF			
V	1. FQON variables	(Constant)	-.061		.225			.169	.029	.026
		Zscore_legib_sit	.225	.169	.002	1.000	1.000			
	2. FQON variables and intervening variables	(Constant)	-1.126		.000			.346	.120	.106
		Pay rent by employer	.842	.274	.000	.908	1.101			
		Use_facilities	.491	.196	.000	.962	1.040			
		Household income	.060	.120	.026	.972	1.028			
		Plans to move house in next few years	.240	.116	.037	.911	1.098			
		Looking after home	.311	.111	.040	.977	1.023			
Rv	1. FQON variables	(Constant)	-.073		.172			.164	.027	.022
		Zscore_ overmeasure_q	.161	.164	.015	1.000	1.000			
	2. FQON variables and intervening variables	(Constant)	-.199		.002			.281	.079	.071
		Zscore_ overmeasure_q	.155	.159	.016	.999	1.001			
		Guangdong Province's other places except Guangzhou City	.394	.228	.001	.999	1.001			
C	1. FQON variables									
	2. FQON variables and intervening variables	(Constant)	.053		.838			.430	.185	.167
		Use_facilities	.457	.226	.000	.992	1.008			
		D_house_q	1.338	.268	.000	.986	1.014			
		Length of residence	.166	.181	.003	.969	1.032			
		Unemployed	-.711	-.124	.038	.983	1.017			

Table E.3 Standard Regression Analysis: negative social interaction (dependent variable) for villages, redeveloped villages and commodity housing separately

	Independent variables	Independent variables	Unstandardized Coefficients-B	Standardized Coefficients-Beta	Sig	Collinearity Statistics		R	R Square	Adjust R Square
						Tolerance	VIF			
V	1. FQON variables									
	2. FQON variables and intervening variables	(Constant)	3.340		.000			.253	.064	.052
		Zscore_ density_sit	1.138	.132	.018	.953	1.050			
		Length of residence	-.082	-.163	.007	.837	1.194			
		Three or more adults with children	.240	.139	.015	.916	1.091			
		Retried	-.269	-.122	.042	.838	1.193			
Rv	1. FQON variables	(Constant)	3.123		.000			.226	.051	.047
		Zscore_ mainte_sit	.702	.226	.001	1.000	1.000			
		(Constant)	3.872		.000			.154	.024	.019
		Boundary_ remwall_q	.106	-.154	.022	1.000	1.000			
	2. FQON variables and intervening variables	(Constant)	3.246		.000			.269	.072	.064
		Zscore_ mainte_sit	.698	.224	.001	1.000	1.000			
		Guangzhou City	-.221	-.148	.025	1.000	1.000			
		(Constant)	3.485		.000			.229	.052	.044
		Boundary_ remwall_q	.110	-.160	.017	.998	1.002			
		Local or migrant	.255	.172	.010	.998	1.002			
C	1. FQON variables	(Constant)	4.025		.000			.135	.018	.015
		Character_cur_q	-.095	-.135	.025	1.000	1.000			
	2. FQON variables and intervening variables	(Constant)	4.307		.000			.386	.149	.131
		Character_cur_q	-.108	-.149	.015	.985	1.015			
		Pay part rent by employer, part rent for yourself	-1.703	-.207	.001	.983	1.017			
		Two adults, at least one 60 or over	-1.424	-.211	.001	.994	1.006			
		Use_facilities	-.275	-.163	.008	.976	1.025			
		Three or more adults	-.248	-.143	.019	.986	1.014			

Table E.4 Standard Regression Analysis: Z-score of social network indicators (dependent variable) for villages, redeveloped villages and commodity housing separately

	Independent variables	Independent variables	Unstandardized Coefficients-B	Standardized Coefficients-Beta	Sig	Collinearity Statistics		R	R Square	Adjust R Square
						Tolerance	VIF			
V	1. FQON variables only									
	2. FQON variables and intervening indicators	(Constant)	-.418		.017			.393	.154	.143
		Retried	-.531	-.226	.000	.763	1.310			
		Local or migrant	.290	.155	.009	.858	1.166			
		Pay part rent by employer, part rent for yourself	-1.409	-.126	.022	.990	1.010			
		Two adults, at least one 60 or over	-.457	-.122	.041	.832	1.202			
Rv	1. FQON variables only									
	2. FQON variables and intervening indicators	(Constant)	-1.663		.000			.410	.168	.152
		Local or migrant	.627	.341	.000	.554	1.804			
		Employed more than 30 hours	.411	.219	.001	.886	1.128			

	Independent variables	Independent variables	Unstandardized Coefficients-B	Standardized Coefficients-Beta	Sig	Collinearity Statistics		R	R Square	Adjust R Square
						Tolerance	VIF			
		Own outright	.476	.250	.003	.578	1.729			
		Three or more adults	-.490	-.144	.024	.974	1.027			
C	1. FQON variables only									
	2. FQON variables and intervening indicators	(Constant)	-.818		.000			.277	.077	.063
		Two adults, at least one 60 or over	-1.157	-.136	.045	.981	1.020			
		Use_facilities	.363	.205	.003	.982	1.018			
		Length of residence	.148	.171	.012	.966	1.036			

Table E.5 Standard Regression analyses: Z-score of sense of community indicators (dependent variable) for villages, redeveloped villages and commodity housing separately

Neighbourhood type	Independent variables	Independent variables	Unstandardized Coefficients-B	Standardized Coefficients-Beta	Sig	Collinearity Statistics		R	R Square	Adjust R Square
						Tolerance	VIF			
Villages	1. FQON variables	(Constant)	-.145		.000			.383	.147	.143
		Zscore_ Overmeasure_q	.251	.286	.000	.788	1.269			
		Zscore_ access_q	.255	.155	.001	.788	1.269			
	2. FQON variables and intervening variables	(Constant)	.475		.000			.485	.236	.226
		Zscore_ Overmeasure_q	.232	.266	.000	.753	1.328			
		Zscore_access_q	.265	.162	.000	.764	1.308			
		Local or migrant	-.284	-.176	.000	.785	1.274			
		Pay rent by employer	.320	.112	.010	.869	1.150			
		Looking after home1	-.487	-.168	.000	.807	1.239			
		Employed more than 30 hours	-.307	-.186	.000	.737	1.357			
Redeveloped villages	1. FQON variables	(Constant)	-.005		.906			.470	.221	.216
		Zscore_ Overmeasure_q	.328	.309	.000	.850	1.176			
		Zscore_ access_q	.392	.254	.000	.850	1.176			
	2. FQON variables and intervening variables	(Constant)	-.643		.000			.609	.371	.357
		Zscore_ Overmeasure_q	.206	.194	.000	.782	1.279			
		Zscore_ access_q	.325	.210	.000	.766	1.305			
		Pay rent by employer	-.585	-.198	.000	.719	1.390			
		D_house_q	.392	.237	.000	.853	1.173			
		Household income	.080	.185	.001	.712	1.404			
		Retried	.276	.148	.003	.851	1.176			
		Own with a mortgage or loan	.275	.098	.037	.944	1.060			
Commodity housing	1. FQON variables	(Constant)	.212		.000			.469	.220	.214
		Zscore_ Overmeasur_q	.367	.409	.000	.953	1.049			
		Zscore_ access_q	.183	.156	.003	.953	1.049			
	2. FQON variables and intervening variables	(Constant)	-.465		.001			.491	.241	.229
		Zscore_ Overmeasure_q	.321	.361	.000	.974	1.027			
		Houssize_q	.303	.218	.000	.995	1.005			
		Pay part rent by employer, part rent for yourself	-1.270	-.151	.006	.981	1.019			
		Own outright	.203	.137	.012	.967	1.034			

Table E.6 Logistic Regression Analysis: Participation in sports groups (Dependent variable) for villages, redeveloped villages and commodity housing separately

Model summary

Neighbourhood Type	Independent variables	-2 Log likelihood	Nagelkerke R Square	Chi-square	df	Sig.
Villages	1. FQON variables only	590.269[a]	.126	14.766	8	.064
	2. FQON variables and intervening indicators	557.312[b]	.194	8.968	8	.345
Redeveloped villages	1. FQON variables only	316.135[a]	.123	3.013	7	.884
	2. FQON variables and intervening indicators	279.527[b]	.261	11.599	8	.170
Commodity housing	1. FQON variables only	317.265[a]	.022	5.127	8	.744
	2. FQON variables and intervening indicators	229.077[b]	.288	6.470	8	.595

---Villages

1. a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

The Nagelkerke r square values suggest that the 12.6 % of the variability in the participation in sports groups is explained by the model.

2. b. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

The Nagelkerke r square values suggest that the 19.4 % of the variability in the participation in sports groups is explained by the model.

---Redeveloped villages

1. a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

The Nagelkerke r square values suggest that the 12.3 % of the variability in the participation in sports groups is explained by the model.

2. b. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

The Nagelkerke r square values suggest that the 26.1 % of the variability in the participation in sports groups is explained by the model.

---Commodity housing

1. a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

The Nagelkerke r square values suggest that the 2.2 % of the variability in the participation in sports groups is explained by the model.

2. b. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

The Nagelkerke r square values suggest that the 28.8 % of the variability in the participation in sports groups is explained by the model.

Variables in the equation

Neighbourhood types	Independent variables	Independent variables	B	Sig.	Exp(B)	95% C.I.for EXP(B) Lower	Upper
Villages	1. FQON variables only	Zscore_mainte_q	.893	.000	2.443	1.677	3.560
		Zscore_access_sit	.458	.000	1.580	1.224	2.040
		Constant	-1.022	.000	.360		
	2. FQON variables and intervening indicators	Zscore_mainte_q	.878	.000	2.405	1.622	3.567
		Zscore_access_sit	.527	.000	1.693	1.297	2.211
		Plans to move house in next few years	.909	.001	2.481	1.446	4.259
		Use_facilities	1.184	.001	3.267	1.655	6.450
		Constant	-3.537	.000	.029		
Redeveloped villages	1. FQON variables only	Zscore_mainte_q	.904	.001	2.470	1.464	4.169
		Sur_frontage_sit	2.177	.001	8.819	2.436	31.923
		Constant	-9.469	.000	.000		
	2. FQON variables and intervening indicators	Zscore_mainte_q	1.041	.001	2.831	1.506	5.325
		Zscore_overmeasure_q	-.445	.042	.641	.417	.983
		Use_facilities	2.483	.000	11.971	4.945	28.980
		Gender	-.650	.031	.522	.290	.941
		Three or more adults with children	-.673	.034	.510	.274	.950
		Constant	-1.911	.001	.148		
Commodity housing	1. FQON variables only	Zscore_access_q	.464	.038	1.591	1.025	2.468
		Constant	-1.081	.000	.339		
	2. FQON variables and intervening indicators	*Use_facilities*	1.908	.000	6.742	2.981	15.246
		Three or more adults	.971	.008	2.640	1.288	5.410
		Hukou	-1.599	.001	.202	.079	.517
		Constant	-.726	.245	.484		

Table E.7 Logistic Regression Analysis: Participation in adult education (Dependent variable) for villages, redeveloped villages and commodity housing separately

Model summary

Neighbourhood Type	Independent variables	-2 Log likelihood	Nagelkerke R Square	Chi-square	df	Sig.
Villages	1. FQON variables only					
	2. FQON variables and intervening indicators	60.260[b]	.188	.000	2	1.000

--- Villages

2. b. Estimation terminated at iteration number 8 because parameter estimates changed by less than .001.

The Nagelkerke r square values suggest that the 18.8 % of the variability in the participation in adult education groups is explained by the model.

Variables in the equation

Neighbourhood types	Independent variables	Independent variables	B	Sig.	Exp(B)	95% C.I.for EXP(B) Lower	Upper
Villages	1. FQON variables only						
	2. FQON variables and intervening indicators	*Own outright*	2.183	.045	8.872	1.054	74.652
		Constant	-23.032	.994	.000		

Table E.8 Logistic Regression Analysis: Participation in community groups (Dependent variable) for villages, redeveloped villages and commodity housing separately

Model summary

Neighbourhood Type	Independent variables	-2 Log likelihood	Nagelkerke R Square	Chi-square	df	Sig.
Villages	1. FQON variables only	383.607[a]	.040	8.202	8	.414
	2. FQON variables and intervening indicators	315.595[b]	.265	7.557	8	.478
Redeveloped villages	1. FQON variables only	149.941[a]	.150	.414	1	.520
	2. FQON variables and intervening indicators	141.265[b]	.208	8.945	6	.177
Commodity housing	1. FQON variables only	132.763[a]	.163	3.387	5	.641
	2. FQON variables and intervening indicators	114.012[b]	.243	2.653	7	.915

---Villages

1. a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

The Nagelkerke r square values suggest that the 4 % of the variability in the participation in community groups is explained by the model.

2. b. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

The Nagelkerke r square values suggest that the 26.5 % of the variability in the participation in community groups is explained by the model.

---Redeveloped villages

1. a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

The Nagelkerke r square values suggest that the 15.0 % of the variability in the participation in community groups is explained by the model.

2. b. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

The Nagelkerke r square values suggest that the 20.8 % of the variability in the participation in community groups is explained by the model.

---Commodity housing

1. a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

The Nagelkerke r square values suggest that the 16.3 % of the variability in the participation in community groups is explained by the model.

2. b. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

The Nagelkerke r square values suggest that the 24.3 % of the variability in the participation in community groups is explained by the model.

Variables in the equation

Neighbourhood Type	Independent variables	Independent variables	B	Sig.	Exp(B)	95% C.I.for EXP(B) Lower	Upper
Villages	1. FQON variables only	Zscore_access_q	.974	.002	2.647	1.445	4.850
		Constant	-2.060	.000	.127		
	2. FQON variables and intervening indicators	Zscore_access_q	.916	.011	2.500	1.229	5.084
		Zscore_access_sit	.460	.031	1.583	1.042	2.407
		Local or migrant	1.751	.006	5.763	1.644	20.196
		Own outright	3.323	.000	27.739	6.931	111.012
		Use_facilities	1.349	.004	3.852	1.548	9.582
		Constant	-7.946	.000	.000		
Redeveloped villages	1. FQON variables only	Zscore_legib_sit	2.748	.000	15.608	3.751	64.935
		Constant	-1.291	.000	.275		
	2. FQON variables and intervening indicators	Zscore_legib_sit	2.869	.000	17.613	4.127	75.160
		Own outright	1.252	.022	3.498	1.198	10.214
		Constant	-2.216	.000	.109		
Commodity housing	1. FQON variables only	Zscore_legib_sit	1.223	.001	3.397	1.678	6.878
		Character_cur_q	.937	.015	2.551	1.201	5.421
		Constant	-6.441	.000	.002		
	2. FQON variables and intervening indicators	Zscore_legib_sit	1.116	.006	3.052	1.379	6.756
		Character_cur_q	1.113	.011	3.045	1.297	7.145
		Respondents' income	.310	.013	1.364	1.067	1.744
		Constant	-8.361	.000	.000		

Table E.9 Logistic Regression Analysis: Participation in children's hobby groups (Dependent variable) for villages, redeveloped villages and commodity housing separately

Summary

Neighbourhood Type	Independent variables	-2 Log likelihood	Nagelkerke R Square	Chi-square	df	Sig.
Villages	1. FQON variables only					
	2. FQON variables and intervening indicators	141.451[b]	.241	6.341	8	.609
Redeveloped villages	1. FQON variables only					
	2. FQON variables and intervening indicators	42.722[c]	.301	6.128	8	.633
Commodity housing	1. FQON variables only	101.639[a]	.065	.024	1	.877
	2. FQON variables and intervening indicators	89.590[e]	.163	5.282	8	.727

---Commodity housing

1. a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

The Nagelkerke r square values suggest that the 6.5 % of the variability in the participation in children's hobby groups is explained by the model.

Variables in the equation

Neighbourhood Type	Independent variables	Independent variables	B	Sig.	Exp(B)	95% C.I.for EXP(B) Lower	Upper
Villages	1. FQON variables only						
	2. FQON variables and intervening indicators	*Use_facilities*	2.362	.000	10.612	3.225	34.923
		D_Makeshift_q	1.981	.012	7.253	1.538	34.205
		Constant	-4.788	.000	.008		
Redeveloped villages	1. FQON variables only						
	2. FQON variables and intervening indicators	*Use_facilities*	3.836	.000	46.325	5.584	384.293
		Plans to move house in next few years	-1.933	.035	.145	.024	.876
		Constant	-4.239	.014	.014		
Commodity housing	1. FQON variables only	*Sur_frontage_sit*	2.557	.043	12.899	1.088	152.976
		Constant	-12.747	.009	.000		
	2. FQON variables and intervening indicators	Zscore_access_sit	-3.304	.017	.037	.002	.549
		Use_facilities	1.647	.003	5.191	1.749	15.404
		Constant	-6.370	.000	.002		

Table E.10 Standard Regression Analyses: trust and reciprocity (dependent variable) for villages, redeveloped villages and commodity housing separately

	Independent variables	Independent variables	Unstandardized Coefficients-B	Standardized Coefficients-Beta	Sig	Collinearity Statistics		R	R Square	Adjust R Square
						Toleran	VIF			
V	1. FQON variables									
	2. FQON variables and intervening indicators	(Constant)	2.912		.000			.323	.105	.093
		Zscore_access_sit	.223	.165	.002	.993	1.007			
		Age	-.132	-.200	.000	.955	1.047			
		Use_facilities	.522	.145	.008	.956	1.045			
		Three or more adults	-.450	-.118	.028	.995	1.005			
Rv	1. FQON variables									
	2. FQON variables and intervening indicators	(Constant)	2.350		.000			.233	.054	.045
		Guangdong Province's other places except Guangzhou City	.561	.191	.005	.995	1.005			
		Employed less than 30 hours	1.141	.147	.028	.995	1.005			
C	1. FQON variables									
	2. FQON variables and intervening indicators	(Constant)	2.491		.000			.387	.150	.128
		Use_facilities	.446	.152	.013	.983	1.017			
		Looking after home1	1.265	.287	.000	.868	1.152			
		Hukou	-.450	-.156	.012	.942	1.062			
		Respondents' income	.140	.213	.003	.728	1.373			
		Full time student in university	.565	.150	.032	.748	1.337			
		D_house_q	.944	.131	.033	.972	1.029			

Table E.11 Standard Regression Analyses: Z-score of sense of safety indicators (dependent variable) for villages, redeveloped villages and commodity housing separately

	Independent variables	Independent variables	Unstandardized Coefficients-B	Standardized Coefficients-Beta	Sig	Collinearity Statistics		R	R Square	Adjust R Square
						Tolerance	VIF			
V	1. FQON variables only	(Constant)	-.950		.000			.531	.282	.276
		Zscore_mainte_q	.292	.269	.000	.665	1.504			
		Zscore_access_q	.266	.199	.000	.701	1.427			
		Attractiveness_cur_q	.061	.095	.028	.802	1.247			
	2. FQON variables and intervening indicators	(Constant)	-.700		.000			.593	.352	.339
		Zscore_mainte_q	.288	.265	.000	.649	1.540			
		Zscore_access_q	.268	.201	.000	.699	1.431			
		Attractiveness_cur_q	.074	.115	.007	.772	1.296			
		One adult under 60	.273	.144	.000	.846	1.182			
		Employed less than 30 hours	.438	.133	.000	.989	1.012			
		Gender	-.135	-.103	.008	.911	1.098			
		Full time student in university	-.242	-.077	.040	.978	1.022			
		D_Makeshift_q	-.309	-.076	.043	.974	1.027			
Rv	1. FQON variables only	(Constant)	1.402		.000			.495	.245	.240
		Zscore_mainte_q	.392	.328	.000	.993	1.007			
		Zscore_access_sit	2.739	.343	.000	.993	1.007			
	2. FQON variables and intervening indicators	(Constant)	1.234		.001			.599	.359	.345
		Zscore_mainte_q	.375	.315	.000	.959	1.043			
		Zscore_access_sit	2.599	.325	.000	.918	1.089			
		Gender	-.344	-.235	.000	.959	1.043			
		Age	-.057	-.134	.008	.812	1.231			
		D_house_q	.228	.153	.003	.807	1.238			
		Residents' self-identity (locals or migrants)	.236	.158	.003	.731	1.367			
		Plans to move house	.189	.106	.035	.831	1.203			
C	1. FQON variables only	(Constant)	-.568		.000			.578	.334	.328
		Zscore_mainte_q	.224	.197	.000	.880	1.136			
		Zscore_access_sit	.886	.263	.003	.282	3.544			
		Zscore_connectper_sit	-2.404	-.688	.000	.278	3.600			
	2. FQON variables and intervening indicators	(Constant)	-2.436		.000			.618	.382	.368
		Zscore_mainte_q	.190	.166	.006	.654	1.530			
		Zscore_connectper_sit	-3.203	-.940	.000	.109	9.138			
		Zscore_density_sit	-3.389	-.482	.001	.113	8.846			
		Zscore_overmeasure_q	.105	.114	.048	.718	1.393			
		Household income	.065	.141	.007	.879	1.138			

Table E.12 Standard Regression Analyses: Z-score of sense of place attachment indicators (dependent variable) for villages, redeveloped villages, and commodity housing separately

	Independent variables	Independent variables	Unstandardized Coefficients-B	Standardized Coefficients-Beta	Sig	Collinearity Statistics		R	R Square	Adjust R Square
						Tolerance	VIF			
V	1. FQON variables only	(Constant)	-.715		.000			.373	.139	.135
		Zscore_overmeasure_q	.218	.226	.000	.566	1.768			
		Attractiveness_cur_q	.158	.183	.001	.566	1.768			
	2. FQON variables and intervening indicators	(Constant)	-1.168		.000			.626	.392	.382
		Zscore_overmeasure_q	.194	.202	.000	.753	1.328			
		Zscore_access_q	.236	.131	.002	.752	1.330			
		Use_facilities	.415	.144	.000	.952	1.050			
		Length of residence	.080	.151	.022	.298	3.354			
		Employed more than 30 hours	-.242	-.133	.002	.734	1.363			
		Looking after home1	-.318	-.100	.012	.809	1.235			
		D_house_q	.357	.108	.003	.964	1.037			
		Own outright	.517	.291	.000	.312	3.209			
Rv	1. FQON variables only	(Constant)	-.009		.836			.396	.157	.152
		Zscore_overmeasure_q	.330	.305	.000	.850	1.176			
		Zscore_access_q	.253	.161	.004	.850	1.176			
	2. FQON variables and intervening indicators	(Constant)	-.811		.000			.643	.414	.399
		Zscore_overmeasure_q	.285	.266	.000	.915	1.093			
		D_house_q	.346	.207	.000	.810	1.234			
		Own outright	.468	.280	.000	.509	1.963			
		Own with a mortgage or loan	.525	.185	.000	.745	1.342			
		One adult under 60	-.328	-.143	.022	.497	2.012			
		Two adults both under 60	-.391	-.113	.014	.918	1.090			
		Household income	.070	.160	.003	.680	1.470			
		Retried	.199	.105	.035	.777	1.288			

	Independent variables	Independent variables	Unstandardized Coefficients-B	Standardized Coefficients-Beta	Sig	Collinearity Statistics		R	R Square	Adjust R Square
						Tolerance	VIF			
C	1. FQON variables only	(Constant)	-.590		.149			.469	.220	.212
		Zscore_overmeasure_q	.283	.312	.000	.723	1.383			
		Zscore_mainte_q	.232	.199	.001	.726	1.376			
		Sur_frontage_sit	.222	.102	.047	.993	1.007			
	2. FQON variables and intervening indicators	(Constant)	-.559		.001			.495	.245	.231
		Zscore_overmeasure_q	.263	.291	.000	.723	1.384			
		Zscore_mainte_q	.171	.152	.023	.657	1.523			
		Own outright	.525	.350	.000	.391	2.558			
		Own with a mortgage or loan	.401	.247	.005	.382	2.620			
		Houssize_q	.212	.150	.006	.994	1.006			

Appendix F. Supplementary Analyses

F.1 Independent-Sample T-Test: Negative social interaction and respondents' local or migrant identify in general

F.1a Group Statistics

	Local or migrant	N	Mean	Std. Deviation	Std. Error Mean
No_avoid	Local	391	3.52	.850	.043
	Migrant	427	3.72	.677	.033

F.1b Independent Samples Test

		Levene's Test for F		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
No_avoid	Equal variances assumed	40.695	.000	-3.868	816	.000	-.207	.054	-.312	-.102
	Equal variances not assumed			-3.831	744.889	.000	-.207	.054	-.313	-.101

F.1c Effect size for independent-sample test

Eta squared = $t^2 / t^2 + (N1 + N2 - 2) = 0.021 = 0.02$ = a very small effect

Expressed as a percentage (eta squared value by 100), 2% of the variance in negative social interaction is explained by residents' perceptions about removing their neighbourhood boundary.

F.2 Independent-Sample T-Test: Negative social interaction and resondents' local or migrant identify in redeveloped villages

F.2a Group Statistics

Neighbourhood Type		Local or migrant	N	Mean	Std. Deviation	Std. Error Mean
Redeveloped villages	No_avoid	Local	101	3.54	.889	.088
		Migrant	120	3.79	.564	.051

F.2b Independent Samples Test

Neighbourhood Type			Levene's Test for F		t-test for Equality of Means						
										95% Confidence Interval	
			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Redeveloped villages	No_avoid	Equal variances assumed	23.878	.000	-2.505	219	.013	-.247	.099	-.442	-.053
		Equal variances not assumed			-2.415	163.364	.017	-.247	.102	-.449	-.045

F.2c Effect size for independent-sample test

Eta squared = $t^2 / t^2 + (N1 + N2 - 2) = 0.030 = 0.03$ = a very small effect

Expressed as a percentage (eta squared value by 100), 3% of the variance in negative social interaction is explained by residents' perceptions about removing their neighbourhood boundary.

F.3 One-Way Between-Groups ANOVA with Post-Hoc analyses: Social interaction and economic status in general

F.3a Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Zscore_social interaction	1.837	6	810	.089

F.3b ANOVA

Zscore_social interaction

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7.514	6	1.252	2.821	.010
Within Groups	359.531	810	.444		
Total	367.044	816			

F.3c Multiple Comparisons

Dependent Variable: Zscore_social interaction

Tukey HSD (I) Economic status	(J) Economic status	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Employed/self-employed full-time	Employed/self-employed part-time	.03132	.12329	1.000	-.3331	.3957
	Unemployed/seeking work	.02369	.15191	1.000	-.4253	.4727
	Full-time student at college/university	-.08462	.09311	.971	-.3598	.1906
	Looking after family/home	-.17689	.08553	.373	-.4297	.0759
	Retired	.16250	.06496	.160	-.0295	.3545
	Long term sick or disabled	.60836	.33444	.535	-.3802	1.5969
Employed/self-employed part-time	Employed/self-employed full-time	-.03132	.12329	1.000	-.3957	.3331
	Unemployed/seeking work	-.00763	.19108	1.000	-.5724	.5572
	Full-time student at college/university	-.11594	.14868	.987	-.5554	.3235
	Looking after family/home	-.20820	.14405	.777	-.6340	.2176
	Retired	.13118	.13287	.957	-.2616	.5239
	Long term sick or disabled	.57705	.35396	.663	-.4692	1.6233
Unemployed/seeking work	Employed/self-employed full-time	-.02369	.15191	1.000	-.4727	.4253
	Employed/self-employed part-time	.00763	.19108	1.000	-.5572	.5724
	Full-time student at college/university	-.10831	.17315	.996	-.6201	.4035
	Looking after family/home	-.20057	.16919	.900	-.7007	.2995
	Retired	.13881	.15978	.977	-.3335	.6111
	Long term sick or disabled	.58467	.36491	.681	-.4939	1.6633
Full-time student at college/university	Employed/self-employed full-time	.08462	.09311	.971	-.1906	.3598
	Employed/self-employed part-time	.11594	.14868	.987	-.3235	.5554
	Unemployed/seeking work	.10831	.17315	.996	-.4035	.6201
	Looking after family/home	-.09226	.11925	.987	-.4447	.2602
	Retired	.24712	.10547	.225	-.0646	.5589
	Long term sick or disabled	.69298	.34461	.408	-.3256	1.7116
Looking after family/home	Employed/self-employed full-time	.17689	.08553	.373	-.0759	.4297
	Employed/self-employed part-time	.20820	.14405	.777	-.2176	.6340
	Unemployed/seeking work	.20057	.16919	.900	-.2995	.7007
	Full-time student at college/university	.09226	.11925	.987	-.2602	.4447
	Retired	.33939*	.09884	.011	.0472	.6315
	Long term sick or disabled	.78525	.34264	.249	-.2275	1.7980
Retired	Employed/self-employed full-time	-.16250	.06496	.160	-.3545	.0295
	Employed/self-employed part-time	-.13118	.13287	.957	-.5239	.2616
	Unemployed/seeking work	-.13881	.15978	.977	-.6111	.3335
	Full-time student at college/university	-.24712	.10547	.225	-.5589	.0646
	Looking after family/home	-.33939*	.09884	.011	-.6315	-.0472
	Long term sick or disabled	.44586	.33809	.843	-.5534	1.4452
Long term sick or disabled	Employed/self-employed full-time	-.60836	.33444	.535	-1.5969	.3802
	Employed/self-employed part-time	-.57705	.35396	.663	-1.6233	.4692
	Unemployed/seeking work	-.58467	.36491	.681	-1.6633	.4939
	Full-time student at college/university	-.69298	.34461	.408	-1.7116	.3256
	Looking after family/home	-.78525	.34264	.249	-1.7980	.2275
	Retired	-.44586	.33809	.843	-1.4452	.5534

*. The mean difference is significant at the 0.05 level.

F.3d Effect size = Sum of squares between-groups /Total sum of squares = 0.021 = 0.02= a small effect

F.4 One-Way Between-Groups ANOVA with Post-Hoc analyses: Social interaction and economic status in villages

F.4a Test of Homogeneity of Variances

Neighbourhood Type	Levene Statistic	df1	df2	Sig.
Villages	.786	6	316	.581

F.4b ANOVA

Zscore_social interaction

Neighbourhood Type		Sum of Squares	df	Mean Square	F	Sig.
Villages	Between Groups	6.676	6	1.113	2.672	.015
	Within Groups	131.601	316	.416		
	Total	138.277	322			

The one-way ANOVA analysis reveals that social interaction does not differ for respondents with different economic status in villages.

F.5 One-Way Between-Groups ANOVA with Post-Hoc analyses: Negative social interaction and household composition in general

F.5a Test of Homogeneity of Variances

No_avoid	Levene Statistic	df1	df2	Sig.
	3.724	6	802	.001

A more stringent significance value (0.01) is set for evaluating the findings from the one-way ANOVA because the significance value is less than 0.05.

F.5b ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	9.506	6	1.584	2.705	.013
Within Groups	469.757	802	.586		
Total	479.263	808			

F.5c Multiple Comparisons

Tukey HSD (I) Household composition	(J) Household composition	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
One adult under 60	One adult aged 60 or over	.177	.247	.992	-.55	.91
	Two adults both under 60	-.023	.135	1.000	-.42	.38
	Two adults, at least one 60 or over	.516*	.174	.048	.00	1.03
	Three or more adults	.102	.112	.971	-.23	.43
	Three or more adults with children, at least one under 18	-.036	.099	1.000	-.33	.26
	2- parent family with children, at least one under 18	-.051	.101	.999	-.35	.25
One adult aged 60 or over	One adult under 60	-.177	.247	.992	-.91	.55
	Two adults both under 60	-.200	.253	.986	-.95	.55
	Two adults, at least one 60 or over	.339	.275	.882	-.47	1.15
	Three or more adults	-.075	.241	1.000	-.79	.64
	Three or more adults with children, at least one under 18	-.213	.235	.971	-.91	.48
	2- parent family with children, at least one under 18	-.228	.236	.961	-.93	.47
Two adults both under 60	One adult under 60	.023	.135	1.000	-.38	.42
	One adult aged 60 or over	.200	.253	.986	-.55	.95
	Two adults, at least one 60 or over	.539*	.182	.049	.00	1.08
	Three or more adults	.125	.125	.953	-.24	.49
	Three or more adults with children, at least one under 18	-.013	.113	1.000	-.35	.32
	2- parent family with children, at least one under 18	-.028	.115	1.000	-.37	.31
Two adults, at least one 60 or over	One adult under 60	-.516*	.174	.048	-1.03	.00
	One adult aged 60 or over	-.339	.275	.882	-1.15	.47
	Two adults both under 60	-.539*	.182	.049	-1.08	.00
	Three or more adults	-.414	.166	.161	-.90	.08
	Three or more adults with children, at least one under 18	-.552*	.157	.008	-1.02	-.09
	2- parent family with children, at least one under 18	-.567*	.158	.007	-1.03	-.10
Three or more adults	One adult under 60	-.102	.112	.971	-.43	.23
	One adult aged 60 or over	.075	.241	1.000	-.64	.79
	Two adults both under 60	-.125	.125	.953	-.49	.24
	Two adults, at least one 60 or over	.414	.166	.161	-.08	.90
	Three or more adults with children, at least one under 18	-.138	.083	.643	-.38	.11
	2- parent family with children, at least one under 18	-.153	.086	.566	-.41	.10
Three or more adults with children, at least one under 18	One adult under 60	.036	.099	1.000	-.26	.33
	One adult aged 60 or over	.213	.235	.971	-.48	.91
	Two adults both under 60	.013	.113	1.000	-.32	.35
	Two adults, at least one 60 or over	.552*	.157	.008	.09	1.02
	Three or more adults	.138	.083	.643	-.11	.38
	2- parent family with children, at least one under 18	-.015	.067	1.000	-.21	.18
2- parent family with children, at least one under 18	One adult under 60	.051	.101	.999	-.25	.35
	One adult aged 60 or over	.228	.236	.961	-.47	.93
	Two adults both under 60	.028	.115	1.000	-.31	.37
	Two adults, at least one 60 or over	.567*	.158	.007	.10	1.03
	Three or more adults	.153	.086	.566	-.10	.41
	Three or more adults with children, at least one under 18	.015	.067	1.000	-.18	.21

*. The mean difference is significant at the 0.05 level.

F.5d Effect size = Sum of squares between-groups / Total sum of squares = 0.020 = 0.02 = a very small effect

F.6 One-Way Between-Groups ANOVA with Post-Hoc analyses: Social interaction and household composition in villages and commodity housing

F.6a Test of Homogeneity of Variances

Neighbourhood Type		Levene Statistic	df1	df2	Sig.
Villages	Zscore_social interaction	1.282	7	314	.259
Commodity housing	Zscore_social interaction	1.072	6	267	.380

F.6b ANOVA

Neighbourhood Type		Sum of Squares	df	Mean Square	F	Sig.
Villages	Between Groups	5.553	7	.793	1.878	.073
	Within Groups	132.642	314	.422		
	Total	138.195	321			
Commodity housing	Between Groups	4.565	6	.761	1.503	.177
	Within Groups	135.138	267	.506		
	Total	139.703	273			

The significance level for Levene's test is greater than 0.05, it means that the assumption of the homogeneity of variance is not violated villages and commodity housing.

F.7 One-Way Between-Groups ANOVA with Post-Hoc analyses: Social interaction and tenure in general

F.7a Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
5.267	4	813	.000

F.7b ANOVA

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	3.783	4	.946	2.114	.077
Within Groups	363.745	813	.447		
Total	367.529	817			

The significance level for Levene's test is less than 0.05, but the significant value for ANOVA test is greater than 0.05, so there is no significant difference in social interaction between respondents from households of different tenure types.

F.8 One-Way Between-Groups ANOVA with Post-Hoc analyses: Social interaction and personal income in general

F.8a Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
.649	8	807	.736

F.8b ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7.927	8	.991	2.227	.024
Within Groups	359.027	807	.445		
Total	366.955	815			

F.8c Multiple Comparisons

Dependent Variable: Zscore_social interaction

Tukey HSD (I) Respondents' income	(J) Respondents' income	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Less than 9999 CNY	10000- 29999 CNY	-.02636	.07256	1.000	-.2520	.1993
	30000 - 49999 CNY	-.00154	.06914	1.000	-.2166	.2135
	50000 - 79999 CNY	-.21632*	.06681	.034	-.4241	-.0085
	80000 - 99999 CNY	-.17048	.10101	.754	-.4847	.1437
	100000 - 199999 CNY	-.23257	.09653	.280	-.5328	.0677
	200000- 299999 CNY	-.01837	.25535	1.000	-.8126	.7758
	300000 -399999 CNY	-.32377	.33596	.989	-1.3687	.7211
	400000+ CNY	.00086	.47339	1.000	-1.4715	1.4732
10000- 29999 CNY	Less than 9999 CNY	.02636	.07256	1.000	-.1993	.2520
	30000 - 49999 CNY	.02482	.08216	1.000	-.2307	.2803
	50000 - 79999 CNY	-.18997	.08020	.303	-.4394	.0595
	80000 - 99999 CNY	-.14413	.11033	.930	-.4873	.1990
	100000 - 199999 CNY	-.20621	.10624	.585	-.5367	.1242
	200000- 299999 CNY	.00798	.25918	1.000	-.7981	.8141
	300000 -399999 CNY	-.29742	.33888	.994	-1.3514	.7566
	400000+ CNY	.02722	.47546	1.000	-1.4516	1.5060
30000 - 49999 CNY	Less than 9999 CNY	.00154	.06914	1.000	-.2135	.2166
	10000- 29999 CNY	-.02482	.08216	1.000	-.2803	.2307
	50000 - 79999 CNY	-.21479	.07713	.121	-.4547	.0251
	80000 - 99999 CNY	-.16894	.10811	.825	-.5052	.1673
	100000 - 199999 CNY	-.23103	.10394	.392	-.5543	.0922
	200000- 299999 CNY	-.01684	.25824	1.000	-.8200	.7864
	300000 -399999 CNY	-.32224	.33817	.990	-1.3740	.7295
	400000+ CNY	.00240	.47495	1.000	-1.4748	1.4796

Tukey HSD (I) Respondents' income	(J) Respondents' income	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
50000 - 79999 CNY	Less than 9999 CNY	.21632*	.06681	.034	.0085	.4241
	10000- 29999 CNY	.18997	.08020	.303	-.0595	.4394
	30000 - 49999 CNY	.21479	.07713	.121	-.0251	.4547
	80000 - 99999 CNY	.04584	.10664	1.000	-.2858	.3775
	100000 - 199999 CNY	-.01625	.10240	1.000	-.3347	.3022
	200000- 299999 CNY	.19795	.25763	.998	-.6033	.9992
	300000 -399999 CNY	-.10745	.33770	1.000	-1.1578	.9429
	400000+ CNY	.21718	.47462	1.000	-1.2590	1.6933
80000 - 99999 CNY	Less than 9999 CNY	.17048	.10101	.754	-.1437	.4847
	10000- 29999 CNY	.14413	.11033	.930	-.1990	.4873
	30000 - 49999 CNY	.16894	.10811	.825	-.1673	.5052
	50000 - 79999 CNY	-.04584	.10664	1.000	-.3775	.2858
	100000 - 199999 CNY	-.06209	.12738	1.000	-.4583	.3341
	200000- 299999 CNY	.15211	.26854	1.000	-.6831	.9873
	300000 -399999 CNY	-.15329	.34609	1.000	-1.2297	.9231
	400000+ CNY	.17134	.48063	1.000	-1.3235	1.6662
100000 - 199999 CNY	Less than 9999 CNY	.23257	.09653	.280	-.0677	.5328
	10000- 29999 CNY	.20621	.10624	.585	-.1242	.5367
	30000 - 49999 CNY	.23103	.10394	.392	-.0922	.5543
	50000 - 79999 CNY	.01625	.10240	1.000	-.3022	.3347
	80000 - 99999 CNY	.06209	.12738	1.000	-.3341	.4583
	200000- 299999 CNY	.21420	.26688	.997	-.6159	1.0443
	300000 -399999 CNY	-.09120	.34481	1.000	-1.1636	.9812
	400000+ CNY	.23343	.47970	1.000	-1.2586	1.7254
200000- 299999 CNY	Less than 9999 CNY	.01837	.25535	1.000	-.7758	.8126
	10000- 29999 CNY	-.00798	.25918	1.000	-.8141	.7981
	30000 - 49999 CNY	.01684	.25824	1.000	-.7864	.8200
	50000 - 79999 CNY	-.19795	.25763	.998	-.9992	.6033
	80000 - 99999 CNY	-.15211	.26854	1.000	-.9873	.6831
	100000 - 199999 CNY	-.21420	.26688	.997	-1.0443	.6159
	300000 -399999 CNY	-.30540	.41807	.998	-1.6057	.9949
	400000+ CNY	.01924	.53479	1.000	-1.6441	1.6826
300000 -399999 CNY	Less than 9999 CNY	.32377	.33596	.989	-.7211	1.3687
	10000- 29999 CNY	.29742	.33888	.994	-.7566	1.3514
	30000 - 49999 CNY	.32224	.33817	.990	-.7295	1.3740
	50000 - 79999 CNY	.10745	.33770	1.000	-.9429	1.1578
	80000 - 99999 CNY	.15329	.34609	1.000	-.9231	1.2297
	100000 - 199999 CNY	.09120	.34481	1.000	-.9812	1.1636
	200000- 299999 CNY	.30540	.41807	.998	-.9949	1.6057
	400000+ CNY	.32464	.57764	1.000	-1.4720	2.1212
400000+ CNY	Less than 9999 CNY	-.00086	.47339	1.000	-1.4732	1.4715
	10000- 29999 CNY	-.02722	.47546	1.000	-1.5060	1.4516
	30000 - 49999 CNY	-.00240	.47495	1.000	-1.4796	1.4748
	50000 - 79999 CNY	-.21718	.47462	1.000	-1.6933	1.2590
	80000 - 99999 CNY	-.17134	.48063	1.000	-1.6662	1.3235
	100000 - 199999 CNY	-.23343	.47970	1.000	-1.7254	1.2586
	200000- 299999 CNY	-.01924	.53479	1.000	-1.6826	1.6441
	300000 -399999 CNY	-.32464	.57764	1.000	-2.1212	1.4720

*. The mean difference is significant at the 0.05 level.

F.8d Effect size = Sum of squares between-groups / Total sum of squares = 0.0216 = 0.02 = a very small effect

F.9 One-Way Between-Groups ANOVA with Post-Hoc analyses: Social interaction and household income in villages

F.9a Test of Homogeneity of Variances

Neighbourhood Type	Levene Statistic	df1	df2	Sig.
Villages	.855	7	313	.542

F.9b ANOVA

Zscore_social interaction

Neighbourhood Type		Sum of Squares	df	Mean Square	F	Sig.
Villages	Between Groups	5.747	8	.718	1.698	.098
	Within Groups	132.448	313	.423		
	Total	138.195	321			

The assumption of the homogeneity of variance is not violated in villages.

F.10 One-Way Between-Groups ANOVA with Post-Hoc analyses: Social networks and economic status in general

F.10a Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
1.316	6	751	.247

F.10b ANOVA

Zscore_socialnetworks

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	23.866	6	3.978	5.201	.000
Within Groups	574.343	751	.765		
Total	598.209	757			

F.10c Multiple Comparisons

(Tukey HSD I) Economic status	(J) Economic status	Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Employed/self-employed full-time	Employed/self-employed part-time	.03500	.17325	1.000	-.4772	.5472
	Unemployed/seeking work	.03953	.18693	1.000	-.5131	.5922
	Full-time student at college/university	.14166	.12489	.917	-.2276	.5109
	Looking after family/home	.05838	.12197	.999	-.3022	.4190
	Retired	.46799*	.08459	.000	.2179	.7180
	Long term sick or disabled	.05930	.50657	1.000	-1.4383	1.5569
Employed/self-employed part-time	Employed/self-employed full-time	-.03500	.17325	1.000	-.5472	.4772
	Unemployed/seeking work	.00453	.24814	1.000	-.7291	.7381
	Full-time student at college/university	.10666	.20550	.999	-.5009	.7142
	Looking after family/home	.02338	.20374	1.000	-.5790	.6257
	Retired	.43299	.18381	.219	-.1104	.9764
	Long term sick or disabled	.02430	.53221	1.000	-1.5491	1.5977
Unemployed/seeking work	Employed/self-employed full-time	-.03953	.18693	1.000	-.5922	.5131
	Employed/self-employed part-time	-.00453	.24814	1.000	-.7381	.7291
	Full-time student at college/university	.10213	.21715	.999	-.5399	.7441
	Looking after family/home	.01884	.21549	1.000	-.6182	.6559
	Retired	.42845	.19676	.309	-.1532	1.0101
	Long term sick or disabled	.01977	.53682	1.000	-1.5673	1.6068
Full-time student at college/university	Employed/self-employed full-time	-.14166	.12489	.917	-.5109	.2276
	Employed/self-employed part-time	-.10666	.20550	.999	-.7142	.5009
	Unemployed/seeking work	-.10213	.21715	.999	-.7441	.5399
	Looking after family/home	-.08328	.16459	.999	-.5699	.4033
	Retired	.32633	.13917	.224	-.0851	.7378
	Long term sick or disabled	-.08236	.51849	1.000	-1.6152	1.4505
Looking after family/home	Employed/self-employed full-time	-.05838	.12197	.999	-.4190	.3022
	Employed/self-employed part-time	-.02338	.20374	1.000	-.6257	.5790
	Unemployed/seeking work	-.01884	.21549	1.000	-.6559	.6182
	Full-time student at college/university	.08328	.16459	.999	-.4033	.5699
	Retired	.40961*	.13656	.044	.0059	.8133
	Long term sick or disabled	.00092	.51779	1.000	-1.5299	1.5317
Retired	Employed/self-employed full-time	-.46799*	.08459	.000	-.7180	-.2179
	Employed/self-employed part-time	-.43299	.18381	.219	-.9764	.1104
	Unemployed/seeking work	-.42845	.19676	.309	-1.0101	.1532
	Full-time student at college/university	-.32633	.13917	.224	-.7378	.0851
	Looking after family/home	-.40961*	.13656	.044	-.8133	-.0059
	Long term sick or disabled	-.40869	.51028	.985	-1.9173	1.0999
Long term sick or disabled	Employed/self-employed full-time	-.05930	.50657	1.000	-1.5569	1.4383
	Employed/self-employed part-time	-.02430	.53221	1.000	-1.5977	1.5491
	Unemployed/seeking work	-.01977	.53682	1.000	-1.6068	1.5673
	Full-time student at college/university	.08236	.51849	1.000	-1.4505	1.6152
	Looking after family/home	-.00092	.51779	1.000	-1.5317	1.5299
	Retired	.40869	.51028	.985	-1.0999	1.9173

*. The mean difference is significant at the 0.05 level.

F.10d Effect size = Sum of squares between-groups / Total sum of square = 0.040 = 0.04 = a small-moderate effect

F.11 One-Way Between-Groups ANOVA with Post-Hoc analyses: Social networks and economic status in villages and redeveloped villages

F.11a Test of Homogeneity of Variances

Neighbourhood types	Levene Statistic	df1	df2	Sig.
Villages	2.012	6	287	.064
Redeveloped villages	.778	5	215	.566

F.11b ANOVA

Zscore_socialnetworks

Neighbourhood Type		Sum of Squares	Df	Mean Square	F	Sig.
Villages	Between Groups	30.862	6	5.144	6.721	.000
	Within Groups	219.640	287	.765		
	Total	250.502	293			
Redeveloped villages	Between Groups	14.721	5	2.944	3.761	.003
	Within Groups	168.328	215	.783		
	Total	183.049	220			

F.11c Multiple Comparisons

Tukey HSD Neighbourhood Type	(I) Economic status	(J) Economic status	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Villages	Full-time employed	Part time employed	-.11222	.25133	.999	-.8585	.6341
		Unemployed	-.26464	.28430	.967	-1.1088	.5796
		Full-time student at university	-.41983	.25133	.636	-1.1661	.3265
		Looking after home	.22985	.20185	.916	-.3695	.8292
		Retired	.74811*	.13404	.000	.3501	1.1461
		Long term sick or disabled	.13139	.50931	1.000	-1.3810	1.6437
	Part time employed	Full-time employed	.11222	.25133	.999	-.6341	.8585
		Unemployed	-.15242	.36797	1.000	-1.2451	.9402
		Full-time student at university	-.30761	.34313	.973	-1.3265	.7113
		Looking after home	.34207	.30873	.925	-.5747	1.2588
		Retired	.86033*	.26932	.026	.0606	1.6601
		Long term sick or disabled	.24361	.56033	.999	-1.4202	1.9074
	Unemployed	Full-time employed	.26464	.28430	.967	-.5796	1.1088
		Part time employed	.15242	.36797	1.000	-.9402	1.2451
		Full-time student at university	-.15519	.36797	1.000	-1.2478	.9374
		Looking after home	.49449	.33611	.762	-.5036	1.4925
Villages	Unemployed	Retired	1.01275*	.30033	.015	.1210	1.9045
		Long term sick or disabled	.39603	.57587	.993	-1.3140	2.1060
	Full-time student at university	Full-time employed	.41983	.25133	.636	-.3265	1.1661
		Part time employed	.30761	.34313	.973	-.7113	1.3265
		Unemployed	.15519	.36797	1.000	-.9374	1.2478
		Looking after home	.64968	.30873	.353	-.2670	1.5664
		Retired	1.16794*	.26932	.000	.3682	1.9677
		Long term sick or disabled	.55122	.56033	.957	-1.1126	2.2151
	Looking after home	Full-time employed	-.22985	.20185	.916	-.8292	.3695
		Part time employed	-.34207	.30873	.925	-1.2588	.5747
		Unemployed	-.49449	.33611	.762	-1.4925	.5036
		Full-time student at university	-.64968	.30873	.353	-1.5664	.2670
		Retired	.51826	.22385	.240	-.1464	1.1830
		Long term sick or disabled	-.09846	.53995	1.000	-1.7018	1.5048
	Retired	Full-time employed	-.74811*	.13404	.000	-1.1461	-.3501
		Part time employed	-.86033*	.26932	.026	-1.6601	-.0606
		Unemployed	-1.01275*	.30033	.015	-1.9045	-.1210
		Full-time student at university	-1.16794*	.26932	.000	-1.9677	-.3682
		Looking after home	-.51826	.22385	.240	-1.1830	.1464
		Long term sick or disabled	-.61672	.51843	.898	-2.1561	.9227
	Long term sick or disabled	Full-time employed	-.13139	.50931	1.000	-1.6437	1.3810
		Part time employed	-.24361	.56033	.999	-1.9074	1.4202
		Unemployed	-.39603	.57587	.993	-2.1060	1.3140
		Full-time student at university	-.55122	.56033	.957	-2.2151	1.1126
		Looking after home	.09846	.53995	1.000	-1.5048	1.7018
		Retired	.61672	.51843	.898	-.9227	2.1561
Redeveloped villages	Full-time employed	Part time employed	.74042	.32190	.199	-.1852	1.6661
		Unemployed	.18699	.40292	.997	-.9716	1.3456
		Full-time student at university	.47424	.44887	.898	-.8165	1.7650
		Looking after home	.29021	.25687	.869	-.4484	1.0289
		Retired	.54510*	.14139	.002	.1385	.9517

Tukey HSD Neighbourhood Type	(I) Economic status	(J) Economic status	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Redeveloped villages	Part time employed	Full-time employed	-.74042	.32190	.199	-1.6661	.1852
		Unemployed	-.55343	.50443	.882	-2.0040	.8971
		Full-time student at university	-.26618	.54184	.996	-1.8243	1.2919
		Looking after home	-.45020	.39760	.867	-1.5936	.6931
		Retired	-.19532	.33481	.992	-1.1581	.7675
	Unemployed	Full-time employed	-.18699	.40292	.997	-1.3456	.9716
		Part time employed	.55343	.50443	.882	-.8971	2.0040
		Full-time student at university	.28725	.59356	.997	-1.4196	1.9941
		Looking after home	.10322	.46563	1.000	-1.2357	1.4422
		Retired	.35811	.41330	.954	-.8304	1.5466
	Full-time student at university	Full-time employed	-.47424	.44887	.898	-1.7650	.8165
		Part time employed	.26618	.54184	.996	-1.2919	1.8243
		Unemployed	-.28725	.59356	.997	-1.9941	1.4196
		Looking after home	-.18402	.50592	.999	-1.6388	1.2708
		Retired	.07086	.45822	1.000	-1.2468	1.3885
	Looking after home	Full-time employed	-.29021	.25687	.869	-1.0289	.4484
		Part time employed	.45020	.39760	.867	-.6931	1.5936
		Unemployed	-.10322	.46563	1.000	-1.4422	1.2357
		Full-time student at university	.18402	.50592	.999	-1.2708	1.6388
		Retired	.25489	.27287	.937	-.5298	1.0396
	Retired	Full-time employed	-.54510*	.14139	.002	-.9517	-.1385
		Part time employed	.19532	.33481	.992	-.7675	1.1581
		Unemployed	-.35811	.41330	.954	-1.5466	.8304
		Full-time student at university	-.07086	.45822	1.000	-1.3885	1.2468
		Looking after home	-.25489	.27287	.937	-1.0396	.5298

*. The mean difference is significant at the 0.05 level.

F.11d Effect size:
Effect size = Sum of squares between-groups / Total sum of square = 0.120 = 0.12 = a medium-large effect (villages)
Effect size = Sum of squares between-groups / Total sum of square = 0.080 = 0.08 = a medium effect (redeveloped villages)

F.12 Independent-Sample T-Test: Social networks and residents' identity (locals or migrants) in general

F.12a Group Statistics

	Local or migrant	N	Mean	Std. Deviation	Std. Error Mean
Zscore_socialnetworks	Local	411	-.3495	.88188	.04350
	Migrant	347	-.0114	.86324	.04634

F.12b Independent Samples Test

		Levene's Test for F	Sig.	t-test for Equality of Means t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval Lower	Upper
Zscore_socialnetworks	Equal variances assumed	1.896	.169	-5.311	756	.000	-.33815	.06367	-.46314	-.21315
	Equal variances not assumed			-5.320	739.715	.000	-.33815	.06356	-.46292	-.21337

F.12c Effect size: Eta squared = $t^2 / t^2 + (N1 + N2 -2) = 0.036 = 0.04$ = a small-moderate effect

F.13 Independent-Sample T-Test: Social networks and residents' identity (locals or migrants) for villages and redeveloped villages

F.13a Group Statistics

Neighbourhood Type		Local or migrant	N	Mean	Std. Deviation	Std. Error Mean
Villages	Zscore_socialnetworks	Local	171	-.3441	.91427	.06992
		Migrant	123	.1282	.87046	.07849
Redeveloped villages	Zscore_socialnetworks	Local	121	-.4636	.91020	.08275
		Migrant	100	.0436	.83816	.08382

F.13b Independent Samples Test

	Neighbourhood Type		Levene's Test for F	Sig.	t-test for Equality of Means t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval Lower	Upper
Villages	Zscore_ Social networks	Equal variances assumed	3.408	.066	-4.458	292	.000	-.47235	.10596	-.68089	-.26380
		Equal variances not assumed			-4.494	270.296	.000	-.47235	.10511	-.67929	-.26540
Redeveloped villages	Zscore_ Social networks	Equal variances assumed	4.309	.039	-4.273	219	.000	-.50720	.11871	-.74115	-.27324
		Equal variances not assumed			-4.306	216.417	.000	-.50720	.11778	-.73934	-.27506

F.13c Effect size:
Eta squared = $t^2 / t^2 + (N1 + N2 -2) = 0.064 = 0.06$ = a medium effect (villages)
Eta squared= $t^2 / t^2 + (N1 + N2 -2) = 0.078 = 0.08$ = a medium effect (redeveloped villages)

Villages: Expressed as a percentage (eta squared value by 100), 6% of the variance in negative social interaction is explained by residents' perceptions about removing their neighbourhood boundary in villages.
Redeveloped villages: Expressed as a percentage (eta squared value by 100), 8% of the variance in negative social interaction is explained by residents' perceptions about removing their neighbourhood boundary

F.14 One-Way Between-Groups ANOVA with Post-Hoc analyses: Social networks and household composition in general

F.14a Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
3.373	6	748	.003

F.14b ANOVA
Zscore_socialnetworks

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	39.717	6	6.620	8.926	.000
Within Groups	554.748	748	.742		
Total	594.465	754			

F.14c Multiple Comparisons
Dependent Variable: Zscore_socialnetworks

Tukey HSD (I) Household composition	(J) Household composition	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
One adult under 60	One adult aged 60 or over	.91664*	.24358	.003	.1965	1.6368
	Two adults both under 60	.21118	.15630	.827	-.2509	.6733
	Two adults, at least one 60 or over	.97190*	.18388	.000	.4283	1.5155
	Three or more adults	.53784*	.13072	.001	.1514	.9243
	Three or more adults with children, at least one under 18	.32712	.11189	.055	-.0037	.6579
	2- parent family with children, at least one under 18	.11420	.11677	.959	-.2310	.4594
One adult aged 60 or over	One adult under 60	-.91664*	.24358	.003	-1.6368	-.1965
	Two adults both under 60	-.70546	.25295	.079	-1.4533	.0424
	Two adults, at least one 60 or over	.05526	.27086	1.000	-.7455	.8560
	Three or more adults	-.37880	.23800	.688	-1.0824	.3248
	Three or more adults with children, at least one under 18	-.58952	.22819	.132	-1.2641	.0851
	2- parent family with children, at least one under 18	-.80244*	.23063	.010	-1.4843	-.1206
Two adults both under 60	One adult under 60	-.21118	.15630	.827	-.6733	.2509
	One adult aged 60 or over	.70546	.25295	.079	-.0424	1.4533
	Two adults, at least one 60 or over	.76073*	.19613	.002	.1809	1.3406
	Three or more adults	.32666	.14745	.288	-.1093	.7626
	Three or more adults with children, at least one under 18	.11595	.13104	.975	-.2715	.5034
	2- parent family with children, at least one under 18	-.09698	.13523	.992	-.4968	.3028
Two adults, at least one 60 or over	One adult under 60	-.97190*	.18388	.000	-1.5155	-.4283
	One adult aged 60 or over	-.05526	.27086	1.000	-.8560	.7455
	Two adults both under 60	-.76073*	.19613	.002	-1.3406	-.1809
	Three or more adults	-.43406	.17642	.175	-.9556	.0875
	Three or more adults with children, at least one under 18	-.64478*	.16295	.002	-1.1265	-.1630
	2- parent family with children, at least one under 18	-.85770*	.16634	.000	-1.3495	-.3659

Tukey HSD (I) Household composition	(J) Household composition	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Three or more adults	One adult under 60	-.53784*	.13072	.001	-.9243	-.1514
	One adult aged 60 or over	.37880	.23800	.688	-.3248	1.0824
	Two adults both under 60	-.32666	.14745	.288	-.7626	.1093
	Two adults, at least one 60 or over	.43406	.17642	.175	-.0875	.9556
	Three or more adults with children, at least one under 18	-.21072	.09915	.339	-.5038	.0824
	2- parent family with children, at least one under 18	-.42364*	.10462	.001	-.7329	-.1143
Three or more adults with children, at least one under 18	One adult under 60	-.32712	.11189	.055	-.6579	.0037
	One adult aged 60 or over	.58952	.22819	.132	-.0851	1.2641
	Two adults both under 60	-.11595	.13104	.975	-.5034	.2715
	Two adults, at least one 60 or over	.64478*	.16295	.002	.1630	1.1265
	Three or more adults	.21072	.09915	.339	-.0824	.5038
	2- parent family with children, at least one under 18	-.21292	.07985	.108	-.4490	.0231
2- parent family with children, at least one under 18	One adult under 60	-.11420	.11677	.959	-.4594	.2310
	One adult aged 60 or over	.80244*	.23063	.010	.1206	1.4843
	Two adults both under 60	.09698	.13523	.992	-.3028	.4968
	Two adults, at least one 60 or over	.85770*	.16634	.000	.3659	1.3495
	Three or more adults	.42364*	.10462	.001	.1143	.7329
	Three or more adults with children, at least one under 18	.21292	.07985	.108	-.0231	.4490

*. The mean difference is significant at the 0.05 level.

F.14 Effect size = Sum of squares between-groups / Total sum of square = 0.067 = 0.07 = a medium effect

F.15 One-Way Between-Groups ANOVA with Post-Hoc analyses: Social networks and household composition for villages, redeveloped villages and commodity housing separately

F.15a Test of Homogeneity of Variances

Neighbourhood Type		Levene Statistic	df1	df2	Sig.
Villages	Zscore_socialnetworks	3.952	6	283	.001
Redeveloped villages	Zscore_socialnetworks	2.358	6	213	.032
Commodity housing	Zscore_socialnetworks	1.595	5	236	.162

According to villages and redeveloped villages, a more stringent significance value (0.01) is set for evaluating the findings from the one-way ANOVA because the significance value is less than 0.05.

F.15b ANOVA

Zscore_socialnetworks

Neighbourhood Type		Sum of Squares	Df	Mean Square	F	Sig.
Villages	Between Groups	25.142	6	4.190	5.357	.000
	Within Groups	221.373	283	.782		
	Total	246.515	289			
Redeveloped villages	Between Groups	22.037	6	3.673	4.890	.000
	Within Groups	159.980	213	.751		
	Total	182.017	219			
Commodity housing	Between Groups	4.527	5	.905	1.345	.246
	Within Groups	158.842	236	.673		
	Total	163.369	241			

F.15c Multiple Comparisons

Dependent Variable: Zscore_socialnetworks

Tukey HSD Neighbourhood Type	(I) Household composition	(J) Household composition	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Villages	One adult under 60	One adult aged 60 or over	.95308	.32787	.060	-.0206	1.9268
		Two adults both under 60	.08625	.22028	1.000	-.5679	.7404
		Two adults, at least one 60 or over	1.16497*	.24851	.000	.4270	1.9030
		Three or more adults	.41996	.21220	.430	-.2102	1.0501
		Three or more adults with children	.33151	.16832	.436	-.1683	.8314
		2- parent family with children, at least one under 18	.12943	.18166	.992	-.4100	.6689
	One adult aged 60 or over	One adult under 60	-.95308	.32787	.060	-1.9268	.0206
		Two adults both under 60	-.86682	.33890	.143	-1.8732	.1396
		Two adults, at least one 60 or over	.21189	.35789	.997	-.8509	1.2747
		Three or more adults	-.53312	.33371	.684	-1.5241	.4579
		Three or more adults with children	-.62157	.30767	.404	-1.5352	.2921
		2- parent family with children, at least one under 18	-.82364	.31517	.126	-1.7596	.1123

Tukey HSD Neighbourhood Type	(I) Household composition	(J) Household composition	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Villages	Two adults both under 60	One adult under 60	-.08625	.22028	1.000	-.7404	.5679
		One adult aged 60 or over	.86682	.33890	.143	-.1396	1.8732
		Two adults, at least one 60 or over	1.07871*	.26288	.001	.2980	1.8594
		Three or more adults	.33370	.22887	.769	-.3460	1.0134
		Three or more adults with children	.24526	.18890	.852	-.3157	.8062
		2- parent family with children, at least one under 18	.04318	.20088	1.000	-.5534	.6397
	Two adults, at least one 60 or over	One adult under 60	-1.16497*	.24851	.000	-1.9030	-.4270
		One adult aged 60 or over	-.21189	.35789	.997	-1.2747	.8509
		Two adults both under 60	-1.07871*	.26288	.001	-1.8594	-.2980
		Three or more adults	-.74501	.25616	.059	-1.5057	.0157
		Three or more adults with children	-.83346*	.22117	.004	-1.4903	-.1767
		2- parent family with children, at least one under 18	-1.03553*	.23149	.000	-1.7230	-.3481
	Three or more adults	One adult under 60	-.41996	.21220	.430	-1.0501	.2102
		One adult aged 60 or over	.53312	.33371	.684	-.4579	1.5241
		Two adults both under 60	-.33370	.22887	.769	-1.0134	.3460
		Two adults, at least one 60 or over	.74501	.25616	.059	-.0157	1.5057
		Three or more adults with children	-.08845	.17942	.999	-.6213	.4444
		2- parent family with children, at least one under 18	-.29052	.19199	.737	-.8607	.2796
	Three or more adults with children, at least one under 18	One adult under 60	-.33151	.16832	.436	-.8314	.1683
		One adult aged 60 or over	.62157	.30767	.404	-.2921	1.5352
		Two adults both under 60	-.24526	.18890	.852	-.8062	.3157
		Two adults, at least one 60 or over	.83346*	.22117	.004	.1767	1.4903
		Three or more adults	.08845	.17942	.999	-.4444	.6213
		2- parent family with children, at least one under 18	-.20207	.14199	.789	-.6237	.2196
	2- parent family with children, at least one under 18	One adult under 60	-.12943	.18166	.992	-.6689	.4100
		One adult aged 60 or over	.82364	.31517	.126	-.1123	1.7596
		Two adults both under 60	-.04318	.20088	1.000	-.6397	.5534
		Two adults, at least one 60 or over	1.03553*	.23149	.000	.3481	1.7230
		Three or more adults	.29052	.19199	.737	-.2796	.8607
		Three or more adults with children	.20207	.14199	.789	-.2196	.6237
Redeveloped villages	One adult under 60	One adult aged 60 or over	1.52930	.52329	.058	-.0284	3.0870
		Two adults both under 60	.63957	.30290	.350	-.2621	1.5412
		Two adults, at least one 60 or over	.75823	.32699	.240	-.2151	1.7316
		Three or more adults	.96554*	.26010	.005	.1913	1.7398
		Three or more adults with children	.41976	.17560	.208	-.1029	.9425
		2- parent family with children, at least one under 18	.03352	.19950	1.000	-.5603	.6274
	One adult aged 60 or over	One adult under 60	-1.52930	.52329	.058	-3.0870	.0284
		Two adults both under 60	-.88973	.56448	.698	-2.5700	.7906
		Two adults, at least one 60 or over	-.77107	.57777	.835	-2.4909	.9488
		Three or more adults	-.56376	.54272	.944	-2.1793	1.0518
		Three or more adults with children	-1.10954	.50766	.308	-2.6207	.4016
		2- parent family with children, at least one under 18	-1.49578	.51642	.062	-3.0330	.0415
	Two adults both under 60	One adult under 60	-.63957	.30290	.350	-1.5412	.2621
		One adult aged 60 or over	.88973	.56448	.698	-.7906	2.5700
		Two adults, at least one 60 or over	.11866	.38953	1.000	-1.0409	1.2782
		Three or more adults	.32597	.33535	.959	-.6723	1.3242
		Three or more adults with children	-.21981	.27503	.985	-1.0385	.5989
		2- parent family with children, at least one under 18	-.60605	.29087	.366	-1.4719	.2598
	Two adults, at least one 60 or over	One adult under 60	-.75823	.32699	.240	-1.7316	.2151
		One adult aged 60 or over	.77107	.57777	.835	-.9488	2.4909
		Two adults both under 60	-.11866	.38953	1.000	-1.2782	1.0409
		Three or more adults	.20731	.35726	.997	-.8562	1.2708
		Three or more adults with children	-.33847	.30136	.920	-1.2355	.5586
		2- parent family with children, at least one under 18	-.72471	.31588	.252	-1.6650	.2156
	Three or more adults	One adult under 60	-.96554*	.26010	.005	-1.7398	-.1913
		One adult aged 60 or over	.56376	.54272	.944	-1.0518	2.1793
		Two adults both under 60	-.32597	.33535	.959	-1.3242	.6723
		Two adults, at least one 60 or over	-.20731	.35726	.997	-1.2708	.8562
		Three or more adults with children	-.54578	.22703	.202	-1.2216	.1300
		2- parent family with children, at least one under 18	-.93202*	.24599	.004	-1.6643	-.1998
	Three or more adults with children, at least one under 18	One adult under 60	-.41976	.17560	.208	-.9425	.1029
		One adult aged 60 or over	1.10954	.50766	.308	-.4016	2.6207
		Two adults both under 60	.21981	.27503	.985	-.5989	1.0385

Tukey HSD Neighbourhood Type	(I) Household composition	(J) Household composition	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
	Three or more adults with children, at least one under 18	Two adults, at least one 60 or over	.33847	.30136	.920	-.5586	1.2355
		Three or more adults	.54578	.22703	.202	-.1300	1.2216
		2- parent family with children, at least one under 18	-.38624	.15392	.161	-.8444	.0719
	2- parent family with children, at least one under 18	One adult under 60	-.03352	.19950	1.000	-.6274	.5603
		One adult aged 60 or over	1.49578	.51642	.062	-.0415	3.0330
		Two adults both under 60	.60605	.29087	.366	-.2598	1.4719
		Two adults, at least one 60 or over	.72471	.31588	.252	-.2156	1.6650
		Three or more adults	.93202*	.24599	.004	.1998	1.6643
		Three or more adults with children	.38624	.15392	.161	-.0719	.8444

*. The mean difference is significant at the 0.05 level.

F.15d Effect size:
Effect size = Sum of squares between-groups / Total sum of square = 0.101 = 0.1 = a medium-large effect (villages)
Effect size = Sum of squares between-groups / Total sum of square = 0.121 = 0.1 = a medium-large effect (redeveloped villages)

F.16 One-Way Between-Groups ANOVA with Post-Hoc analyses: Social networks and tenure in general

F.16a Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
1.392	4	753	.235

F.16b ANOVA
Zscore_socialnetworks

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	10.571	4	2.643	3.387	.009
Within Groups	587.637	753	.780		
Total	598.209	757			

F.16c Multiple Comparisons

Tukey HSD (I) Own or rent	(J) Own or rent	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Own outright	Own with a mortgage or loan	-.00609	.09799	1.000	-.2740	.2618
	Pay rent by employer	-.45349*	.14406	.015	-.8474	-.0596
	Pay part rent by employer, part rent by yourself	-.25086	.29737	.917	-1.0640	.5623
	Pay rent by yourself	-.17313	.08218	.218	-.3978	.0516
Own with a mortgage or loan	Own outright	.00609	.09799	1.000	-.2618	.2740
	Pay rent by employer	-.44740	.16406	.051	-.8960	.0012
	Pay part rent by employer, part rent by yourself	-.24477	.30756	.932	-1.0858	.5962
	Pay rent by yourself	-.16704	.11366	.583	-.4778	.1437
Pay rent by employer	Own outright	.45349*	.14406	.015	.0596	.8474
	Own with a mortgage or loan	.44740	.16406	.051	-.0012	.8960
	Pay part rent by employer, part rent by yourself	.20263	.32518	.971	-.6866	1.0918
	Pay rent by yourself	.28036	.15514	.370	-.1439	.7046
Pay part rent by employer, part rent by yourself	Own outright	.25086	.29737	.917	-.5623	1.0640
	Own with a mortgage or loan	.24477	.30756	.932	-.5962	1.0858
	Pay rent by employer	-.20263	.32518	.971	-1.0918	.6866
	Pay rent by yourself	.07773	.30289	.999	-.7505	.9060
Pay rent by yourself	Own outright	.17313	.08218	.218	-.0516	.3978
	Own with a mortgage or loan	.16704	.11366	.583	-.1437	.4778
	Pay rent by employer	-.28036	.15514	.370	-.7046	.1439
	Pay part rent by employer, part rent by yourself	-.07773	.30289	.999	-.9060	.7505

*. The mean difference is significant at the 0.05 level.

F.16d Effect size = Sum of squares between-groups / Total sum of square = 0.018 = 0.02 = a small effect

F.17 One-Way Between-Groups ANOVA with Post-Hoc analyses: Social networks and tenure for in villages and redeveloped villages

F.17a Test of Homogeneity of Variances

Neighbourhood types	Levene Statistic	df1	df2	Sig.
Villages	4.625	4	289	.001
Redeveloped villages	2.754	4	216	.029

F.17b ANOVA

Zscore_socialnetworks

Neighbourhood Type		Sum of Squares	df	Mean Square	F	Sig.
Villages	Between Groups	18.494	4	4.623	5.759	.000
	Within Groups	232.008	289	.803		
	Total	250.502	293			
Redeveloped villages	Between Groups	4.350	4	1.088	1.315	.266
	Within Groups	178.698	216	.827		
	Total	183.049	220			

F.17c Multiple Comparisons

Dependent Variable: Zscore_socialnetworks

Tukey HSD						95% Confidence Interval	
Neighbourhood Type	(I) Own or rent	(J) Own or rent	Mean Difference (I-J)	Std. Error	Sig.	Lower Bound	Upper Bound
Villages	Own outright	Own with a mortgage or loan	-1.11985	.63721	.401	-2.8690	.6293
		Pay rent by employer	-.60577*	.19517	.018	-1.1415	-.0700
		Pay part rent by employer, part rent by yourself	.92525	.63721	.595	-.8239	2.6744
		Pay rent by yourself	-.39585*	.11521	.006	-.7121	-.0796
	Own with a mortgage or loan	Own outright	1.11985	.63721	.401	-.6293	2.8690
		Pay rent by employer	.51408	.65943	.936	-1.2961	2.3243
Villages	Own with a mortgage or loan	Pay part rent by employer, part rent by yourself	2.04510	.89599	.154	-.4145	4.5047
		Pay rent by yourself	.72400	.64034	.790	-1.0338	2.4818
	Pay rent by employer	Own outright	.60577*	.19517	.018	.0700	1.1415
		Own with a mortgage or loan	-.51408	.65943	.936	-2.3243	1.2961
		Pay part rent by employer, part rent by yourself	1.53102	.65943	.141	-.2792	3.3412
		Pay rent by yourself	.20992	.20514	.844	-.3532	.7730
	Pay part rent by employer, part rent by yourself	Own outright	-.92525	.63721	.595	-2.6744	.8239
		Own with a mortgage or loan	-2.04510	.89599	.154	-4.5047	.4145
		Pay rent by employer	-1.53102	.65943	.141	-3.3412	.2792
		Pay rent by yourself	-1.32109	.64034	.239	-3.0789	.4367
	Pay rent by yourself	Own outright	.39585*	.11521	.006	.0796	.7121
		Own with a mortgage or loan	-.72400	.64034	.790	-2.4818	1.0338
		Pay rent by employer	-.20992	.20514	.844	-.7730	.3532
		Pay part rent by employer, part rent by yourself	1.32109	.64034	.239	-.4367	3.0789

*. The mean difference is significant at the 0.05 level.

F.17d Effect size = Sum of squares between-groups / Total sum of square = 0.074 = 0.07 = a medium effect (villages)

F.18 One-Way Between-Groups ANOVA with Post-Hoc analyses: Social networks and length of residence in commodity housing

F.18a Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Commodity housing	.781	4	235	.538

F.18b ANOVA

Zscore_socialnetworks

Neighbourhood Type		Sum of Squares	df	Mean Square	F	Sig.
Commodity housing	Between Groups	10.906	4	2.726	4.273	.002
	Within Groups	149.946	235	.638		
	Total	160.852	239			

F.18c Multiple Comparisons

Dependent Variable: Zscore_socialnetworks

Tukey HSD Neighbourhood Type	(I) Length of residence total (in years)	(J) Length of residence total (in years)	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Commodity housing	Under 1 year	2-5 years	-.54483*	.17044	.014	-1.0134	-.0763
		6-10 years	-.69754*	.17044	.001	-1.1661	-.2290
		11-20 years	-.49075	.19002	.077	-1.0131	.0316
		21 years+	-.72190	.48369	.568	-2.0516	.6078
	2-5 years	Under 1 year	.54483*	.17044	.014	.0763	1.0134
		6-10 years	-.15271	.12475	.737	-.4957	.1902
		11-20 years	.05409	.15040	.996	-.3594	.4675
		21 years+	-.17706	.46954	.996	-1.4679	1.1137
	6-10 years	Under 1 year	.69754*	.17044	.001	.2290	1.1661
		2-5 years	.15271	.12475	.737	-.1902	.4957
		11-20 years	.20679	.15040	.644	-.2067	.6203
		21 years+	-.02436	.46954	1.000	-1.3152	1.2665
	11-20 years	Under 1 year	.49075	.19002	.077	-.0316	1.0131
		2-5 years	-.05409	.15040	.996	-.4675	.3594
		6-10 years	-.20679	.15040	.644	-.6203	.2067
		21 years+	-.23115	.47700	.989	-1.5425	1.0802
	21 years+	Under 1 year	.72190	.48369	.568	-.6078	2.0516
		2-5 years	.17706	.46954	.996	-1.1137	1.4679
		6-10 years	.02436	.46954	1.000	-1.2665	1.3152
		11-20 years	.23115	.47700	.989	-1.0802	1.5425

*. The mean difference is significant at the 0.05 level.

F.18d Effect size = Sum of squares between-groups / Total sum of square = 0.068 = 0.07 = a medium effect (Commodity housing)

F.19 One-Way Between-Groups ANOVA with Post-Hoc analyses: Sense of community and attractiveness in general

F.19a Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
15.507	4	1111	.000

A more stringent significance value (0.01) is set for evaluating the findings from the one-way ANOVA because the significance value is less than 0.05.

F.19b ANOVA

Zscore_community

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	74.009	4	18.502	32.290	.000
Within Groups	636.600	1111	.573		
Total	710.609	1115			

F.19c Multiple Comparisons

Dependent Variable: Zscore_community

Tukey HSD (I) Attractiveness_cur_q	(J) Attractiveness_cur_q	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Very bad	Fairly bad	-.15032	.13685	.807	-.5242	.2236
	Neither good nor bad	-.76162	.35957	.213	-1.7441	.2208
	Fairly good	-.49041*	.12432	.001	-.8301	-.1507
	Very good	-1.00954*	.13370	.000	-1.3748	-.6442
Fairly bad	Very bad	.15032	.13685	.807	-.2236	.5242
	Neither good nor bad	-.61130	.34443	.389	-1.5524	.3298
	Fairly good	-.34009*	.06928	.000	-.5294	-.1508
	Very good	-.85922*	.08496	.000	-1.0914	-.6271
Neither good nor bad	Very bad	.76162	.35957	.213	-.2208	1.7441
	Fairly bad	.61130	.34443	.389	-.3298	1.5524
	Fairly good	.27121	.33965	.931	-.6568	1.1992
	Very good	-.24792	.34319	.951	-1.1856	.6898
Fairly good	Very bad	.49041*	.12432	.001	.1507	.8301
	Fairly bad	.34009*	.06928	.000	.1508	.5294
	Neither good nor bad	-.27121	.33965	.931	-1.1992	.6568
	Very good	-.51913*	.06283	.000	-.6908	-.3475
Very good	Very bad	1.00954*	.13370	.000	.6442	1.3748
	Fairly bad	.85922*	.08496	.000	.6271	1.0914
	Neither good nor bad	.24792	.34319	.951	-.6898	1.1856
	Fairly good	.51913*	.06283	.000	.3475	.6908

*. The mean difference is significant at the 0.05 level.

F.19d Effect size= Sum of squares between groups / Total sum of squares = 0.104= 0.1= a relatively large effect

F.20 One-Way Between-Groups ANOVA with Post-Hoc analyses: Sense of community and attractiveness for villages, redeveloped villages and commodity housing respectively

F.20a Test of Homogeneity of Variances

Neighbourhood Type		Levene Statistic	df1	df2	Sig.
Villages	Zscore_community	9.868	4	485	.000
Redeveloped villages	Zscore_community	3.724	3	316	.012
Commodity housing	Zscore_community	7.286	3	302	.000

A more stringent significance value (0.01) is set for evaluating the findings from the one-way ANOVA because the significance value is less than 0.05.

F.20b ANOVA

Zscore_community

Neighbourhood Type		Sum of Squares	Df	Mean Square	F	Sig.
Villages	Between Groups	27.406	4	6.852	11.415	.000
	Within Groups	291.107	485	.600		
	Total	318.513	489			
Redeveloped villages	Between Groups	26.499	3	8.833	15.321	.000
	Within Groups	182.183	316	.577		
	Total	208.682	319			
Commodity housing	Between Groups	19.461	3	6.487	13.120	.000
	Within Groups	149.326	302	.494		
	Total	168.788	305			

F.20c Multiple Comparisons

Dependent Variable: Zscore_community

Tukey HSD Neighbourhood Type	(I) Attractiveness_cur_q	(J) Attractiveness_cur_q	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Villages	Very bad	Fairly bad	-.34090	.21133	.490	-.9195	.2377
		Neither good nor bad	-.99729	.39694	.090	-2.0841	.0895
		Fairly good	-.64056*	.19859	.012	-1.1843	-.0968
		Very good	-1.05738*	.21386	.000	-1.6429	-.4718
	Fairly bad	Very bad	.34090	.21133	.490	-.2377	.9195
		Neither good nor bad	-.65639	.35664	.351	-1.6329	.3201
		Fairly good	-.29966*	.09523	.015	-.5604	-.0389
		Very good	-.71648*	.12397	.000	-1.0559	-.3771
	Neither good nor bad	Very bad	.99729	.39694	.090	-.0895	2.0841
		Fairly bad	.65639	.35664	.351	-.3201	1.6329
Villages	Neither good nor bad	Fairly good	.35674	.34924	.845	-.5995	1.3130
		Very good	-.06009	.35814	1.000	-1.0407	.9205
	Fairly good	Very bad	.64056*	.19859	.012	.0968	1.1843
		Fairly bad	.29966*	.09523	.015	.0389	.5604
		Neither good nor bad	-.35674	.34924	.845	-1.3130	.5995
		Very good	-.41682*	.10073	.000	-.6926	-.1410
	Very good	Very bad	1.05738*	.21386	.000	.4718	1.6429
		Fairly bad	.71648*	.12397	.000	.3771	1.0559
		Neither good nor bad	.06009	.35814	1.000	-.9205	1.0407
		Fairly good	.41682*	.10073	.000	.1410	.6926
Redeveloped villages	Very bad	Fairly bad	-.53776	.36593	.457	-1.4829	.4073
		Fairly good	-.89122*	.34309	.048	-1.7773	-.0051
		Very good	-1.55249*	.35834	.000	-2.4780	-.6270
	Fairly bad	Very bad	.53776	.36593	.457	-.4073	1.4829
		Fairly good	-.35346	.14491	.072	-.7277	.0208
		Very good	-1.01473*	.17805	.000	-1.4746	-.5549
	Fairly good	Very bad	.89122*	.34309	.048	.0051	1.7773
		Fairly bad	.35346	.14491	.072	-.0208	.7277
		Very good	-.66127*	.12452	.000	-.9829	-.3397
	Very good	Very bad	1.55249*	.35834	.000	.6270	2.4780
		Fairly bad	1.01473*	.17805	.000	.5549	1.4746
		Fairly good	.66127*	.12452	.000	.3397	.9829
	Very bad	Fairly bad	.02207	.21397	1.000	-.5307	.5748
		Fairly good	-.29662	.17311	.318	-.7438	.1506
		Very good	-.80362*	.18793	.000	-1.2891	-.3181
	Fairly bad	Very bad	-.02207	.21397	1.000	-.5748	.5307
		Fairly good	-.31870	.14426	.123	-.6914	.0540
		Very good	-.82569*	.16175	.000	-1.2435	-.4078

Tukey HSD Neighbourhood Type	(I) Attractiveness_cur_q	(J) Attractiveness_cur_q	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Commodity housing	Fairly good	Very bad	.29662	.17311	.318	-.1506	.7438
		Fairly bad	.31870	.14426	.123	-.0540	.6914
		Very good	-.50700*	.10171	.000	-.7698	-.2442
	Very good	Very bad	.80362*	.18793	.000	.3181	1.2891
		Fairly bad	.82569*	.16175	.000	.4078	1.2435
		Fairly good	.50700*	.10171	.000	.2442	.7698

*. The mean difference is significant at the 0.05 level.

F.20d Effect size

Effect size= Sum of squares between groups / Total sum of squares = 0.086= 0.09= a relatively large effect (villages)
Effect size= Sum of squares between groups / Total sum of squares = 0.127= 0.13= a relatively large effect (redeveloped villages)
Effect size= Sum of squares between groups / Total sum of squares = 0.115= 0.1= a relatively large effect (commodity housing)

F.21 One-way Between-groups ANOVA with Post-Hoc test: sense of community and tenure in general

F.21a Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
3.162	4	1111	.013

F.21b ANOVA

Zscore_community

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	55.143	4	13.786	23.367	.000
Within Groups	655.466	1111	.590		
Total	710.609	1115			

F.21c Multiple Comparisons

(I) Own or rent	(J) Own or rent	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Own outright	Own with a mortgage or loan	.04741	.07681	.972	-.1625	.2573
	Pay rent by employer	.61555*	.09619	.000	.3527	.8784
	Pay part rent by employer, part rent by yourself	.47611	.17887	.060	-.0126	.9648
	Pay rent by yourself	.43323*	.05515	.000	.2825	.5839
Own with a mortgage or loan	Own outright	-.04741	.07681	.972	-.2573	.1625
	Pay rent by employer	.56814*	.11518	.000	.2534	.8829
	Pay part rent by employer, part rent by yourself	.42870	.18976	.159	-.0898	.9472
	Pay rent by yourself	.38582*	.08401	.000	.1563	.6154
Pay rent by employer	Own outright	-.61555*	.09619	.000	-.8784	-.3527
	Own with a mortgage or loan	-.56814*	.11518	.000	-.8829	-.2534
	Pay part rent by employer, part rent by yourself	-.13945	.19840	.956	-.6815	.4026
	Pay rent by yourself	-.18232	.10203	.382	-.4611	.0964
Pay part rent by employer, part rent by yourself	Own outright	-.47611	.17887	.060	-.9648	.0126
	Own with a mortgage or loan	-.42870	.18976	.159	-.9472	.0898
	Pay rent by employer	.13945	.19840	.956	-.4026	.6815
	Pay rent by yourself	-.04288	.18207	.999	-.5404	.4546
Pay rent by yourself	Own outright	-.43323*	.05515	.000	-.5839	-.2825
	Own with a mortgage or loan	-.38582*	.08401	.000	-.6154	-.1563
	Pay rent by employer	.18232	.10203	.382	-.0964	.4611
	Pay part rent by employer, part rent by yourself	.04288	.18207	.999	-.4546	.5404

*. The mean difference is significant at the 0.05 level.

F.21d Effect size = Sum of square between-groups/ Total sum of squares = 0.078 = 0.08 = a medium effect

F.22 One-way Between-groups ANOVA with Post-Hoc test: sense of community and tenure for villages, redeveloped villages and commodity housing respectively

F.22a Test of Homogeneity of Variances

Neighbourhood types	Levene Statistic	df1	df2	Sig.
Villages	2.774	4	485	.027
Redeveloped villages	7.430	4	315	.000
Commodity housing	.526	4	301	.717

F.22b ANOVA

Zscore_community

Neighbourhood Type		Sum of Squares	df	Mean Square	F	Sig.
Villages	Between Groups	16.239	4	4.060	6.514	.000
	Within Groups	302.275	485	.623		
	Total	318.513	489			
Redeveloped villages	Between Groups	37.081	4	9.270	17.017	.000
	Within Groups	171.601	315	.545		
	Total	208.682	319			
Commodity housing	Between Groups	10.428	4	2.607	4.955	.001
	Within Groups	158.359	301	.526		
	Total	168.788	305			

F.22c Multiple Comparisons

Dependent Variable: Zscore_community

Tukey HSD

Neighbourhood Type	(I) Own or rent	(J) Own or rent	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Villages	Own outright	Own with a mortgage or loan	-.08691	.56040	1.000	-1.6213	1.4475
		Pay rent by employer	.16510	.13007	.710	-.1910	.5213
		Pay part rent by employer, part rent by yourself	.17576	.32604	.983	-.7170	1.0685
		Pay rent by yourself	.38889*	.07648	.000	.1795	.5983
	Own with a mortgage or loan	Own outright	.08691	.56040	1.000	-1.4475	1.6213
		Pay rent by employer	.25202	.57107	.992	-1.3116	1.8156
		Pay part rent by employer, part rent by yourself	.26267	.64459	.994	-1.5023	2.0276
		Pay rent by yourself	.47581	.56129	.915	-1.0610	2.0127
	Pay rent by employer	Own outright	-.16510	.13007	.710	-.5213	.1910
		Own with a mortgage or loan	-.25202	.57107	.992	-1.8156	1.3116
		Pay part rent by employer, part rent by yourself	.01065	.34405	1.000	-.9314	.9527
		Pay rent by yourself	.22379	.13386	.452	-.1427	.5903
	Pay part rent by employer, part rent by yourself	Own outright	-.17576	.32604	.983	-1.0685	.7170
		Own with a mortgage or loan	-.26267	.64459	.994	-2.0276	1.5023
		Pay rent by employer	-.01065	.34405	1.000	-.9527	.9314
		Pay rent by yourself	.21314	.32757	.966	-.6838	1.1100
	Pay rent by yourself	Own outright	-.38889*	.07648	.000	-.5983	-.1795
		Own with a mortgage or loan	-.47581	.56129	.915	-2.0127	1.0610
		Pay rent by employer	-.22379	.13386	.452	-.5903	.1427
		Pay part rent by employer, part rent by yourself	-.21314	.32757	.966	-1.1100	.6838
Redeveloped villages	Own outright	Own with a mortgage or loan	.00317	.14720	1.000	-.4007	.4070
		Pay rent by employer	1.21769*	.15439	.000	.7941	1.6413
		Pay part rent by employer, part rent by yourself	.46840	.26642	.400	-.2626	1.1993
		Pay rent by yourself	.32292*	.10437	.018	.0366	.6093
	Own with a mortgage or loan	Own outright	-.00317	.14720	1.000	-.4070	.4007
		Pay rent by employer	1.21452*	.19934	.000	.6676	1.7614
		Pay part rent by employer, part rent by yourself	.46523	.29476	.512	-.3435	1.2739
		Pay rent by yourself	.31975	.16370	.292	-.1294	.7689
	Pay rent by employer	Own outright	-1.21769*	.15439	.000	-1.6413	-.7941
		Own with a mortgage or loan	-1.21452*	.19934	.000	-1.7614	-.6676
		Pay part rent by employer, part rent by yourself	-.74929	.29841	.091	-1.5680	.0694
		Pay rent by yourself	-.89477*	.17019	.000	-1.3617	-.4278
	Pay part rent by employer, part rent by yourself	Own outright	-.46840	.26642	.400	-1.1993	.2626
		Own with a mortgage or loan	-.46523	.29476	.512	-1.2739	.3435
		Pay rent by employer	.74929	.29841	.091	-.0694	1.5680
		Pay rent by yourself	-.14548	.27587	.985	-.9024	.6114
	Pay rent by yourself	Own outright	-.32292*	.10437	.018	-.6093	-.0366
		Own with a mortgage or loan	-.31975	.16370	.292	-.7689	.1294
		Pay rent by employer	.89477*	.17019	.000	.4278	1.3617
		Pay part rent by employer, part rent by yourself	.14548	.27587	.985	-.6114	.9024
Commodity housing	Own outright	Own with a mortgage or loan	.19767	.09435	.225	-.0613	.4566
		Pay rent by employer	.65184	.51573	.714	-.7635	2.0672
		Pay part rent by employer, part rent by yourself	.90014	.32885	.051	-.0024	1.8026
		Pay rent by yourself	.46544*	.14105	.009	.0784	.8525

Neighbourhood Type	(I) Own or rent	(J) Own or rent	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Commodity housing	Own with a mortgage or loan	Own outright	-.19767	.09435	.225	-.4566	.0613
		Pay rent by employer	.45416	.51868	.906	-.9693	1.8776
		Pay part rent by employer, part rent by yourself	.70247	.33347	.220	-.2127	1.6176
		Pay rent by yourself	.26777	.15149	.395	-.1480	.6835
	Pay rent by employer	Own outright	-.65184	.51573	.714	-2.0672	.7635
		Own with a mortgage or loan	-.45416	.51868	.906	-1.8776	.9693
		Pay part rent by employer, part rent by yourself	.24831	.60686	.994	-1.4171	1.9138
		Pay rent by yourself	-.18639	.52918	.997	-1.6387	1.2659
	Pay part rent by employer, part rent by yourself	Own outright	-.90014	.32885	.051	-1.8026	.0024
		Own with a mortgage or loan	-.70247	.33347	.220	-1.6176	.2127
		Pay rent by employer	-.24831	.60686	.994	-1.9138	1.4171
		Pay rent by yourself	-.43470	.34956	.726	-1.3940	.5246
	Pay rent by yourself	Own outright	-.46544*	.14105	.009	-.8525	-.0784
		Own with a mortgage or loan	-.26777	.15149	.395	-.6835	.1480
		Pay rent by employer	.18639	.52918	.997	-1.2659	1.6387
		Pay part rent by employer, part rent by yourself	.43470	.34956	.726	-.5246	1.3940

*. The mean difference is significant at the 0.05 level.

F.22d Effect size:

Effect size = Sum of square between-groups/ Total sum of squares = 0.051 = 0.05 = a medium effect (villages)
Effect size = Sum of square between-groups/ Total sum of squares = 0.178 = 0.18 = a large effect (redeveloped villages)
Effect size = Sum of square between-groups/ Total sum of squares = 0.062 = 0.06 = a medium effect (commodity housing)

F.23 Univariate Analysis of Variance (two-way ANOVA): Sense of community, tenure and residents' local or migrant identity

F.23a Levene's Test of Equality of Error Variances[a,b]

Neighbourhood Type		Levene Statistic	df1	df2	Sig.
Villages	Zscore_community	2.603	6	483	.017
Redeveloped villages	Zscore_community	6.004	8	311	.000
Commodity housing	Zscore_community	.726	8	297	.668

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.
a. Dependent variable: Zscore_community
b. Design: Intercept + L_M + Tenure + L_M * Tenure

According to the three neighbourhood types, if the significance value is less than 0.05, a more stringent significance value (0.01) is set for evaluating the findings from the two-way ANOVA.

F.23b Tests of Between-Subjects Effects

Dependent Variable: Zscore_community

Neighbourhood Type	Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Villages	Corrected Model	19.020[a]	6	3.170	5.112	.000	.060
	Intercept	.836	1	.836	1.349	.246	.003
	L_M	.300	1	.300	.483	.487	.001
	Tenure	4.294	4	1.074	1.731	.142	.014
	L_M * Tenure	1.419	1	1.419	2.289	.131	.005
	Error	299.494	483	.620			
	Total	325.176	490				
	Corrected Total	318.513	489				
Redeveloped villages	Corrected Model	42.366[b]	8	5.296	9.903	.000	.203
	Intercept	5.541	1	5.541	10.361	.001	.032
	L_M	.095	1	.095	.177	.674	.001
	Tenure	19.168	4	4.792	8.961	.000	.103
	L_M * Tenure	3.941	3	1.314	2.457	.063	.023
	Error	166.316	311	.535			
	Total	208.907	320				
	Corrected Total	208.682	319				
Commodity housing	Corrected Model	12.918[c]	8	1.615	3.077	.002	.077
	Intercept	.945	1	.945	1.800	.181	.006
	L_M	.201	1	.201	.382	.537	.001
	Tenure	10.262	4	2.566	4.889	.001	.062
	L_M * Tenure	2.453	3	.818	1.558	.200	.015
	Error	155.870	297	.525			
	Total	176.525	306				
	Corrected Total	168.788	305				

a. R Squared = .060 (Adjusted R Squared = .048)
b. R Squared = .203 (Adjusted R Squared = .183)

c. R Squared = .077 (Adjusted R Squared = .052)

F.24 One-way Between-groups ANOVA with Post-Hoc test: sense of community and household income in general

F.24a Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
4.244	8	1102	.000

A more stringent significance value (0.01) is set for evaluating the findings from the one-way ANOVA because the significance value is less than 0.05.

F.24b ANOVA

Zscore_community

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	24.332	8	3.042	4.899	.000
Within Groups	684.197	1102	.621		
Total	708.530	1110			

F.24c Multiple Comparisons

Dependent Variable: Zscore_community

Tukey HSD (I) Household income	(J) Household income	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Less than 9999 CNY	10000- 29999 CNY	-.36452	.13218	.129	-.7753	.0463
	30000 - 49999 CNY	-.26816	.11409	.313	-.6227	.0864
	50000 - 79999 CNY	-.44942*	.11158	.002	-.7962	-.1026
	80000 - 99999 CNY	-.45024*	.11456	.003	-.8063	-.0942
	100000 - 199999 CNY	-.52764*	.10719	.000	-.8608	-.1945
	200000- 299999 CNY	-.46519*	.13066	.012	-.8713	-.0591
	300000 -399999 CNY	-.47960	.18245	.176	-1.0466	.0874
	400000+ CNY	-.89156*	.20112	.000	-1.5166	-.2665
10000- 29999 CNY	Less than 9999 CNY	.36452	.13218	.129	-.0463	.7753
	30000 - 49999 CNY	.09636	.10804	.993	-.2394	.4321
	50000 - 79999 CNY	-.08490	.10539	.997	-.4124	.2426
	80000 - 99999 CNY	-.08571	.10854	.997	-.4231	.2516
	100000 - 199999 CNY	-.16312	.10073	.794	-.4762	.1499
	200000- 299999 CNY	-.10067	.12541	.997	-.4904	.2891
	300000 -399999 CNY	-.11508	.17873	.999	-.6706	.4404
	400000+ CNY	-.52704	.19775	.162	-1.1416	.0876
30000 - 49999 CNY	Less than 9999 CNY	.26816	.11409	.313	-.0864	.6227
	10000- 29999 CNY	-.09636	.10804	.993	-.4321	.2394
	50000 - 79999 CNY	-.18126	.08157	.392	-.4348	.0722
	80000 - 99999 CNY	-.18208	.08560	.455	-.4481	.0840
	100000 - 199999 CNY	-.25948*	.07545	.018	-.4940	-.0250
	200000- 299999 CNY	-.19703	.10618	.645	-.5270	.1330
	300000 -399999 CNY	-.21145	.16580	.938	-.7267	.3038
	400000+ CNY	-.62340*	.18615	.024	-1.2020	-.0449
50000 - 79999 CNY	Less than 9999 CNY	.44942*	.11158	.002	.1026	.7962
	10000- 29999 CNY	.08490	.10539	.997	-.2426	.4124
	30000 - 49999 CNY	.18126	.08157	.392	-.0722	.4348
	80000 - 99999 CNY	-.00082	.08223	1.000	-.2564	.2547
	100000 - 199999 CNY	-.07823	.07160	.975	-.3008	.1443
	200000- 299999 CNY	-.01577	.10348	1.000	-.3374	.3058
	300000 -399999 CNY	-.03019	.16408	1.000	-.5401	.4798
	400000+ CNY	-.44215	.18463	.288	-1.0160	.1317
80000 - 99999 CNY	Less than 9999 CNY	.45024*	.11456	.003	.0942	.8063
	10000- 29999 CNY	.08571	.10854	.997	-.2516	.4231
	30000 - 49999 CNY	.18208	.08560	.455	-.0840	.4481
	50000 - 79999 CNY	.00082	.08223	1.000	-.2547	.2564
	100000 - 199999 CNY	-.07741	.07617	.984	-.3141	.1593
	200000- 299999 CNY	-.01495	.10669	1.000	-.3465	.3166
	300000 -399999 CNY	-.02937	.16612	1.000	-.5457	.4869
	400000+ CNY	-.44133	.18644	.303	-1.0208	.1381
100000 - 199999 CNY	Less than 9999 CNY	.52764*	.10719	.000	.1945	.8608
	10000- 29999 CNY	.16312	.10073	.794	-.1499	.4762
	30000 - 49999 CNY	.25948*	.07545	.018	.0250	.4940
	50000 - 79999 CNY	.07823	.07160	.975	-.1443	.3008
	80000 - 99999 CNY	.07741	.07617	.984	-.1593	.3141
	200000- 299999 CNY	.06245	.09873	.999	-.2444	.3693
	300000 -399999 CNY	.04804	.16113	1.000	-.4527	.5488
	400000+ CNY	-.36392	.18201	.544	-.9296	.2017

Tukey HSD (I) Household income	(J) Household income	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
200000- 299999 CNY	Less than 9999 CNY	.46519*	.13066	.012	.0591	.8713
	10000- 29999 CNY	.10067	.12541	.997	-.2891	.4904
	30000 - 49999 CNY	.19703	.10618	.645	-.1330	.5270
	50000 - 79999 CNY	.01577	.10348	1.000	-.3058	.3374
	80000 - 99999 CNY	.01495	.10669	1.000	-.3166	.3465
	100000 - 199999 CNY	-.06245	.09873	.999	-.3693	.2444
	300000 -399999 CNY	-.01441	.17761	1.000	-.5664	.5376
	400000+ CNY	-.42637	.19674	.428	-1.0378	.1851
300000 -399999 CNY	Less than 9999 CNY	.47960	.18245	.176	-.0874	1.0466
	10000- 29999 CNY	.11508	.17873	.999	-.4404	.6706
	30000 - 49999 CNY	.21145	.16580	.938	-.3038	.7267
	50000 - 79999 CNY	.03019	.16408	1.000	-.4798	.5401
	80000 - 99999 CNY	.02937	.16612	1.000	-.4869	.5457
	100000 - 199999 CNY	-.04804	.16113	1.000	-.5488	.4527
	200000- 299999 CNY	.01441	.17761	1.000	-.5376	.5664
	400000+ CNY	-.41196	.23436	.710	-1.1403	.3164
400000+ CNY	Less than 9999 CNY	.89156*	.20112	.000	.2665	1.5166
	10000- 29999 CNY	.52704	.19775	.162	-.0876	1.1416
	30000 - 49999 CNY	.62340*	.18615	.024	.0449	1.2020
	50000 - 79999 CNY	.44215	.18463	.288	-.1317	1.0160
400000+ CNY	80000 - 99999 CNY	.44133	.18644	.303	-.1381	1.0208
	100000 - 199999 CNY	.36392	.18201	.544	-.2017	.9296
	200000- 299999 CNY	.42637	.19674	.428	-.1851	1.0378
	300000 -399999 CNY	.41196	.23436	.710	-.3164	1.1403

*. The mean difference is significant at the 0.05 level.

F.24d Effect size = Sum of square between-groups/ Total sum of squares = 0.034 = 0.03 = a small effect

F.25 One-way Between-groups ANOVA with Post-Hoc test: sense of community and household income in redeveloped villages

F.25a Test of Homogeneity of Variances

Neighbourhood Type			Levene Statistic	df1	df2	Sig.
Redeveloped villages	Zscore_community	Based on Mean	4.364	8	310	.000

According to the three neighbourhood types, if the significance value is less than 0.05, a more stringent significance value (0.01) is set for evaluating the findings from the one-way ANOVA.

F.25b ANOVA

Zscore_community

Neighbourhood Type		Sum of Squares	df	Mean Square	F	Sig.
Redeveloped villages	Between Groups	30.062	8	3.758	6.522	.000
	Within Groups	178.609	310	.576		
	Total	208.671	318			

F.25c Multiple Comparisons

Dependent Variable: Zscore_community

Neighbourhood Type	(I) Household income	(J) Household income	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Redeveloped villages	Less than 9999 CNY	10000- 29999 CNY	-1.00133*	.23637	.001	-1.7397	-.2629
		30000 - 49999 CNY	-.69309*	.17953	.004	-1.2539	-.1322
		50000 - 79999 CNY	-.91007*	.16311	.000	-1.4196	-.4005
		80000 - 99999 CNY	-.79932*	.17850	.000	-1.3569	-.2417
		100000 - 199999 CNY	-.96530*	.15183	.000	-1.4396	-.4910
		200000- 299999 CNY	-.98748*	.24210	.002	-1.7438	-.2312
		300000 -399999 CNY	-.68838	.31586	.422	-1.6751	.2983
		400000+ CNY	-1.66623*	.36427	.000	-2.8041	-.5283
	10000- 29999 CNY	Less than 9999 CNY	1.00133*	.23637	.001	.2629	1.7397
		30000 - 49999 CNY	.30825	.23062	.920	-.4122	1.0287
		50000 - 79999 CNY	.09126	.21807	1.000	-.5900	.7725
		80000 - 99999 CNY	.20202	.22981	.994	-.5159	.9199
		100000 - 199999 CNY	.03603	.20977	1.000	-.6193	.6913
		200000- 299999 CNY	.01385	.28207	1.000	-.8673	.8950
		300000 -399999 CNY	.31295	.34745	.993	-.7724	1.3983
		400000+ CNY	-.66489	.39197	.749	-1.8894	.5596

Tukey HSD Neighbourhood Type	(I) Household income	(J) Household income	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Redeveloped villages	30000 - 49999 CNY	Less than 9999 CNY	.69309*	.17953	.004	.1322	1.2539
		10000- 29999 CNY	-.30825	.23062	.920	-1.0287	.4122
		50000 - 79999 CNY	-.21699	.15466	.896	-.7001	.2661
		80000 - 99999 CNY	-.10623	.17081	.999	-.6398	.4274
		100000 - 199999 CNY	-.27221	.14271	.609	-.7180	.1736
		200000- 299999 CNY	-.29439	.23649	.946	-1.0332	.4444
		300000 -399999 CNY	.00471	.31158	1.000	-.9686	.9780
		400000+ CNY	-.97314	.36056	.152	-2.0995	.1532
	50000 - 79999 CNY	Less than 9999 CNY	.91007*	.16311	.000	.4005	1.4196
		10000- 29999 CNY	-.09126	.21807	1.000	-.7725	.5900
		30000 - 49999 CNY	.21699	.15466	.896	-.2661	.7001
		80000 - 99999 CNY	.11076	.15346	.998	-.3686	.5901
		100000 - 199999 CNY	-.05523	.12140	1.000	-.4345	.3240
		200000- 299999 CNY	-.07740	.22428	1.000	-.7780	.6232
		300000 -399999 CNY	.22170	.30241	.998	-.7230	1.1664
		400000+ CNY	-.75615	.35267	.445	-1.8578	.3455
	80000 - 99999 CNY	Less than 9999 CNY	.79932*	.17850	.000	.2417	1.3569
		10000- 29999 CNY	-.20202	.22981	.994	-.9199	.5159
		30000 - 49999 CNY	.10623	.17081	.999	-.4274	.6398
		50000 - 79999 CNY	-.11076	.15346	.998	-.5901	.3686
		100000 - 199999 CNY	-.16598	.14141	.961	-.6077	.2758
		200000- 299999 CNY	-.18816	.23571	.997	-.9245	.5482
		300000 -399999 CNY	.11094	.31099	1.000	-.8605	1.0824
		400000+ CNY	-.86691	.36005	.283	-1.9917	.2578
	100000 - 199999 CNY	Less than 9999 CNY	.96530*	.15183	.000	.4910	1.4396
		10000- 29999 CNY	-.03603	.20977	1.000	-.6913	.6193
		30000 - 49999 CNY	.27221	.14271	.609	-.1736	.7180
		50000 - 79999 CNY	.05523	.12140	1.000	-.3240	.4345
		80000 - 99999 CNY	.16598	.14141	.961	-.2758	.6077
		200000- 299999 CNY	-.02218	.21621	1.000	-.6976	.6532
	100000 - 199999 CNY	300000 -399999 CNY	.27692	.29648	.991	-.6492	1.2031
		400000+ CNY	-.70093	.34760	.533	-1.7868	.3849
	200000- 299999 CNY	Less than 9999 CNY	.98748*	.24210	.002	.2312	1.7438
		10000- 29999 CNY	-.01385	.28207	1.000	-.8950	.8673
		30000 - 49999 CNY	.29439	.23649	.946	-.4444	1.0332
		50000 - 79999 CNY	.07740	.22428	1.000	-.6232	.7780
		80000 - 99999 CNY	.18816	.23571	.997	-.5482	.9245
		100000 - 199999 CNY	.02218	.21621	1.000	-.6532	.6976
		300000 -399999 CNY	.29910	.35137	.995	-.7985	1.3967
		400000+ CNY	-.67875	.39546	.736	-1.9141	.5566
	300000 -399999 CNY	Less than 9999 CNY	.68838	.31586	.422	-.2983	1.6751
		10000- 29999 CNY	-.31295	.34745	.993	-1.3983	.7724
		30000 - 49999 CNY	-.00471	.31158	1.000	-.9780	.9686
		50000 - 79999 CNY	-.22170	.30241	.998	-1.1664	.7230
		80000 - 99999 CNY	-.11094	.31099	1.000	-1.0824	.8605
		100000 - 199999 CNY	-.27692	.29648	.991	-1.2031	.6492
		200000- 299999 CNY	-.29910	.35137	.995	-1.3967	.7985
		400000+ CNY	-.97785	.44446	.408	-2.3663	.4106
	400000+ CNY	Less than 9999 CNY	1.66623*	.36427	.000	.5283	2.8041
		10000- 29999 CNY	.66489	.39197	.749	-.5596	1.8894
		30000 - 49999 CNY	.97314	.36056	.152	-.1532	2.0995
		50000 - 79999 CNY	.75615	.35267	.445	-.3455	1.8578
		80000 - 99999 CNY	.86691	.36005	.283	-.2578	1.9917
		100000 - 199999 CNY	.70093	.34760	.533	-.3849	1.7868
		200000- 299999 CNY	.67875	.39546	.736	-.5566	1.9141
		300000 -399999 CNY	.97785	.44446	.408	-.4106	2.3663

*. The mean difference is significant at the 0.05 level.

F.25d Effect size = Sum of square between-groups/ Total sum of squares = 0.144 = 0.14 = a large effect (redeveloped villages)

F.26 One-way Between-groups ANOVA with Post-Hoc test: sense of community and economic status in general

F.26a Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Zscore_community	Based on Mean	2.558	6	1108	.018

A more stringent significance value (0.01) is set for evaluating the findings from the one-way ANOVA because the significance value is less than 0.05.

F.26b ANOVA

Zscore_community

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	25.373	6	4.229	6.838	.000
Within Groups	685.219	1108	.618		
Total	710.592	1114			

F.26c Multiple Comparisons

Dependent Variable: Zscore_community

Tukey HSD

(I) Economic status	(J) Economic status	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Full-time employed	Part-time employed	-.21864	.13283	.652	-.6110	.1737
	Unemployed	-.22917	.14450	.691	-.6560	.1976
	Full-time student at university	-.23913	.09637	.167	-.5238	.0455
	Looking after home	-.00029	.08876	1.000	-.2625	.2619
	Retired	-.36119*	.06180	.000	-.5437	-.1786
	Long term sick or disabled	-.49250	.35301	.805	-1.5352	.5502
Part-time employed	Full-time employed	.21864	.13283	.652	-.1737	.6110
	Unemployed	-.01053	.19148	1.000	-.5761	.5550
	Full-time student at university	-.02050	.15834	1.000	-.4882	.4472
	Looking after home	.21835	.15383	.791	-.2360	.6727
	Retired	-.14255	.14001	.950	-.5561	.2710
	Long term sick or disabled	-.27387	.37470	.991	-1.3806	.8329
Unemployed	Full-time employed	.22917	.14450	.691	-.1976	.6560
	Part-time employed	.01053	.19148	1.000	-.5550	.5761
	Full-time student at university	-.00997	.16825	1.000	-.5069	.4870
	Looking after home	.22888	.16401	.804	-.2556	.7133
	Retired	-.13202	.15113	.976	-.5784	.3144
	Long term sick or disabled	-.26334	.37899	.993	-1.3828	.8561
Full-time student at university	Full-time employed	.23913	.09637	.167	-.0455	.5238
	Part-time employed	.02050	.15834	1.000	-.4472	.4882
	Unemployed	.00997	.16825	1.000	-.4870	.5069
	Looking after home	.23884	.12372	.460	-.1266	.6043
	Retired	-.12205	.10605	.912	-.4353	.1912
	Long term sick or disabled	-.25337	.36338	.993	-1.3267	.8200
Looking after home	Full-time employed	.00029	.08876	1.000	-.2619	.2625
	Part-time employed	-.21835	.15383	.791	-.6727	.2360
	Unemployed	-.22888	.16401	.804	-.7133	.2556
	Full-time student at university	-.23884	.12372	.460	-.6043	.1266
	Retired	-.36090*	.09919	.005	-.6539	-.0679
	Long term sick or disabled	-.49221	.36143	.822	-1.5598	.5754
Retired	Full-time employed	.36119*	.06180	.000	.1786	.5437
	Part-time employed	.14255	.14001	.950	-.2710	.5561
	Unemployed	.13202	.15113	.976	-.3144	.5784
	Full-time student at university	.12205	.10605	.912	-.1912	.4353
	Looking after home	.36090*	.09919	.005	.0679	.6539
	Long term sick or disabled	-.13132	.35577	1.000	-1.1822	.9196
Long term sick or disabled	Full-time employed	.49250	.35301	.805	-.5502	1.5352
	Part-time employed	.27387	.37470	.991	-.8329	1.3806
	Unemployed	.26334	.37899	.993	-.8561	1.3828
	Full-time student at university	.25337	.36338	.993	-.8200	1.3267
	Looking after home	.49221	.36143	.822	-.5754	1.5598
	Retired	.13132	.35577	1.000	-.9196	1.1822

*. The mean difference is significant at the 0.05 level.

F.26d Effect size = Sum of square between-groups/ Total sum of squares = 0.036 = 0.04 = a small- moderate effect

F.27 One-way Between-groups ANOVA with Post-Hoc test: sense of community and economic status in villages and redeveloped villages

F.27a Test of Homogeneity of Variances

Neighbourhood Type		Levene Statistic	df1	df2	Sig.
Villages	Zscore_community	5.450	6	483	.000
Redeveloped villages	Zscore_community	1.681	5	313	.139

According to the three neighbourhood types, if the significance value is less than 0.05, a more stringent significance value (0.01) is set for evaluating the findings from the one-way ANOVA.

F.27b ANOVA

Zscore_community

Neighbourhood Type		Sum of Squares	df	Mean Square	F	Sig.
Villages	Between Groups	25.710	6	4.285	7.068	.000
	Within Groups	292.803	483	.606		
	Total	318.513	489			
Redeveloped villages	Between Groups	14.054	5	2.811	4.520	.001
	Within Groups	194.618	313	.622		
	Total	208.671	318			

F.27c Multiple Comparisons

Dependent Variable: Zscore_community

Tukey HSD Neighbourhood Type	(I) Economic status	(J) Economic status	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Villages	Full-time employed	Part-time employed	-.53203*	.17575	.041	-1.0524	-.0117
		Unemployed	-.37181	.22921	.668	-1.0505	.3068
		Full-time student at university	-.41087	.17198	.205	-.9201	.0983
		Looking after home	.26809	.12964	.374	-.1158	.6519
		Retired	-.41677*	.09398	.000	-.6950	-.1385
		Long term sick or disabled	-.61787	.35109	.576	-1.6574	.4216
	Part-time employed	Full-time employed	.53203*	.17575	.041	.0117	1.0524
		Unemployed	.16022	.28175	.998	-.6740	.9944
		Full-time student at university	.12115	.23753	.999	-.5821	.8245
		Looking after home	.80011*	.20893	.003	.1815	1.4187
		Retired	.11526	.18889	.996	-.4440	.6745
		Long term sick or disabled	-.08584	.38744	1.000	-1.2330	1.0613
	Unemployed	Full-time employed	.37181	.22921	.668	-.3068	1.0505
		Part-time employed	-.16022	.28175	.998	-.9944	.6740
		Full-time student at university	-.03906	.27942	1.000	-.8664	.7882
		Looking after home	.63990	.25555	.160	-.1167	1.3965
		Retired	-.04495	.23944	1.000	-.7539	.6640
		Long term sick or disabled	-.24606	.41444	.997	-1.4731	.9810
	Full-time student at university	Full-time employed	.41087	.17198	.205	-.0983	.9201
		Part-time employed	-.12115	.23753	.999	-.8245	.5821
		Unemployed	.03906	.27942	1.000	-.7882	.8664
		Looking after home	.67896*	.20577	.018	.0697	1.2882
		Retired	-.00589	.18538	1.000	-.5548	.5430
		Long term sick or disabled	-.20700	.38574	.998	-1.3491	.9351
Villages	Looking after home	Full-time employed	-.26809	.12964	.374	-.6519	.1158
		Part-time employed	-.80011*	.20893	.003	-1.4187	-.1815
		Unemployed	-.63990	.25555	.160	-1.3965	.1167
		Full-time student at university	-.67896*	.20577	.018	-1.2882	-.0697
		Retired	-.68485*	.14696	.000	-1.1200	-.2497
		Long term sick or disabled	-.88596	.36882	.200	-1.9780	.2061
	Retired	Full-time employed	.41677*	.09398	.000	.1385	.6950
		Part-time employed	-.11526	.18889	.996	-.6745	.4440
		Unemployed	.04495	.23944	1.000	-.6640	.7539
		Full-time student at university	.00589	.18538	1.000	-.5430	.5548
		Looking after home	.68485*	.14696	.000	.2497	1.1200
		Long term sick or disabled	-.20111	.35785	.998	-1.2606	.8584
	Long term sick or disabled	Full-time employed	.61787	.35109	.576	-.4216	1.6574
		Part-time employed	.08584	.38744	1.000	-1.0613	1.2330
		Unemployed	.24606	.41444	.997	-.9810	1.4731
		Full-time student at university	.20700	.38574	.998	-.9351	1.3491
		Looking after home	.88596	.36882	.200	-.2061	1.9780
		Retired	.20111	.35785	.998	-.8584	1.2606

Tukey HSD Neighbourhood Type	(I) Economic status	(J) Economic status	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Redeveloped villages	Full-time employed	Part-time employed	-.17352	.26890	.987	-.9446	.5975
		Unemployed	-.12356	.25573	.997	-.8569	.6097
		Full-time student at university	.01812	.28451	1.000	-.7977	.8339
		Looking after home	-.26102	.18960	.741	-.8047	.2826
		Retired	-.48990*	.10485	.000	-.7906	-.1892
	Part-time employed	Full-time employed	.17352	.26890	.987	-.5975	.9446
		Unemployed	.04996	.36231	1.000	-.9889	1.0889
		Full-time student at university	.19164	.38316	.996	-.9071	1.2903
		Looking after home	-.08750	.31908	1.000	-1.0025	.8275
		Retired	-.31637	.27723	.864	-1.1113	.4786
	Unemployed	Full-time employed	.12356	.25573	.997	-.6097	.8569
		Part-time employed	-.04996	.36231	1.000	-1.0889	.9889
		Full-time student at university	.14168	.37403	.999	-.9308	1.2142
		Looking after home	-.13746	.30806	.998	-1.0208	.7459
		Retired	-.36633	.26448	.736	-1.1247	.3921
	Full-time student at university	Full-time employed	-.01812	.28451	1.000	-.8339	.7977
		Part-time employed	-.19164	.38316	.996	-1.2903	.9071
		Unemployed	-.14168	.37403	.999	-1.2142	.9308
		Looking after home	-.27914	.33234	.960	-1.2321	.6738
		Retired	-.50801	.29240	.508	-1.3464	.3304
	Looking after home	Full-time employed	.26102	.18960	.741	-.2826	.8047
		Part-time employed	.08750	.31908	1.000	-.8275	1.0025
		Unemployed	.13746	.30806	.998	-.7459	1.0208
		Full-time student at university	.27914	.33234	.960	-.6738	1.2321
		Retired	-.22887	.20124	.865	-.8059	.3482
	Retired	Full-time employed	.48990*	.10485	.000	.1892	.7906
		Part-time employed	.31637	.27723	.864	-.4786	1.1113
		Unemployed	.36633	.26448	.736	-.3921	1.1247
		Full-time student at university	.50801	.29240	.508	-.3304	1.3464
		Looking after home	.22887	.20124	.865	-.3482	.8059

*. The mean difference is significant at the 0.05 level.

F.27d Effect size

Effect size = Sum of square between-groups/ Total sum of squares = 0.081 = 0.08 = a medium effect (villages)
Effect size = Sum of square between-groups/ Total sum of squares = 0.067 = 0.07 = a medium effect (redeveloped villages)

F.28 Independent-Sample T-Test: Sense of community and respondents' local or migrant identify in villages

F.28a Group Statistics

Neighbourhood Type		Local or migrant	N	Mean	Std. Deviation	Std. Error Mean
Villages	Zscore_community	Local	246	.0560	.74330	.04739
		Migrant	244	-.2907	.83254	.05330

F.28b Independent Samples Test

			Levene's Test for		t-test for Equality of Means						
Neighbourhood Type			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval Lower	Upper
Villages	Zscore_ community	Equal variances assumed	5.885	.016	4.863	488	.000	.34670	.07129	.20664	.48677
		Equal variances not assumed			4.861	480.956	.000	.34670	.07132	.20657	.48684

F.28c Effect size = Eta squared = $t^2 / t^2 + (N1 + N2 -2) = 0.021 = 0.02$ = a small effect (villages)

F.29 Independent-Sample T-Test: Sense of community and housing type in redeveloped villages

F.29a Group Statistics

Neighbourhood Type		Accommodation type	N	Mean	Std. Deviation	Std. Error Mean
Redeveloped villages	Zscore_community	Houses	189	.1450	.86902	.06321
		Apartment blocks	131	-.1444	.68064	.05947

F.29b Independent Samples Test

			Levene's Test for		t-test for Equality of Means						
										95% Confidence Interval	
Neighbourhood Type			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Redeveloped villages	Zscore_ community	Equal variances assumed	1.656	.199	3.192	318	.002	.28939	.09065	.11103	.46774
		Equal variances not assumed			3.334	313.225	.001	.28939	.08679	.11862	.46015

F.29c Effect size for independent-sample test

Eta squared = $t^2 / t^2 + (N1 + N2 -2) = 0.031 = 0.03$ = a very small effect (redeveloped villages)

F.30 Chi- square examination for independence: Participation in organized community groups and tenure in general

F.30a Tenure * Par_communitygroup_neigh Crosstabulation

			Par_communitygroup_neigh		
			No	Yes	Total
Tenure	Own outright	Count	536	90	626
		Expected Count	562.6	63.4	626.0
		% within Tenure	85.6%	14.4%	100.0%
		% within Par_communitygroup_neigh	53.4%	79.6%	56.1%
		% of Total	48.0%	8.1%	56.1%
	Own with a mortgage or loan	Count	111	8	119
		Expected Count	107.0	12.0	119.0
		% within Tenure	93.3%	6.7%	100.0%
		% within Par_communitygroup_neigh	11.1%	7.1%	10.7%
		% of Total	9.9%	0.7%	10.7%
	Pay rent by employer	Count	71	0	71
		Expected Count	63.8	7.2	71.0
		% within Tenure	100.0%	0.0%	100.0%
		% within Par_communitygroup_neigh	7.1%	0.0%	6.4%
		% of Total	6.4%	0.0%	6.4%
	Pay part rent by employer, part rent by yourself	Count	17	2	19
		Expected Count	17.1	1.9	19.0
		% within Tenure	89.5%	10.5%	100.0%
		% within Par_communitygroup_neigh	1.7%	1.8%	1.7%
		% of Total	1.5%	0.2%	1.7%
	Pay rent by yourself	Count	268	13	281
		Expected Count	252.5	28.5	281.0
		% within Tenure	95.4%	4.6%	100.0%
		% within Par_communitygroup_neigh	26.7%	11.5%	25.2%
		% of Total	24.0%	1.2%	25.2%
Total		Count	1003	113	1116
		Expected Count	1003.0	113.0	1116.0
		% within Tenure	89.9%	10.1%	100.0%
		% within Par_communitygroup_neigh	100.0%	100.0%	100.0%
		% of Total	89.9%	10.1%	100.0%

F.30b Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	31.288[a]	4	.000
Likelihood Ratio	39.480	4	.000
Linear-by-Linear Association	21.916	1	.000
N of Valid Cases	1116		

a. 1 cells (10.0%) have expected count less than 5. The minimum expected count is 1.92.

F.31 Chi- square examination for independence: Participation in organized community groups and tenure in villages and redeveloped villages

F.31a Tenure * Par_communitygroup_neigh Crosstabulation

Neighbourhood Type				Par_communitygroup_neigh		Total
				No	Yes	
Villages	Tenure	Own outright	Count	199	58	257
			Expected Count	221.3	35.7	257.0
			% within Tenure	77.4%	22.6%	100.0%
			% within Par_communitygroup_neigh	47.2%	85.3%	52.4%
			% of Total	40.6%	11.8%	52.4%
		Own with a mortgage or loan	Count	2	0	2
			Expected Count	1.7	.3	2.0
			% within Tenure	100.0%	0.0%	100.0%
			% within Par_communitygroup_neigh	0.5%	0.0%	0.4%
			% of Total	0.4%	0.0%	0.4%
		Pay rent by employer	Count	43	0	43
			Expected Count	37.0	6.0	43.0
			% within Tenure	100.0%	0.0%	100.0%
			% within Par_communitygroup_neigh	10.2%	0.0%	8.8%
			% of Total	8.8%	0.0%	8.8%
		Pay part rent by employer, part rent by yourself	Count	6	0	6
			Expected Count	5.2	.8	6.0
			% within Tenure	100.0%	0.0%	100.0%
			% within Par_communitygroup_neigh	1.4%	0.0%	1.2%
			% of Total	1.2%	0.0%	1.2%
		Pay rent by yourself	Count	172	10	182
			Expected Count	156.7	25.3	182.0
			% within Tenure	94.5%	5.5%	100.0%
			% within Par_communitygroup_neigh	40.8%	14.7%	37.1%
			% of Total	35.1%	2.0%	37.1%
	Total		Count	422	68	490
			Expected Count	422.0	68.0	490.0
			% within Tenure	86.1%	13.9%	100.0%
			% within Par_communitygroup_neigh	100.0%	100.0%	100.0%
			% of Total	86.1%	13.9%	100.0%
Redeveloped villages	Tenure	Own outright	Count	170	19	189
			Expected Count	174.8	14.2	189.0
			% within Tenure	89.9%	10.1%	100.0%
			% within Par_communitygroup_neigh	57.4%	79.2%	59.1%
			% of Total	53.1%	5.9%	59.1%
		Own with a mortgage or loan	Count	27	2	29
			Expected Count	26.8	2.2	29.0
			% within Tenure	93.1%	6.9%	100.0%
			% within Par_communitygroup_neigh	9.1%	8.3%	9.1%
			% of Total	8.4%	0.6%	9.1%
		Pay rent by employer	Count	26	0	26
			Expected Count	24.1	2.0	26.0
			% within Tenure	100.0%	0.0%	100.0%
			% within Par_communitygroup_neigh	8.8%	0.0%	8.1%
			% of Total	8.1%	0.0%	8.1%
		Pay part rent by employer, part rent by yourself	Count	8	0	8
			Expected Count	7.4	.6	8.0
			% within Tenure	100.0%	0.0%	100.0%
			% within Par_communitygroup_neigh	2.7%	0.0%	2.5%
			% of Total	2.5%	0.0%	2.5%
		Pay rent by yourself	Count	65	3	68
			Expected Count	62.9	5.1	68.0
			% within Tenure	95.6%	4.4%	100.0%
			% within Par_communitygroup_neigh	22.0%	12.5%	21.3%
			% of Total	20.3%	0.9%	21.3%
	Total		Count	296	24	320
			Expected Count	296.0	24.0	320.0
			% within Tenure	92.5%	7.5%	100.0%
			% within Par_communitygroup_neigh	100.0%	100.0%	100.0%
			% of Total	92.5%	7.5%	100.0%

F.31b Chi-Square Tests

Neighbourhood Type		Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Villages	Pearson Chi-Square	35.160[a]	4	.000	.000		
	Likelihood Ratio	42.733	4	.000	.000		
	Fisher's Exact Test	36.909			.000		
	Linear-by-Linear Association	27.840[b]	1	.000	.000	.000	.000
	N of Valid Cases	490					
Redeveloped villages	Pearson Chi-Square	5.482[c]	4	.241	.221		
	Likelihood Ratio	8.019	4	.091	.106		
	Fisher's Exact Test	4.173			.324		
	Linear-by-Linear Association	3.450[d]	1	.063	.067	.031	.009
	N of Valid Cases	320					

a. 3 cells (30.0%) have expected count less than 5. The minimum expected count is .28.
b. The standardized statistic is -5.276.
c. 3 cells (30.0%) have expected count less than 5. The minimum expected count is .60.
d. The standardized statistic is -1.857.
e. 5 cells (50.0%) have expected count less than 5. The minimum expected count is .14.
f. The standardized statistic is -.707.

F.32 Chi- square examination for independence: Participation in organized adult education and tenure in villages

F.32a Tenure * Par_aduedu_neigh Crosstabulation

Neighbourhood Type				Par_aduedu_neigh No	Par_aduedu_neigh Yes	Total
Villages	Tenure	Own outright	Count	251	6	257
			Expected Count	253.3	3.7	257.0
			% within Tenure	97.7%	2.3%	100.0%
			% within Par_aduedu_neigh	52.0%	85.7%	52.4%
			% of Total	51.2%	1.2%	52.4%
		Own with a mortgage or loan	Count	2	0	2
			Expected Count	2.0	.0	2.0
			% within Tenure	100.0%	0.0%	100.0%
			% within Par_aduedu_neigh	0.4%	0.0%	0.4%
			% of Total	0.4%	0.0%	0.4%
		Pay rent by employer	Count	43	0	43
			Expected Count	42.4	.6	43.0
			% within Tenure	100.0%	0.0%	100.0%
			% within Par_aduedu_neigh	8.9%	0.0%	8.8%
			% of Total	8.8%	0.0%	8.8%
		Pay part rent by employer, part rent by yourself	Count	6	0	6
			Expected Count	5.9	.1	6.0
			% within Tenure	100.0%	0.0%	100.0%
			% within Par_aduedu_neigh	1.2%	0.0%	1.2%
			% of Total	1.2%	0.0%	1.2%
		Pay rent by yourself	Count	181	1	182
			Expected Count	179.4	2.6	182.0
			% within Tenure	99.5%	0.5%	100.0%
			% within Par_aduedu_neigh	37.5%	14.3%	37.1%
			% of Total	36.9%	0.2%	37.1%
	Total		Count	483	7	490
			Expected Count	483.0	7.0	490.0
			% within Tenure	98.6%	1.4%	100.0%
			% within Par_aduedu_neigh	100.0%	100.0%	100.0%
			% of Total	98.6%	1.4%	100.0%

F.32b Chi-Square Tests

Neighbourhood Type		Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Villages	Pearson Chi-Square	3.236[a]	4	.519	.360		
	Likelihood Ratio	4.029	4	.402	.273		
	Fisher's Exact Test	4.760			.409		
	Linear-by-Linear Association	2.580[b]	1	.108	.167	.086	.060
	N of Valid Cases	490					

a. 6 cells (60.0%) have expected count less than 5. The minimum expected count is .03.
b. The standardized statistic is -1.606.
c. 5 cells (50.0%) have expected count less than 5. The minimum expected count is .05.
d. The standardized statistic is -.590.
e. 7 cells (70.0%) have expected count less than 5. The minimum expected count is .01.
f. The standardized statistic is -.294.

F.33 Chi- square examination for independence: Participation in organized community groups and residents' identity (local or migrant) in villages

F.33a Local or migrant * Par_communitygroup_neigh Crosstabulation

Neighbourhood Type				Par_neighgroup_neigh		
				No	Yes	Total
Villages	Local or migrant	Local	Count	194	52	246
			Expected Count	211.9	34.1	246.0
			% within Local or migrant	78.9%	21.1%	100.0%
			% within Par_communitygroup_neigh	46.0%	76.5%	50.2%
			% of Total	39.6%	10.6%	50.2%
		Migrant	Count	228	16	244
			Expected Count	210.1	33.9	244.0
			% within Local or migrant	93.4%	6.6%	100.0%
			% within Par_communitygroup_neigh	54.0%	23.5%	49.8%
			% of Total	46.5%	3.3%	49.8%
	Total		Count	422	68	490
			Expected Count	422.0	68.0	490.0
			% within Local or migrant	86.1%	13.9%	100.0%
			% within Par_communitygroup_neigh	100.0%	100.0%	100.0%
			% of Total	86.1%	13.9%	100.0%

F.33b Chi-Square Tests

Neighbourhood Type		Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Villages	Pearson Chi-Square	21.790[a]	1	.000		
	Continuity Correction[b]	20.587	1	.000		
	Likelihood Ratio	22.801	1	.000		
	Fisher's Exact Test				.000	.000
	Linear-by-Linear Association	21.746	1	.000		
	N of Valid Cases	306				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 33.86.
b. Computed only for a 2x2 table
c. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 11.55.
d. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 9.88.

F.34 Chi- square examination for independence: Participation in sports groups and household composition in general

Household composition		Par_sport_neigh		
		No	Yes	Total
One adult under 60	Count	90	37	127
	Expected Count	91.3	35.7	127.0
	% within Household composition	70.9%	29.1%	100.0%
	% within Par_sport_neigh	11.2%	11.8%	11.4%
	% of Total	8.1%	3.3%	11.4%
One adult aged 60 or over	Count	21	5	26
	Expected Count	18.7	7.3	26.0
	% within Household composition	80.8%	19.2%	100.0%
	% within Par_sport_neigh	2.6%	1.6%	2.3%
	% of Total	1.9%	0.4%	2.3%
Two adults both under 60	Count	59	22	81
	Expected Count	58.3	22.7	81.0
	% within Household composition	72.8%	27.2%	100.0%
	% within Par_sport_neigh	7.4%	7.0%	7.3%
	% of Total	5.3%	2.0%	7.3%
Two adults, at least one 60 or over	Count	21	19	40
	Expected Count	28.8	11.2	40.0
	% within Household composition	52.5%	47.5%	100.0%
	% within Par_sport_neigh	2.6%	6.1%	3.6%
	% of Total	1.9%	1.7%	3.6%
Three or more adults	Count	92	53	145
	Expected Count	104.3	40.7	145.0
	% within Household composition	63.4%	36.6%	100.0%
	% within Par_sport_neigh	11.5%	16.9%	13.0%
	% of Total	8.3%	4.8%	13.0%
Three or more adults with children, at least one under 18	Count	302	99	401
	Expected Count	288.4	112.6	401.0
	% within Household composition	75.3%	24.7%	100.0%
	% within Par_sport_neigh	37.7%	31.6%	36.0%
	% of Total	27.1%	8.9%	36.0%

Household composition		Par_sport_neigh		
		No	Yes	Total
`1- parent family with children, at least one under	Count	2	1	3
	Expected Count	2.2	.8	3.0
	% within Household composition	66.7%	33.3%	100.0%
	% within Par_sport_neigh	0.2%	0.3%	0.3%
	% of Total	0.2%	0.1%	0.3%
2- parent family with children, at least one under 18	Count	213	76	289
	Expected Count	207.9	81.1	289.0
	% within Household composition	73.7%	26.3%	100.0%
	% within Par_sport_neigh	26.6%	24.3%	25.9%
	% of Total	19.1%	6.8%	25.9%
One adult aged 60 or over with children, at least one under 18	Count	2	1	3
	Expected Count	2.2	.8	3.0
	% within Household composition	66.7%	33.3%	100.0%
	% within Par_sport_neigh	0.2%	0.3%	0.3%
	% of Total	0.2%	0.1%	0.3%
Total	Count	802	313	1115
	Expected Count	802.0	313.0	1115.0
	% within Household composition	71.9%	28.1%	100.0%
	% within Par_sport_neigh	100.0%	100.0%	100.0%
	% of Total	71.9%	28.1%	100.0%

F.34b Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	16.559[a]	8	.035
Likelihood Ratio	15.721	8	.047
Linear-by-Linear Association	.973	1	.324
N of Valid Cases	1115		

a. 4 cells (22.2%) have expected count less than 5. The minimum expected count is .84.

F.35 Chi- square examination for independence: Participation in sports groups and household composition in redeveloped villages and commodity housing

F.35a Household composition * Par_sport_neigh Crosstabulation

Neighbourhood Type				Par_sport_neigh		Total
				No	Yes	
Redeveloped villages	Household composition	One adult under 60	Count	39	11	50
			Expected Count	38.7	11.3	50.0
			% within Household composition	78.0%	22.0%	100.0%
			% within Par_sport_neigh	15.8%	15.3%	15.7%
			% of Total	12.2%	3.4%	15.7%
		One adult aged 60 or over	Count	4	0	4
			Expected Count	3.1	.9	4.0
			% within Household composition	100.0%	0.0%	100.0%
			% within Par_sport_neigh	1.6%	0.0%	1.3%
			% of Total	1.3%	0.0%	1.3%
		Two adults both under 60	Count	15	4	19
			Expected Count	14.7	4.3	19.0
			% within Household composition	78.9%	21.1%	100.0%
			% within Par_sport_neigh	6.1%	5.6%	6.0%
			% of Total	4.7%	1.3%	6.0%
		Two adults, at least one 60 or over	Count	6	5	11
			Expected Count	8.5	2.5	11.0
			% within Household composition	54.5%	45.5%	100.0%
			% within Par_sport_neigh	2.4%	6.9%	3.4%
			% of Total	1.9%	1.6%	3.4%
		Three or more adults	Count	20	9	29
			Expected Count	22.5	6.5	29.0
			% within Household composition	69.0%	31.0%	100.0%
			% within Par_sport_neigh	8.1%	12.5%	9.1%
			% of Total	6.3%	2.8%	9.1%
		Three or more adults with children, at least one under 18	Count	113	28	141
			Expected Count	109.2	31.8	141.0
			% within Household composition	80.1%	19.9%	100.0%
			% within Par_sport_neigh	45.7%	38.9%	44.2%
			% of Total	35.4%	8.8%	44.2%
		1- parent family with children, at least one under 18	Count	1	0	1
			Expected Count	.8	.2	1.0
			% within Household composition	100.0%	0.0%	100.0%
			% within Par_sport_neigh	0.4%	0.0%	0.3%
			% of Total	0.3%	0.0%	0.3%

		2- parent family with children, at least one under 18	Count	49	15	64
			Expected Count	49.6	14.4	64.0
			% within Household composition	76.6%	23.4%	100.0%
			% within Par_sport_neigh	19.8%	20.8%	20.1%
			% of Total	15.4%	4.7%	20.1%
	Total		Count	247	72	319
			Expected Count	247.0	72.0	319.0
			% within Household composition	77.4%	22.6%	100.0%
			% within Par_sport_neigh	100.0%	100.0%	100.0%
			% of Total	77.4%	22.6%	100.0%
Commodity housing	Household composition	One adult under 60	Count	6	1	7
			Expected Count	5.5	1.5	7.0
			% within Household composition	85.7%	14.3%	100.0%
			% within Par_sport_neigh	2.5%	1.5%	2.3%
			% of Total	2.0%	0.3%	2.3%
		One adult aged 60 or over	Count	1	1	2
			Expected Count	1.6	.4	2.0
			% within Household composition	50.0%	50.0%	100.0%
			% within Par_sport_neigh	0.4%	1.5%	0.7%
			% of Total	0.3%	0.3%	0.7%
		Two adults both under 60	Count	12	2	14
			Expected Count	10.9	3.1	14.0
			% within Household composition	85.7%	14.3%	100.0%
			% within Par_sport_neigh	5.0%	3.0%	4.6%
			% of Total	3.9%	0.7%	4.6%
		Two adults, at least one 60 or over	Count	3	1	4
			Expected Count	3.1	.9	4.0
			% within Household composition	75.0%	25.0%	100.0%
			% within Par_sport_neigh	1.3%	1.5%	1.3%
			% of Total	1.0%	0.3%	1.3%
		Three or more adults	Count	48	22	70
			Expected Count	54.7	15.3	70.0
			% within Household composition	68.6%	31.4%	100.0%
			% within Par_sport_neigh	20.1%	32.8%	22.9%
			% of Total	15.7%	7.2%	22.9%
		Three or more adults with children, at least one under 18	Count	80	22	102
			Expected Count	79.7	22.3	102.0
			% within Household composition	78.4%	21.6%	100.0%
			% within Par_sport_neigh	33.5%	32.8%	33.3%
			% of Total	26.1%	7.2%	33.3%
		2- parent family with children, at least one under 18	Count	89	18	107
			Expected Count	83.6	23.4	107.0
			% within Household composition	83.2%	16.8%	100.0%
			% within Par_sport_neigh	37.2%	26.9%	35.0%
			% of Total	29.1%	5.9%	35.0%
	Total		Count	239	67	306
			Expected Count	239.0	67.0	306.0
			% within Household composition	78.1%	21.9%	100.0%
			% within Par_sport_neigh	100.0%	100.0%	100.0%
			% of Total	78.1%	21.9%	100.0%

F.35b Chi-Square Tests

Neighbourhood Type		Value	df	Asymptotic Significance (2-sided)
Redeveloped villages	Pearson Chi-Square	6.598[b]	7	.472
	Likelihood Ratio	7.130	7	.415
	Linear-by-Linear Association	.002	1	.967
	N of Valid Cases	319		
Commodity housing	Pearson Chi-Square	6.994[c]	6	.321
	Likelihood Ratio	6.692	6	.350
	Linear-by-Linear Association	1.395	1	.238
	N of Valid Cases	306		

a. 4 cells (22.2%) have expected count less than 5. The minimum expected count is .71.
b. 6 cells (37.5%) have expected count less than 5. The minimum expected count is .23.
c. 6 cells (42.9%) have expected count less than 5. The minimum expected count is .44.

F.36 Chi- square examination for independence: Participation in sports groups and birthplace in general

F.36a Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	7.216[a]	2	.027
Likelihood Ratio	7.408	2	.025
Linear-by-Linear Association	6.430	1	.011
N of Valid Cases	1113		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 63.56.

F.36b Crosstab

			Par_sport_neigh		
			No	Yes	Total
Birth place	Guangzhou City	Count	387	172	559
		Expected Count	401.8	157.2	559.0
		% within Birth place	69.2%	30.8%	100.0%
		% within Par_sport_neigh	48.4%	55.0%	50.2%
		% of Total	34.8%	15.5%	50.2%
	Guangdong Province's other places except Guangzhou city	Count	159	67	226
		Expected Count	162.4	63.6	226.0
		% within Birth place	70.4%	29.6%	100.0%
		% within Par_sport_neigh	19.9%	21.4%	20.3%
		% of Total	14.3%	6.0%	20.3%
	Outside Guangdong Province	Count	254	74	328
		Expected Count	235.8	92.2	328.0
		% within Birth place	77.4%	22.6%	100.0%
		% within Par_sport_neigh	31.8%	23.6%	29.5%
		% of Total	22.8%	6.6%	29.5%
Total		Count	800	313	1113
		Expected Count	800.0	313.0	1113.0
		% within Birth place	71.9%	28.1%	100.0%
		% within Par_sport_neigh	100.0%	100.0%	100.0%
		% of Total	71.9%	28.1%	100.0%

F.37 Chi- square examination for independence: Participation in sports groups and residents' hukou in general

F.37a Hukou * Par_sport_neigh Crosstabulation

			Par_sport_neigh		
			No	Yes	Total
Hukou	Guangzhou Hukou	Count	449	197	646
		Expected Count	464.2	181.8	646.0
		% within Hukou	69.5%	30.5%	100.0%
		% within Par_sport_neigh	56.0%	62.7%	57.9%
		% of Total	40.2%	17.7%	57.9%
	Non-Guangzhou Hukou	Count	353	117	470
		Expected Count	337.8	132.2	470.0
		% within Hukou	75.1%	24.9%	100.0%
		% within Par_sport_neigh	44.0%	37.3%	42.1%
		% of Total	31.6%	10.5%	42.1%
Total		Count	802	314	1116
		Expected Count	802.0	314.0	1116.0
		% within Hukou	71.9%	28.1%	100.0%
		% within Par_sport_neigh	100.0%	100.0%	100.0%
		% of Total	71.9%	28.1%	100.0%

F.37b Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	4.222[a]	1	.040		
Continuity Correction[b]	3.950	1	.047		
Likelihood Ratio	4.255	1	.039		
Fisher's Exact Test				.043	.023
Linear-by-Linear Association	4.218	1	.040		
N of Valid Cases	1116				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 132.24.
b. Computed only for a 2x2 table

F.38 Chi- square examination for independence: Participation in sports groups and residents' hukou in commodity housing

F.38a Hukou * Par_sport_neigh Crosstabulation

Neighbourhood Type				Par_sport_neigh		Total
				No	Yes	
Commodity housing	Hukou	Guangzhou Hukou	Count	150	53	203
			Expected Count	158.6	44.4	203.0
			% within Hukou	73.9%	26.1%	100.0%
			% within Par_sport_neigh	62.8%	79.1%	66.3%
			% of Total	49.0%	17.3%	66.3%
		Non-Guangzhou Hukou	Count	89	14	103
			Expected Count	80.4	22.6	103.0
			% within Hukou	86.4%	13.6%	100.0%
			% within Par_sport_neigh	37.2%	20.9%	33.7%
			% of Total	29.1%	4.6%	33.7%
	Total		Count	239	67	306
			Expected Count	239.0	67.0	306.0
			% within Hukou	78.1%	21.9%	100.0%
			% within Par_sport_neigh	100.0%	100.0%	100.0%
			% of Total	78.1%	21.9%	100.0%

F.38b Chi-Square Tests

Neighbourhood Type		Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Commodity housing	Pearson Chi-Square	6.259[d]	1	.012		
	Continuity Correction[b]	5.549	1	.018		
	Likelihood Ratio	6.652	1	.010		
	Fisher's Exact Test				.013	.008
	Linear-by-Linear Association	6.239	1	.012		
	N of Valid Cases	306				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 83.45.
b. Computed only for a 2x2 table
c. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 30.11.
d. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 22.55.

F.39 Chi- square examination for independence: Participation in sports groups and residents' plans to move house in recent years in general

F.39a Crosstab

			Par_sport_neigh		
			No	Yes	Total
Plans to move house in next few years	Yes	Count	198	51	249
		Expected Count	178.9	70.1	249.0
		% within Plans to move house in next few years	79.5%	20.5%	100.0%
		% within Par_sport_neigh	24.7%	16.2%	22.3%
		% of Total	17.7%	4.6%	22.3%
	No	Count	604	263	867
		Expected Count	623.1	243.9	867.0
		% within Plans to move house in next few years	69.7%	30.3%	100.0%
		% within Par_sport_neigh	75.3%	83.8%	77.7%
		% of Total	54.1%	23.6%	77.7%
Total		Count	802	314	1116
		Expected Count	802.0	314.0	1116.0
		% within Plans to move house in next few years	71.9%	28.1%	100.0%
		% within Par_sport_neigh	100.0%	100.0%	100.0%
		% of Total	71.9%	28.1%	100.0%

F.39b Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	9.287[a]	1	.002		
Continuity Correction[b]	8.806	1	.003		
Likelihood Ratio	9.734	1	.002		
Fisher's Exact Test				.002	.001
Linear-by-Linear Association	9.279	1	.002		
N of Valid Cases	1116				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 70.06.
b. Computed only for a 2x2 table

F.40 Chi- square examination for independence: Participation in sports groups and residents' plans to move house in recent years in villages

F.40a Crosstab

Neighbourhood Type				Par_sport_neigh No	Par_sport_neigh Yes	Total
Villages	Plans to move house in next few years	Yes	Count	79	24	103
			Expected Count	66.4	36.6	103.0
			% within Plans to move house in next few years	76.7%	23.3%	100.0%
			% within Par_sport_neigh	25.0%	13.8%	21.0%
			% of Total	16.1%	4.9%	21.0%
		No	Count	237	150	387
			Expected Count	249.6	137.4	387.0
			% within Plans to move house in next few years	61.2%	38.8%	100.0%
			% within Par_sport_neigh	75.0%	86.2%	79.0%
			% of Total	48.4%	30.6%	79.0%
	Total		Count	316	174	490
			Expected Count	316.0	174.0	490.0
			% within Plans to move house in next few years	64.5%	35.5%	100.0%
			% within Par_sport_neigh	100.0%	100.0%	100.0%
			% of Total	64.5%	35.5%	100.0%

F.40b Chi-Square Tests

Neighbourhood Type		Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Villages	Pearson Chi-Square	8.489[a]	1	.004		
	Continuity Correction[b]	7.827	1	.005		
	Likelihood Ratio	8.933	1	.003		
	Fisher's Exact Test				.004	.002
	Linear-by-Linear Association	8.472	1	.004		
	N of Valid Cases	490				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 36.58.
b. Computed only for a 2x2 table
c. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 15.51.
d. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 17.08.

F.41 Chi- square examination for independence: Participation in children's hobby groups and residents' plans to move house in recent years in redeveloped villages

F.41a Crosstab

Neighbourhood Type				Par_childhobby_neigh No	Par_childhobby_neigh Yes	Total
Redeveloped villages	Plans to move house in next few years	Yes	Count	65	3	68
			Expected Count	66.7	1.3	68.0
			% within Plans to move house in next few years	95.6%	4.4%	100.0%
			% within Par_childhobby_neigh	20.7%	50.0%	21.3%
			% of Total	20.3%	0.9%	21.3%
		No	Count	249	3	252
			Expected Count	247.3	4.7	252.0
			% within Plans to move house in next few years	98.8%	1.2%	100.0%
			% within Par_childhobby_neigh	79.3%	50.0%	78.8%
			% of Total	77.8%	0.9%	78.8%
	Total		Count	314	6	320
			Expected Count	314.0	6.0	320.0
			% within Plans to move house in next few years	98.1%	1.9%	100.0%
			% within Par_childhobby_neigh	100.0%	100.0%	100.0%
			% of Total	98.1%	1.9%	100.0%

F.41b Chi-Square Tests

Neighbourhood Type		Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Redeveloped villages	Pearson Chi-Square	3.020[c]	1	.082		
	Continuity Correction[b]	1.523	1	.217		
	Likelihood Ratio	2.465	1	.116		
	Fisher's Exact Test				.113	.113
	Linear-by-Linear Association	3.011	1	.083		
	N of Valid Cases	320				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 4.62.

b. Computed only for a 2x2 table
c. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 1.28.
d. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 3.31.

F.42 Chi- square examination for independence: Participation in sports groups and residents' income in general

F.42a Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	6.274[a]	8	.617
Likelihood Ratio	6.205	8	.624
Linear-by-Linear Association	2.486	1	.115
N of Valid Cases	1112		

a. 5 cells (27.8%) have expected count less than 5. The minimum expected count is .56.

F.42b Crosstab

			Par_sport_neigh		
			No	Yes	Total
Respondents' income	Less than 9999 CNY	Count	294	97	391
		Expected Count	280.9	110.1	391.0
		% within Respondents' income	75.2%	24.8%	100.0%
		% within Par_sport_neigh	36.8%	31.0%	35.2%
		% of Total	26.4%	8.7%	35.2%
	10000 – 29999 CNY	Count	136	49	185
		Expected Count	132.9	52.1	185.0
		% within Respondents' income	73.5%	26.5%	100.0%
		% within Par_sport_neigh	17.0%	15.7%	16.6%
		% of Total	12.2%	4.4%	16.6%
	30000 - 49999 CNY	Count	130	61	191
		Expected Count	137.2	53.8	191.0
		% within Respondents' income	68.1%	31.9%	100.0%
		% within Par_sport_neigh	16.3%	19.5%	17.2%
		% of Total	11.7%	5.5%	17.2%
Respondents' income	50000 – 79999 CNY	Count	133	63	196
		Expected Count	140.8	55.2	196.0
		% within Respondents' income	67.9%	32.1%	100.0%
		% within Par_sport_neigh	16.6%	20.1%	17.6%
		% of Total	12.0%	5.7%	17.6%
	80000 – 99999 CNY	Count	46	21	67
		Expected Count	48.1	18.9	67.0
		% within Respondents' income	68.7%	31.3%	100.0%
		% within Par_sport_neigh	5.8%	6.7%	6.0%
		% of Total	4.1%	1.9%	6.0%
	100009 – 199999 CNY	Count	48	17	65
		Expected Count	46.7	18.3	65.0
		% within Respondents' income	73.8%	26.2%	100.0%
		% within Par_sport_neigh	6.0%	5.4%	5.8%
		% of Total	4.3%	1.5%	5.8%
	200000 – 299999 CNY	Count	8	3	11
		Expected Count	7.9	3.1	11.0
		% within Respondents' income	72.7%	27.3%	100.0%
		% within Par_sport_neigh	1.0%	1.0%	1.0%
		% of Total	0.7%	0.3%	1.0%
	300000 -399999 CNY	Count	3	1	4
		Expected Count	2.9	1.1	4.0
		% within Respondents' income	75.0%	25.0%	100.0%
		% within Par_sport_neigh	0.4%	0.3%	0.4%
		% of Total	0.3%	0.1%	0.4%
	400000+ CNY	Count	1	1	2
		Expected Count	1.4	.6	2.0
		% within Respondents' income	50.0%	50.0%	100.0%
		% within Par_sport_neigh	0.1%	0.3%	0.2%
		% of Total	0.1%	0.1%	0.2%
Total		Count	799	313	1112
		Expected Count	799.0	313.0	1112.0
		% within Respondents' income	71.9%	28.1%	100.0%
		% within Par_sport_neigh	100.0%	100.0%	100.0%
		% of Total	71.9%	28.1%	100.0%

F.43 Chi- square examination for independence: Participation in community groups and residents' income in general

F.43a Crosstab

			Par_communitygroup_neigh		Total
			No	Yes	
Respondents' income	Less than 9999 CNY	Count	362	29	391
		Expected Count	351.3	39.7	391.0
		% within Respondents' income	92.6%	7.4%	100.0%
		% within Par_communitygroup_neigh	36.2%	25.7%	35.2%
		% of Total	32.6%	2.6%	35.2%
	10000 – 29999 CNY	Count	157	28	185
		Expected Count	166.2	18.8	185.0
		% within Respondents' income	84.9%	15.1%	100.0%
		% within Par_communitygroup_neigh	15.7%	24.8%	16.6%
		% of Total	14.1%	2.5%	16.6%
	30000 - 49999 CNY	Count	172	19	191
		Expected Count	171.6	19.4	191.0
		% within Respondents' income	90.1%	9.9%	100.0%
		% within Par_communitygroup_neigh	17.2%	16.8%	17.2%
		% of Total	15.5%	1.7%	17.2%
	50000 – 79999 CNY	Count	179	17	196
		Expected Count	176.1	19.9	196.0
		% within Respondents' income	91.3%	8.7%	100.0%
		% within Par_communitygroup_neigh	17.9%	15.0%	17.6%
		% of Total	16.1%	1.5%	17.6%
	80000 – 99999 CNY	Count	57	10	67
		Expected Count	60.2	6.8	67.0
		% within Respondents' income	85.1%	14.9%	100.0%
		% within Par_communitygroup_neigh	5.7%	8.8%	6.0%
		% of Total	5.1%	0.9%	6.0%
	100009 – 199999 CNY	Count	57	8	65
		Expected Count	58.4	6.6	65.0
		% within Respondents' income	87.7%	12.3%	100.0%
		% within Par_communitygroup_neigh	5.7%	7.1%	5.8%
		% of Total	5.1%	0.7%	5.8%
	200000 – 299999 CNY	Count	10	1	11
		Expected Count	9.9	1.1	11.0
		% within Respondents' income	90.9%	9.1%	100.0%
		% within Par_communitygroup_neigh	1.0%	0.9%	1.0%
		% of Total	0.9%	0.1%	1.0%
	300000 - 399999 CNY	Count	3	1	4
		Expected Count	3.6	.4	4.0
		% within Respondents' income	75.0%	25.0%	100.0%
		% within Par_communitygroup_neigh	0.3%	0.9%	0.4%
		% of Total	0.3%	0.1%	0.4%
	400000+ CNY	Count	2	0	2
		Expected Count	1.8	.2	2.0
		% within Respondents' income	100.0%	0.0%	100.0%
		% within Par_communitygroup_neigh	0.2%	0.0%	0.2%
		% of Total	0.2%	0.0%	0.2%
Total		Count	999	113	1112
		Expected Count	999.0	113.0	1112.0
		% within Respondents' income	89.8%	10.2%	100.0%
		% within Par_communitygroup_neigh	100.0%	100.0%	100.0%
		% of Total	89.8%	10.2%	100.0%

F.43b Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	11.922[a]	8	.155
Likelihood Ratio	11.409	8	.180
Linear-by-Linear Association	1.625	1	.202
N of Valid Cases	1112		

a. 5 cells (27.8%) have expected count less than 5. The minimum expected count is .20.

F.44 Chi- square examination for independence: Participation in community groups and residents' income in commodity housing

F.44a Respondents' income * Par_communitygroup_neigh Crosstabulation

Neighbourhood Type				Par_communitgroup_neigh		Total
				No	Yes	
Commodity housing	Respondents' income	Less than 9999 CNY	Count	105	4	109
			Expected Count	101.5	7.5	109.0
			% within Respondents' income	96.3%	3.7%	100.0%
			% within Par_communitygroup_neigh	37.0%	19.0%	35.7%
			% of Total	34.4%	1.3%	35.7%
		10000 – 29999 CNY	Count	23	1	24
			Expected Count	22.3	1.7	24.0
			% within Respondents' income	95.8%	4.2%	100.0%
			% within Par_communitygroup_neigh	8.1%	4.8%	7.9%
			% of Total	7.5%	0.3%	7.9%
		30000 - 49999 CNY	Count	32	2	34
			Expected Count	31.7	2.3	34.0
			% within Respondents' income	94.1%	5.9%	100.0%
			% within Par_communitygroup_neigh	11.3%	9.5%	11.1%
			% of Total	10.5%	0.7%	11.1%
		50000 – 79999 CNY	Count	60	1	61
			Expected Count	56.8	4.2	61.0
			% within Respondents' income	98.4%	1.6%	100.0%
			% within Par_communitygroup_neigh	21.1%	4.8%	20.0%
			% of Total	19.7%	0.3%	20.0%
		80000 – 99999 CNY	Count	25	5	30
			Expected Count	27.9	2.1	30.0
			% within Respondents' income	83.3%	16.7%	100.0%
			% within Par_communitygroup_neigh	8.8%	23.8%	9.8%
			% of Total	8.2%	1.6%	9.8%
		100009 – 199999 CNY	Count	32	7	39
			Expected Count	36.3	2.7	39.0
			% within Respondents' income	82.1%	17.9%	100.0%
			% within Par_communitygroup_neigh	11.3%	33.3%	12.8%
			% of Total	10.5%	2.3%	12.8%
		200000 – 299999 CNY	Count	4	1	5
			Expected Count	4.7	.3	5.0
			% within Respondents' income	80.0%	20.0%	100.0%
			% within Par_communitygroup_neigh	1.4%	4.8%	1.6%
			% of Total	1.3%	0.3%	1.6%
		300000 -399999 CNY	Count	2	0	2
			Expected Count	1.9	.1	2.0
			% within Respondents' income	100.0%	0.0%	100.0%
			% within Par_communitygroup_neigh	0.7%	0.0%	0.7%
			% of Total	0.7%	0.0%	0.7%
		400000+ CNY	Count	1	0	1
			Expected Count	.9	.1	1.0
			% within Respondents' income	100.0%	0.0%	100.0%
			% within Par_communitygroup_neigh	0.4%	0.0%	0.3%
			% of Total	0.3%	0.0%	0.3%
	Total		Count	284	21	305
			Expected Count	284.0	21.0	305.0
			% within Respondents' income	93.1%	6.9%	100.0%
			% within Par_communitygroup_neigh	100.0%	100.0%	100.0%
			% of Total	93.1%	6.9%	100.0%

F.44b Chi-Square Tests

Neighbourhood Type		Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Commodity housing	Pearson Chi-Square	18.192[e]	8	.020	.063		
	Likelihood Ratio	16.133	8	.041	.034		
	Fisher's Exact Test	17.853			.013		
	Linear-by-Linear Association	8.279[f]	1	.004	.004	.003	.001
	N of Valid Cases	305					

a. 4 cells (28.6%) have expected count less than 5. The minimum expected count is .42.
b. The standardized statistic is -.537.
c. 11 cells (61.1%) have expected count less than 5. The minimum expected count is .08.
d. The standardized statistic is 1.378.
e. 11 cells (61.1%) have expected count less than 5. The minimum expected count is .07.
f. The standardized statistic is 2.877.

F.45 Chi- square examination for independence: Participation in sports groups and residents' gender in redeveloped villages

F.45a Gender * Par_sport_neigh Crosstabulation

Neighbourhood Type				Par_sport_neigh		Total
				No	Yes	
Redeveloped villages	Gender	Male	Count	99	42	141
			Expected Count	109.2	31.8	141.0
			% within Gender	70.2%	29.8%	100.0%
			% within Par_sport_neigh	40.1%	58.3%	44.2%
			% of Total	31.0%	13.2%	44.2%
		Female	Count	148	30	178
			Expected Count	137.8	40.2	178.0
			% within Gender	83.1%	16.9%	100.0%
			% within Par_sport_neigh	59.9%	41.7%	55.8%
			% of Total	46.4%	9.4%	55.8%
	Total		Count	247	72	319
			Expected Count	247.0	72.0	319.0
			% within Gender	77.4%	22.6%	100.0%
			% within Par_sport_neigh	100.0%	100.0%	100.0%
			% of Total	77.4%	22.6%	100.0%

F.45b Chi-Square Tests

Neighbourhood Type		Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Redeveloped villages	Pearson Chi-Square	7.530[c]	1	.006		
	Continuity Correction[b]	6.809	1	.009		
	Likelihood Ratio	7.494	1	.006		
	Fisher's Exact Test				.007	.005
	Linear-by-Linear Association	7.507	1	.006		
	N of Valid Cases	319				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 85.22.
b. Computed only for a 2x2 table
c. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 31.82.
d. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 27.90.

F.46 One-Way Between-Groups ANOVA with Post-Hoc analyses: Trust and reciprocity and economic status in general

F.46a Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Trust and reciprocity	2.175	6	810	.043

A more stringent significance value (0.01) is set for evaluating the findings from the one-way ANOVA because the significance value is less than 0.05.

F.46b ANOVA

Trust and reciprocity

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	31.286	6	5.214	3.270	.003
Within Groups	1291.544	810	1.594		
Total	1322.830	816			

F.46c Multiple Comparisons

Dependent Variable: Trust and reciprocity
Tukey HSD

(I) Economic status	(J) Economic status	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Full-time employed	Part-time employed	-.300	.234	.860	-.99	.39
	Unemployed	.297	.288	.946	-.55	1.15
	Full-time student at university	-.150	.176	.979	-.67	.37
	Looking after home	-.478	.162	.051	-.96	.00
	Retired	.271	.123	.296	-.09	.63
	Long term sick or disabled	.047	.634	1.000	-1.83	1.92
Part-time employed	Full-time employed	.300	.234	.860	-.39	.99
	Unemployed	.597	.362	.651	-.47	1.67
	Full-time student at university	.149	.282	.998	-.68	.98
	Looking after home	-.179	.273	.995	-.99	.63
	Retired	.570	.252	.262	-.17	1.31
	Long term sick or disabled	.347	.671	.999	-1.64	2.33
Unemployed	Full-time employed	-.297	.288	.946	-1.15	.55

	Part-time employed	-.597	.362	.651	-1.67	.47
	Full-time student at university	-.447	.328	.821	-1.42	.52
	Looking after home	-.775	.321	.192	-1.72	.17
	Retired	-.026	.303	1.000	-.92	.87
	Long term sick or disabled	-.250	.692	1.000	-2.29	1.79
Full-time student at university	Full-time employed	.150	.176	.979	-.37	.67
	Part-time employed	-.149	.282	.998	-.98	.68
	Unemployed	.447	.328	.821	-.52	1.42
	Looking after home	-.328	.226	.774	-1.00	.34
	Retired	.421	.200	.350	-.17	1.01
	Long term sick or disabled	.197	.653	1.000	-1.73	2.13
Looking after home	Full-time employed	.478	.162	.051	.00	.96
	Part-time employed	.179	.273	.995	-.63	.99
	Unemployed	.775	.321	.192	-.17	1.72
	Full-time student at university	.328	.226	.774	-.34	1.00
	Retired	.749*	.187	.001	.20	1.30
	Long term sick or disabled	.525	.649	.984	-1.39	2.44
Retired	Full-time employed	-.271	.123	.296	-.63	.09
	Part-time employed	-.570	.252	.262	-1.31	.17
	Unemployed	.026	.303	1.000	-.87	.92
	Full-time student at university	-.421	.200	.350	-1.01	.17
	Looking after home	-.749*	.187	.001	-1.30	-.20
	Long term sick or disabled	-.224	.641	1.000	-2.12	1.67
Long term sick or disabled	Full-time employed	-.047	.634	1.000	-1.92	1.83
	Part-time employed	-.347	.671	.999	-2.33	1.64
	Unemployed	.250	.692	1.000	-1.79	2.29
	Full-time student at university	-.197	.653	1.000	-2.13	1.73
	Looking after home	-.525	.649	.984	-2.44	1.39
	Retired	.224	.641	1.000	-1.67	2.12

*. The mean difference is significant at the 0.05 level.

F.46d Effect size = Sum of squares between-groups / total sum of squares = 0.024 = 0.02 = a small effect

F.47 One-Way Between-Groups ANOVA with Post-Hoc analyses: Trust and reciprocity and economic status in redeveloped villages and commodity housing

F.47a Test of Homogeneity of Variances

Neighbourhood Type		Levene Statistic	df1	df2	Sig.
Redeveloped villages	Trust and reciprocity	.959	5	214	.444
Commodity housing	Trust and reciprocity	2.520	5	268	.030

Because the assumption of homogeneity of variance is violated in commodity housing, so a significance value of 0.01 is set for evaluating the results from the one-way ANOVA. The validity of the examination is questioned, and the findings are reported for information only.

F.47b ANOVA

Trust and reciprocity

Neighbourhood Type		Sum of Squares	df	Mean Square	F	Sig.
Redeveloped villages	Between Groups	8.989	5	1.798	.964	.441
	Within Groups	399.243	214	1.866		
	Total	408.232	219			
Commodity housing	Between Groups	19.647	5	3.929	2.327	.043
	Within Groups	452.605	268	1.689		
	Total	472.252	273			

F.47c Multiple Comparisons

Dependent Variable: Trust and reciprocity

Tukey HSD

Neighbourhood Type	(I) Economic status	(J) Economic status	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Commodity housing	Full-time employed	Part-time employed	.178	.502	.999	-1.26	1.62
		Unemployed	.750	.502	.669	-.69	2.19
		Full-time student at university	.077	.235	1.000	-.60	.75
		Looking after home	-.515	.271	.403	-1.29	.26
		Retired	.487	.237	.316	-.19	1.17
	Part-time employed	Full-time employed	-.178	.502	.999	-1.62	1.26
		Unemployed	.571	.695	.963	-1.42	2.57
		Full-time student at university	-.102	.535	1.000	-1.64	1.43
		Looking after home	-.693	.551	.808	-2.28	.89
		Retired	.309	.536	.992	-1.23	1.85
	Unemployed	Full-time employed	-.750	.502	.669	-2.19	.69
		Part-time employed	-.571	.695	.963	-2.57	1.42

	Full-time student at university	-.673	.535	.807	-2.21	.86
	Looking after home	-1.265	.551	.200	-2.85	.32
	Retired	-.263	.536	.996	-1.80	1.27
Full-time student at university	Full-time employed	-.077	.235	1.000	-.75	.60
	Part-time employed	.102	.535	1.000	-1.43	1.64
	Unemployed	.673	.535	.807	-.86	2.21
	Looking after home	-.592	.327	.462	-1.53	.35
	Retired	.410	.300	.747	-.45	1.27
Looking after home	Full-time employed	.515	.271	.403	-.26	1.29
	Part-time employed	.693	.551	.808	-.89	2.28
	Unemployed	1.265	.551	.200	-.32	2.85
	Full-time student at university	.592	.327	.462	-.35	1.53
	Retired	1.002*	.329	.030	.06	1.95
Retired	Full-time employed	-.487	.237	.316	-1.17	.19
	Part-time employed	-.309	.536	.992	-1.85	1.23
	Unemployed	.263	.536	.996	-1.27	1.80
	Full-time student at university	-.410	.300	.747	-1.27	.45
	Looking after home	-1.002*	.329	.030	-1.95	-.06

*. The mean difference is significant at the 0.05 level.

F.47d Effect size = Sum of squares between groups / Total sum of squares= 0.042= 0.04= a small-moderate effect (commodity housing)

F.48 One-Way Between-Groups ANOVA with Post-Hoc analyses: Trust and reciprocity and housing type in general

F.48a Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Trust and reciprocity	Based on Mean	11.888	2	815	.000
	Based on Median	4.802	2	815	.008
	Based on Median and with adjusted df	4.802	2	650.576	.009
	Based on trimmed mean	11.147	2	815	.000

A more stringent significance value (0.01) is set for evaluating the findings from the one-way ANOVA because the significance value is less than 0.05.

F.48b ANOVA

Trust and reciprocity

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	20.084	2	10.042	6.282	.002
Within Groups	1302.782	815	1.599		
Total	1322.867	817			

F.48c Multiple Comparisons

Dependent Variable: Trust and reciprocity

(Tukey HSD I) Neighbourhood Type	(J) Neighbourhood Type	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Villages	Redeveloped villages	.386*	.110	.001	.13	.65
	Commodity housing	.104	.104	.574	-.14	.35
Redeveloped villages	Villages	-.386*	.110	.001	-.65	-.13
	Commodity housing	-.282*	.114	.037	-.55	-.01
Commodity housing	Villages	-.104	.104	.574	-.35	.14
	Redeveloped villages	.282*	.114	.037	.01	.55

*. The mean difference is significant at the 0.05 level.

F.48d Effect size = Sum of squares between-groups / total sum of squares = 0.015 = 0.01 = a very small effect

F.49 One-Way Between-Groups ANOVA with Post-Hoc analyses: Trust and reciprocity and residents' age in general

F.49a Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Trust and reciprocity	1.147	5	811	.334

F.49b ANOVA

Trust and reciprocity

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	20.157	5	4.031	2.510	.029
Within Groups	1302.672	811	1.606		
Total	1322.830	816			

F.49c Multiple Comparisons

Dependent Variable: Trust and reciprocity

Tukey HSD					95% Confidence Interval	
(I) Age	(J) Age	Mean Difference (I-J)	Std. Error	Sig.	Lower Bound	Upper Bound
18-24	25-34	.099	.138	.980	-.30	.49
	35-44	.059	.143	.999	-.35	.47
	45-54	.167	.166	.916	-.31	.64
	55-64	.220	.181	.827	-.30	.74
	65+	.511*	.161	.019	.05	.97
25-34	18-24	-.099	.138	.980	-.49	.30
	35-44	-.040	.129	1.000	-.41	.33
	45-54	.068	.154	.998	-.37	.51
	55-64	.122	.169	.980	-.36	.61
	65+	.412	.148	.061	-.01	.83
35-44	18-24	-.059	.143	.999	-.47	.35
	25-34	.040	.129	1.000	-.33	.41
	45-54	.108	.159	.984	-.34	.56
	55-64	.161	.174	.939	-.34	.66
	65+	.452*	.153	.038	.01	.89
45-54	18-24	-.167	.166	.916	-.64	.31
	25-34	-.068	.154	.998	-.51	.37
	35-44	-.108	.159	.984	-.56	.34
	55-64	.053	.193	1.000	-.50	.60
	65+	.344	.174	.360	-.15	.84
55-64	18-24	-.220	.181	.827	-.74	.30
	25-34	-.122	.169	.980	-.61	.36
	35-44	-.161	.174	.939	-.66	.34
	45-54	-.053	.193	1.000	-.60	.50
	65+	.290	.188	.637	-.25	.83
65+	18-24	-.511*	.161	.019	-.97	-.05
	25-34	-.412	.148	.061	-.83	.01
	35-44	-.452*	.153	.038	-.89	-.01
	45-54	-.344	.174	.360	-.84	.15
	55-64	-.290	.188	.637	-.83	.25

*. The mean difference is significant at the 0.05 level.

F.49d Effect size = Sum of squares between-groups / total sum of squares = 0.015 = 0.01 = a very small effect

F.50 One-Way Between-Groups ANOVA with Post-Hoc analyses: Trust and reciprocity and respondents' age in villages

F.50a Test of Homogeneity of Variances

Neighbourhood Type		Levene Statistic	df1	df2	Sig.
Villages	Trust and reciprocity	1.086	5	317	.368

F.50b ANOVA

Trust and reciprocity

Neighbourhood Type		Sum of Squares	df	Mean Square	F	Sig.
Villages	Between Groups	26.977	5	5.395	4.329	.001
	Within Groups	395.128	317	1.246		
	Total	422.105	322			

F.50c Multiple Comparisons

Dependent Variable: Trust and reciprocity

Tukey HSD			Mean Difference			95% Confidence Interval	
Neighbourhood Type	(I) Age	(J) Age	(I-J)	Std. Error	Sig.	Lower Bound	Upper Bound
Villages	18-24	25-34	.157	.207	.974	-.44	.75
		35-44	.537	.212	.118	-.07	1.15
		45-54	.560	.237	.172	-.12	1.24
		55-64	.360	.234	.638	-.31	1.03
		65+	.860*	.214	.001	.25	1.47
	25-34	18-24	-.157	.207	.974	-.75	.44
		35-44	.380	.195	.376	-.18	.94
		45-54	.403	.222	.457	-.23	1.04
		55-64	.203	.219	.939	-.42	.83
		65+	.703*	.197	.006	.14	1.27
	35-44	18-24	-.537	.212	.118	-1.15	.07
		25-34	-.380	.195	.376	-.94	.18
		45-54	.023	.226	1.000	-.63	.67
		55-64	-.177	.223	.968	-.82	.46
		65+	.323	.202	.602	-.26	.90
	45-54	18-24	-.560	.237	.172	-1.24	.12
		25-34	-.403	.222	.457	-1.04	.23

		35-44	-.023	.226	1.000	-.67	.63
		55-64	-.200	.247	.965	-.91	.51
		65+	.300	.228	.776	-.35	.95
	55-64	18-24	-.360	.234	.638	-1.03	.31
		25-34	-.203	.219	.939	-.83	.42
		35-44	.177	.223	.968	-.46	.82
		45-54	.200	.247	.965	-.51	.91
		65+	.500	.225	.229	-.14	1.14
	65+	18-24	-.860*	.214	.001	-1.47	-.25
		25-34	-.703*	.197	.006	-1.27	-.14
		35-44	-.323	.202	.602	-.90	.26
		45-54	-.300	.228	.776	-.95	.35
		55-64	-.500	.225	.229	-1.14	.14

*. The mean difference is significant at the 0.05 level.

F.50d Effect size = Sum of squares between-groups / total sum of squares = 0.064 = 0.06 = a moderate effect

F.51 One-Way Between-Groups ANOVA with Post-Hoc analyses: Trust and reciprocity and residents' income in general

F.51a Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Trust and reciprocity	1.181	8	807	.307

F.51b ANOVA

Trust and reciprocity

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	17.204	8	2.151	1.330	.225
Within Groups	1304.972	807	1.617		
Total	1322.176	815			

F.52 One-Way Between-Groups ANOVA with Post-Hoc analyses: Trust and reciprocity and residents' income in commodity housing

F.52a Test of Homogeneity of Variances

Neighbourhood Type		Levene Statistic	df1	df2	Sig.
Commodity housing	Trust and reciprocity	.370	7	266	.920

F.52b ANOVA

Trust and reciprocity

Neighbourhood Type		Sum of Squares	df	Mean Square	F	Sig.
Commodity housing	Between Groups	18.464	7	2.638	1.546	.152
	Within Groups	453.788	266	1.706		
	Total	472.252	273			

F.53 One-Way Between-Groups ANOVA with Post-Hoc analyses: Trust and reciprocity and household composition in villages

F.53a Test of Homogeneity of Variances

Neighbourhood Type		Levene Statistic	df1	df2	Sig.
Villages	Trust and reciprocity	.703	7	314	.670

F.53b ANOVA

Trust and reciprocity

Neighbourhood Type		Sum of Squares	df	Mean Square	F	Sig.
Villages	Between Groups	22.354	7	3.193	2.515	.016
	Within Groups	398.640	314	1.270		
	Total	420.994	321			

F.53c Multiple Comparisons

Dependent Variable: Trust and reciprocity

Tukey HSD Neighbourhood Type	(I) Household composition	(J) Household composition	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Villages	One adult under 60	One adult aged 60 or over	1.000	.403	.207	-.23	2.23
		Two adults both under 60	.500	.290	.671	-.38	1.38
		Two adults, at least one 60 or over	.559	.332	.697	-.45	1.57
		Three or more adults	.906*	.274	.023	.07	1.74
		Three or more adults with children, at least one under 18	.634	.216	.069	-.02	1.29
		2- parent family with children, at least one under 18	.489	.223	.362	-.19	1.17
		One adult aged 60 or over with children	2.000	.819	.224	-.50	4.50
	One adult aged 60 or over	One adult under 60	-1.000	.403	.207	-2.23	.23
		Two adults both under 60	-.500	.419	.934	-1.78	.78
		Two adults, at least one 60 or over	-.441	.449	.977	-1.81	.93
		Three or more adults	-.094	.408	1.000	-1.34	1.15
		Three or more adults with children, at least one under 18	-.366	.372	.976	-1.50	.77
		2- parent family with children, at least one under 18	-.511	.376	.875	-1.66	.64
		One adult aged 60 or over with children	1.000	.873	.946	-1.66	3.66
	Two adults both under 60	One adult under 60	-.500	.290	.671	-1.38	.38
		One adult aged 60 or over	.500	.419	.934	-.78	1.78
		Two adults, at least one 60 or over	.059	.351	1.000	-1.01	1.13
		Three or more adults	.406	.297	.872	-.50	1.31
		Three or more adults with children, at least one under 18	.134	.245	.999	-.61	.88
		2- parent family with children, at least one under 18	-.011	.252	1.000	-.78	.76
		One adult aged 60 or over with children	1.500	.827	.611	-1.02	4.02
	Two adults, at least one 60 or over	One adult under 60	-.559	.332	.697	-1.57	.45
		One adult aged 60 or over	.441	.449	.977	-.93	1.81
		Two adults both under 60	-.059	.351	1.000	-1.13	1.01
		Three or more adults	.347	.338	.970	-.68	1.38
		Three or more adults with children, at least one under 18	.075	.293	1.000	-.82	.97
		2- parent family with children, at least one under 18	-.070	.299	1.000	-.98	.84
		One adult aged 60 or over with children, at least one under 18	1.441	.842	.680	-1.13	4.01
	Three or more adults	One adult under 60	-.906*	.274	.023	-1.74	-.07
		One adult aged 60 or over	.094	.408	1.000	-1.15	1.34
		Two adults both under 60	-.406	.297	.872	-1.31	.50
		Two adults, at least one 60 or over	-.347	.338	.970	-1.38	.68
		Three or more adults with children, at least one under 18	-.272	.226	.930	-.96	.42
		2- parent family with children, at least one under 18	-.418	.233	.625	-1.13	.29
		One adult aged 60 or over with children	1.094	.821	.886	-1.41	3.60
	Three or more adults with children, at least one under 18	One adult under 60	-.634	.216	.069	-1.29	.02
		One adult aged 60 or over	.366	.372	.976	-.77	1.50
		Two adults both under 60	-.134	.245	.999	-.88	.61
		Two adults, at least one 60 or over	-.075	.293	1.000	-.97	.82
		Three or more adults	.272	.226	.930	-.42	.96
		2- parent family with children, at least one under 18	-.145	.161	.986	-.64	.35
		One adult aged 60 or over with children	1.366	.804	.688	-1.09	3.82
	2- parent family with children, at least one under 18	One adult under 60	-.489	.223	.362	-1.17	.19
		One adult aged 60 or over	.511	.376	.875	-.64	1.66
		Two adults both under 60	.011	.252	1.000	-.76	.78
		Two adults, at least one 60 or over	.070	.299	1.000	-.84	.98
		Three or more adults	.418	.233	.625	-.29	1.13
		Three or more adults with children, at least one under 18	.145	.161	.986	-.35	.64
		One adult aged 60 or over with children	1.511	.806	.569	-.95	3.97
	One adult aged 60 or over with children, at least one under 18	One adult under 60	-2.000	.819	.224	-4.50	.50
		One adult aged 60 or over	-1.000	.873	.946	-3.66	1.66
		Two adults both under 60	-1.500	.827	.611	-4.02	1.02
		Two adults, at least one 60 or over	-1.441	.842	.680	-4.01	1.13
		Three or more adults	-1.094	.821	.886	-3.60	1.41
		Three or more adults with children, at least one under 18	-1.366	.804	.688	-3.82	1.09
		2- parent family with children, at least one under 18	-1.511	.806	.569	-3.97	.95

*. The mean difference is significant at the 0.05 level.

F.53d Effect size = Sum of squares between-groups / total sum of squares = 0.053 = 0.05 = a small-medium effect

F.54 One-Way Between-Groups ANOVA with Post-Hoc analyses: Trust and reciprocity and residents' birthplace in redeveloped villages

F.54a Test of Homogeneity of Variances

Neighbourhood Type		Levene Statistic	df1	df2	Sig.
Redeveloped villages	Trust and reciprocity	3.526	2	217	.031

F.54b ANOVA

Trust and reciprocity

Neighbourhood Type		Sum of Squares	df	Mean Square	F	Sig.
Redeveloped villages	Between Groups	13.675	2	6.838	3.762	.025
	Within Groups	394.434	217	1.818		
	Total	408.109	219			

The significance value is less than 0.05 which indicates that the assumption is not voilated.

F.55 Independent-Sample T-Test: Trust and reciprocity and respondents' hukou in commodity housing

F.55a Group Statistics

Neighbourhood Type		Hukou	N	Mean	Std. Deviation	Std. Error Mean
Commodity housing	Trust and reciprocity	Guangzhou Hukou	182	2.92	1.274	.094
		Non-Guangzhou Hukou	92	2.70	1.389	.145

F.55b Independent Samples Test

Neighbourhood Type			Levene's Test for		t-test for Equality of Means						
			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval	
										Lower	Upper
Commodity housing	Trust and reciprocity	Equal variances assumed	1.864	.173	1.321	272	.188	.222	.168	-.109	.553
		Equal variances not assumed			1.284	169.481	.201	.222	.173	-.119	.563

There is not a significant difference in trust for residents holding Guangzhou hukou and those holding non-Guangzhou hukou in commodity housing.

F.56 Independent-Sample T-Test: Trust and reciprocity and housing type in commodity housing

F.56a Group Statistics

Neighbourhood Type		Accommodation type	N	Mean	Std. Deviation	Std. Error Mean
Commodity housing	Trust and reciprocity	Houses	8	4.00	.535	.189
		Apartment blocks	266	2.81	1.316	.081

F.56b Independent Samples Test

Neighbourhood Type			Levene's Test for		t-test for Equality of Means						
			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval	
										Lower	Upper
Commodity housing	Trust and reciprocity	Equal variances assumed	20.354	.000	2.550	272	.011	1.192	.467	.272	2.112
		Equal variances not assumed			5.799	9.778	.000	1.192	.205	.732	1.651

F.56c Effect size for independent-sample test

Eta squared = $t^2 / t^2 + (N1 + N2 - 2) = 0.110 = 0.11$ = a relatively large effect

Expressed as a percentage (eta squared value by 100), 11% of the variance in negative social interaction is explained by residents' perceptions about removing their neighbourhood boundary.

F.57 Residents' perception on the effect of removing bounding wall on safe sense in general

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Negative effect	561	50.3	89.6	89.6
	No effect	50	4.5	8.0	97.6
	Positive effect	15	1.3	2.4	100.0
	Total	626	56.1	100.0	
Missing	Na	490	43.9		
Total		1116	100.0		

F.58 Residents' perception on the effect of removing bounding wall on safe sense in villages, redeveloped villages and commodity housing individually

Neighbourhood Type			Frequency	Percent	Valid Percent	Cumulative Percent
Redeveloped villages	Valid	Negative effect	267	83.4	83.4	83.4
		No effect	41	12.8	12.8	96.3
		Positive effect	12	3.8	3.8	100.0
		Total	320	100.0	100.0	
Commodity housing	Valid	Negative effect	294	96.1	96.1	96.1
		No effect	9	2.9	2.9	99.0
		Positive effect	3	1.0	1.0	100.0
		Total	306	100.0	100.0	

F.59 One-Way Between-Groups ANOVA with Post-Hoc analyses: feelings of safety and neighbourhood types in general

F.59a Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
5.950	2	1113	.003

F.59b ANOVA

Zscore_safety

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	23.244	2	11.622	23.801	.000
Within Groups	543.482	1113	.488		
Total	566.726	1115			

F.59c Multiple Comparisons

Dependent Variable: Zscore_safety

Tukey HSD (I) Neighbourhood Type	(J) Neighbourhood Type	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Villages	Redeveloped villages	.22731*	.05022	.000	.1094	.3452
	Commodity housing	-.15438*	.05091	.007	-.2739	-.0349
Redeveloped villages	Villages	-.22731*	.05022	.000	-.3452	-.1094
	Commodity housing	-.38169*	.05587	.000	-.5128	-.2506
Commodity housing	Villages	.15438*	.05091	.007	.0349	.2739
	Redeveloped villages	.38169*	.05587	.000	.2506	.5128

*. The mean difference is significant at the 0.05 level.

F.59d Effect size= Sum of squares between groups / Total sum of squares= 0.041= 0.04= a relatively small effect

F.60 One-Way Between-Groups ANOVA with Post-Hoc analyses: Feelings of safety and tenure in general

F.60a Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
.492	4	1111	.742

F.60b ANOVA

Zscore_safety

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.614	4	.154	.301	.877
Within Groups	566.112	1111	.510		
Total	566.726	1115			

F.61 One-Way Between-Groups ANOVA with Post-Hoc analyses: Feelings of safety and household composition in general

F.61a Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Zscore_safety	2.105	8	1106	.033

F.61b ANOVA

Zscore_safety

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.950	8	.619	1.219	.284
Within Groups	561.471	1106	.508		
Total	566.421	1114			

F.62 One-Way Between-Groups ANOVA with Post-Hoc analyses: Feelings of safety and household composition in villages

F.62c Multiple Comparisons

Dependent Variable: Zscore_safety

Tukey HSD Neighbourhood Type	(I) Household composition	(J) Household composition	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Villages	One adult under 60	One adult aged 60 or over	.10692	.16176	.999	-.3971	.6109
		Two adults both under 60	.36828	.11956	.055	-.0043	.7408
		Two adults, at least one 60 or over	.27102	.14864	.667	-.1922	.7342
		Three or more adults	.45607*	.12109	.006	.0788	.8334
		Three or more adults with children, at least one under 18	.47214*	.09160	.000	.1867	.7576
		1- parent family with children, at least one under 18	.73335	.45751	.803	-.6923	2.1590
		2- parent family with children, at least one under 18	.40988*	.09625	.001	.1100	.7098
		One adult aged 60 or over with children, at least one under 18	.57183	.37614	.846	-.6002	1.7439
	One adult aged 60 or over	One adult under 60	-.10692	.16176	.999	-.6109	.3971
		Two adults both under 60	.26136	.16979	.836	-.2677	.7904
		Two adults, at least one 60 or over	.16410	.19139	.995	-.4323	.7605
		Three or more adults	.34915	.17088	.514	-.1833	.8816
		Three or more adults with children, at least one under 18	.36522	.15142	.280	-.1066	.8370
		1- parent family with children, at least one under 18	.62643	.47313	.924	-.8478	2.1007
		2- parent family with children, at least one under 18	.30295	.15427	.570	-.1778	.7837
		One adult aged 60 or over with children, at least one under 18	.46491	.39499	.961	-.7659	1.6957
	Two adults both under 60	One adult under 60	-.36828	.11956	.055	-.7408	.0043
		One adult aged 60 or over	-.26136	.16979	.836	-.7904	.2677
		Two adults, at least one 60 or over	-.09726	.15735	1.000	-.5876	.3930
		Three or more adults	.08779	.13163	.999	-.3224	.4980
		Three or more adults with children, at least one under 18	.10386	.10514	.987	-.2238	.4315
		1- parent family with children, at least one under 18	.36507	.46042	.997	-1.0696	1.7997
		2- parent family with children, at least one under 18	.04159	.10922	1.000	-.2987	.3819
		One adult aged 60 or over with children, at least one under 18	.20355	.37967	1.000	-.9795	1.3866
	Two adults, at least one 60 or over	One adult under 60	-.27102	.14864	.667	-.7342	.1922
		One adult aged 60 or over	-.16410	.19139	.995	-.7605	.4323
		Two adults both under 60	.09726	.15735	1.000	-.3930	.5876
		Three or more adults	.18506	.15852	.963	-.3089	.6790
		Three or more adults with children, at least one under 18	.20112	.13732	.871	-.2268	.6290
		1- parent family with children, at least one under 18	.46233	.46881	.987	-.9985	1.9231
		2- parent family with children, at least one under 18	.13886	.14046	.987	-.2988	.5765
		One adult aged 60 or over with children, at least one under 18	.30081	.38981	.998	-.9138	1.5154
	Three or more adults	One adult under 60	-.45607*	.12109	.006	-.8334	-.0788
		One adult aged 60 or over	-.34915	.17088	.514	-.8816	.1833
		Two adults both under 60	-.08779	.13163	.999	-.4980	.3224
		Two adults, at least one 60 or over	-.18506	.15852	.963	-.6790	.3089
		Three or more adults with children, at least one under 18	.01607	.10688	1.000	-.3170	.3491
		1- parent family with children, at least one under 18	.27728	.46082	1.000	-1.1586	1.7132
		2- parent family with children, at least one under 18	-.04620	.11089	1.000	-.3917	.2993

	One adult aged 60 or over with children, at least one under 18	.11575	.38016	1.000	-1.0688	1.3003
Three or more adults with children, at least one under 18	One adult under 60	-.47214*	.09160	.000	-.7576	-.1867
	One adult aged 60 or over	-.36522	.15142	.280	-.8370	.1066
	Two adults both under 60	-.10386	.10514	.987	-.4315	.2238
	Two adults, at least one 60 or over	-.20112	.13732	.871	-.6290	.2268
	Three or more adults	-.01607	.10688	1.000	-.3491	.3170
	1- parent family with children, at least one under 18	.26121	.45396	1.000	-1.1533	1.6757
	2- parent family with children, at least one under 18	-.06226	.07762	.997	-.3041	.1796
	One adult aged 60 or over with children, at least one under 18	.09969	.37181	1.000	-1.0589	1.2583
1- parent family with children, at least one under 18	One adult under 60	-.73335	.45751	.803	-2.1590	.6923
	One adult aged 60 or over	-.62643	.47313	.924	-2.1007	.8478
	Two adults both under 60	-.36507	.46042	.997	-1.7997	1.0696
	Two adults, at least one 60 or over	-.46233	.46881	.987	-1.9231	.9985
	Three or more adults	-.27728	.46082	1.000	-1.7132	1.1586
	Three or more adults with children, at least one under 18	-.26121	.45396	1.000	-1.6757	1.1533
	2- parent family with children, at least one under 18	-.32348	.45492	.999	-1.7410	1.0941
	One adult aged 60 or over with children, at least one under 18	-.16152	.58239	1.000	-1.9762	1.6532
2- parent family with children, at least one under 18	One adult under 60	-.40988*	.09625	.001	-.7098	-.1100
	One adult aged 60 or over	-.30295	.15427	.570	-.7837	.1778
	Two adults both under 60	-.04159	.10922	1.000	-.3819	.2987
	Two adults, at least one 60 or over	-.13886	.14046	.987	-.5765	.2988
	Three or more adults	.04620	.11089	1.000	-.2993	.3917
	Three or more adults with children, at least one under 18	.06226	.07762	.997	-.1796	.3041
	1- parent family with children, at least one under 18	.32348	.45492	.999	-1.0941	1.7410
	One adult aged 60 or over with children, at least one under 18	.16195	.37299	1.000	-1.0003	1.3242
One adult aged 60 or over with children, at least one under 18	One adult under 60	-.57183	.37614	.846	-1.7439	.6002
	One adult aged 60 or over	-.46491	.39499	.961	-1.6957	.7659
	Two adults both under 60	-.20355	.37967	1.000	-1.3866	.9795
	Two adults, at least one 60 or over	-.30081	.38981	.998	-1.5154	.9138
	Three or more adults	-.11575	.38016	1.000	-1.3003	1.0688
	Three or more adults with children, at least one under 18	-.09969	.37181	1.000	-1.2583	1.0589
	1- parent family with children, at least one under 18	.16152	.58239	1.000	-1.6532	1.9762
	2- parent family with children, at least one under 18	-.16195	.37299	1.000	-1.3242	1.0003

*. The mean difference is significant at the 0.05 level.

F.62b Test of Homogeneity of Variances

Neighbourhood Type		Levene Statistic	df1	df2	Sig.
Villages	Zscore_safety	1.402	8	481	.193

F.62c ANOVA

Zscore_safety

Neighbourhood Type		Sum of Squares	df	Mean Square	F	Sig.
Villages	Between Groups	13.658	8	1.707	4.195	.000
	Within Groups	195.772	481	.407		
	Total	209.430	489			

F.62d Effect size= Sum of squares between groups / Total sum of squares= 0.065= 0.07= a medium effect

F.63 One-Way Between-Groups ANOVA with Post-Hoc analyses: Feelings of safety and economic status in general

F.63a Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
1.477	6	1108	.183

F.63b ANOVA

Zscore_safety

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	9.999	6	1.666	3.318	.003
Within Groups	556.422	1108	.502		
Total	566.421	1114			

F.63c Multiple Comparisons

Dependent Variable: Zscore_safety

Tukey HSD (I) Economic status	(J) Economic status	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Full-time employed	Part-time employed	-.11434	.11970	.963	-.4679	.2392
	Unemployed	.02955	.13021	1.000	-.3551	.4142
	Full-time student at university	-.16664	.08684	.468	-.4232	.0899
	Looking after home	.20788	.07999	.127	-.0284	.4441
	Retired	.14432	.05569	.130	-.0202	.3088
	Long term sick or disabled	.20701	.31811	.995	-.7326	1.1466
Part-time employed	Full-time employed	.11434	.11970	.963	-.2392	.4679
	Unemployed	.14389	.17255	.981	-.3658	.6535
	Full-time student at university	-.05230	.14268	1.000	-.4738	.3692
	Looking after home	.32222	.13862	.233	-.0872	.7317
	Retired	.25866	.12617	.384	-.1140	.6313
	Long term sick or disabled	.32135	.33765	.964	-.6760	1.3187
Unemployed	Full-time employed	-.02955	.13021	1.000	-.4142	.3551
	Part-time employed	-.14389	.17255	.981	-.6535	.3658
	Full-time student at university	-.19619	.15161	.855	-.6440	.2516
	Looking after home	.17833	.14779	.892	-.2582	.6149
	Retired	.11477	.13618	.980	-.2875	.5170
	Long term sick or disabled	.17746	.34152	.999	-.8313	1.1862
Full-time student at university	Full-time employed	.16664	.08684	.468	-.0899	.4232
	Part-time employed	.05230	.14268	1.000	-.3692	.4738
	Unemployed	.19619	.15161	.855	-.2516	.6440
	Looking after home	.37452*	.11148	.014	.0452	.7038
	Retired	.31096*	.09557	.020	.0287	.5932
	Long term sick or disabled	.37366	.32745	.915	-.5936	1.3409
Looking after home	Full-time employed	-.20788	.07999	.127	-.4441	.0284
	Part-time employed	-.32222	.13862	.233	-.7317	.0872
	Unemployed	-.17833	.14779	.892	-.6149	.2582
	Full-time student at university	-.37452*	.11148	.014	-.7038	-.0452
	Retired	-.06356	.08938	.992	-.3276	.2005
	Long term sick or disabled	-.00087	.32570	1.000	-.9629	.9612
Retired	Full-time employed	-.14432	.05569	.130	-.3088	.0202
	Part-time employed	-.25866	.12617	.384	-.6313	.1140
	Unemployed	-.11477	.13618	.980	-.5170	.2875
	Full-time student at university	-.31096*	.09557	.020	-.5932	-.0287
	Looking after home	.06356	.08938	.992	-.2005	.3276
	Long term sick or disabled	.06269	.32060	1.000	-.8843	1.0097
Long term sick or disabled	Full-time employed	-.20701	.31811	.995	-1.1466	.7326
	Part-time employed	-.32135	.33765	.964	-1.3187	.6760
	Unemployed	-.17746	.34152	.999	-1.1862	.8313
	Full-time student at university	-.37366	.32745	.915	-1.3409	.5936
	Looking after home	.00087	.32570	1.000	-.9612	.9629
	Retired	-.06269	.32060	1.000	-1.0097	.8843

*. The mean difference is significant at the 0.05 level.

F.63d Effect size = Sum of squares between groups / Total sum of squares= 0.018= 0.02= a small effect

F.64 One-Way Between-Groups ANOVA with Post-Hoc analyses: Feelings of safety and economic status in villages

F.64a Test of Homogeneity of Variances

Neighbourhood Type		Levene Statistic	df1	df2	Sig.
Villages	Zscore_safety	2.001	6	483	.064

F.64b ANOVA

Zscore_safety

Neighbourhood Type		Sum of Squares	df	Mean Square	F	Sig.
Villages	Between Groups	8.260	6	1.377	3.305	.003
	Within Groups	201.169	483	.416		
	Total	209.430	489			

F.64c Multiple Comparisons

Dependent Variable: Zscore_safety

Tukey HSD Neighbourhood Type	(I) Economic status	(J) Economic status	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Villages	Full-time employed	Part-time employed	-.32012	.14568	.299	-.7514	.1112
		Unemployed	.12514	.18999	.995	-.4374	.6877
		Full-time student at university	.28538	.14255	.415	-.1367	.7074
		Looking after home	.31659	.10746	.052	-.0016	.6347
		Retired	-.03056	.07790	1.000	-.2612	.2001
		Long term sick or disabled	.22455	.29101	.988	-.6371	1.0862
	Part-time employed	Full-time employed	.32012	.14568	.299	-.1112	.7514
		Unemployed	.44526	.23354	.477	-.2462	1.1367
		Full-time student at university	.60550*	.19689	.036	.0225	1.1884
		Looking after home	.63671*	.17318	.005	.1239	1.1495
		Retired	.28955	.15657	.515	-.1740	.7531
		Long term sick or disabled	.54467	.32114	.619	-.4062	1.4955
	Unemployed	Full-time employed	-.12514	.18999	.995	-.6877	.4374
		Part-time employed	-.44526	.23354	.477	-1.1367	.2462
		Full-time student at university	.16024	.23160	.993	-.5255	.8460
		Looking after home	.19145	.21182	.972	-.4357	.8186
		Retired	-.15570	.19846	.986	-.7433	.4319
		Long term sick or disabled	.09942	.34352	1.000	-.9177	1.1165
	Full-time student at university	Full-time employed	-.28538	.14255	.415	-.7074	.1367
		Part-time employed	-.60550*	.19689	.036	-1.1884	-.0225
		Unemployed	-.16024	.23160	.993	-.8460	.5255
		Looking after home	.03121	.17056	1.000	-.4738	.5362
		Retired	-.31594	.15366	.381	-.7709	.1390
		Long term sick or disabled	-.06082	.31974	1.000	-1.0075	.8859
	Looking after home	Full-time employed	-.31659	.10746	.052	-.6347	.0016
		Part-time employed	-.63671*	.17318	.005	-1.1495	-.1239
		Unemployed	-.19145	.21182	.972	-.8186	.4357
		Full-time student at university	-.03121	.17056	1.000	-.5362	.4738
		Retired	-.34715	.12181	.068	-.7078	.0135
		Long term sick or disabled	-.09204	.30571	1.000	-.9972	.8131
	Retired	Full-time employed	.03056	.07790	1.000	-.2001	.2612
		Part-time employed	-.28955	.15657	.515	-.7531	.1740
		Unemployed	.15570	.19846	.986	-.4319	.7433
		Full-time student at university	.31594	.15366	.381	-.1390	.7709
		Looking after home	.34715	.12181	.068	-.0135	.7078
		Long term sick or disabled	.25512	.29661	.978	-.6231	1.1333
	Long term sick or disabled	Full-time employed	-.22455	.29101	.988	-1.0862	.6371
		Part-time employed	-.54467	.32114	.619	-1.4955	.4062
		Unemployed	-.09942	.34352	1.000	-1.1165	.9177
		Full-time student at university	.06082	.31974	1.000	-.8859	1.0075
		Looking after home	.09204	.30571	1.000	-.8131	.9972
		Retired	-.25512	.29661	.978	-1.1333	.6231

*. The mean difference is significant at the 0.05 level.

F.64d Effect size= Sum of squares between groups / Total sum of squares= 0.039= 0.04= a small-moderate effect

F.65 Independent-Sample T-Test: Feelings of safety and residents' gender in general

F.65a Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Zscore_safety	Male	518	.1463	.66313	.02914
	Female	596	-.1382	.72924	.02987

F.65b Independent Samples Test

		Levene's Test for		t-test for Equality of Means						
									95% Confidence Interval	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Zscore_safety	Equal variances assumed	2.542	.111	6.773	1112	.000	.28450	.04201	.20208	.36692
	Equal variances not assumed			6.818	1109.716	.000	.28450	.04173	.20262	.36637

F.65c Effect size = $t^2 / t^2 + (N1 + N2 -2)$= 0.040= 0.04= a small-moderate effect

F.66 Independent-Sample T-Test: Feelings of safety and residents' gender in villages

F.66a Group Statistics

Neighbourhood Type		Gender	N	Mean	Std. Deviation	Std. Error Mean
Villages	Zscore_safety	Male	250	.1128	.63739	.04031
		Female	240	-.0809	.65862	.04251

F.66b Independent Samples Test

			Levene's Test for		t-test for Equality of Means						
			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval Lower	Upper
Villages	Zscore_safety	Equal variances assumed	.490	.484	3.309	488	.001	.19373	.05855	.07869	.30877
		Equal variances not assumed			3.307	485.369	.001	.19373	.05859	.07861	.30884

F.66c Effect size = $t^2 / t^2 + (N1 + N2 - 2) = 0.021 = 0.02$ = a small effect

F.67 One-Way Between-Groups ANOVA with Post-Hoc analyses: Feelings of safety and residents' income in general

F.67a Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Zscore_safety	2.213	8	1103	.024

F.67b ANOVA

Zscore_safety

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	15.610	8	1.951	3.913	.000
Within Groups	550.042	1103	.499		
Total	565.653	1111			

F.67c Multiple Comparisons

Dependent Variable: Zscore_safety

Tukey HSD (I) Respondents' income	(J) Respondents' income	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Less than 9999 CNY	10000- 29999 CNY	-.05103	.06302	.997	-.2469	.1448
	30000 - 49999 CNY	-.22630*	.06234	.009	-.4200	-.0326
	50000 - 79999 CNY	-.17234	.06180	.120	-.3644	.0197
	80000 - 99999 CNY	-.31093*	.09337	.025	-.6011	-.0207
	100000 - 199999 CNY	-.20904	.09459	.400	-.5030	.0849
	200000- 299999 CNY	-.54829	.21589	.214	-1.2193	.1227
	300000 -399999 CNY	-.61537	.35489	.725	-1.7183	.4876
	400000+ CNY	-.59687	.50061	.958	-2.1528	.9590
10000- 29999 CNY	Less than 9999 CNY	.05103	.06302	.997	-.1448	.2469
	30000 - 49999 CNY	-.17527	.07285	.281	-.4017	.0511
	50000 - 79999 CNY	-.12131	.07239	.761	-.3463	.1037
	80000 - 99999 CNY	-.25990	.10069	.196	-.5728	.0530
	100000 - 199999 CNY	-.15802	.10182	.830	-.4745	.1584
	200000- 299999 CNY	-.49726	.21916	.362	-1.1784	.1839
	300000 -399999 CNY	-.56434	.35688	.815	-1.6735	.5448
	400000+ CNY	-.54585	.50203	.976	-2.1061	1.0144
30000 - 49999 CNY	Less than 9999 CNY	.22630*	.06234	.009	.0326	.4200
	10000- 29999 CNY	.17527	.07285	.281	-.0511	.4017
	50000 - 79999 CNY	.05396	.07180	.998	-.1692	.2771
	80000 - 99999 CNY	-.08463	.10027	.995	-.3963	.2270
	100000 - 199999 CNY	.01726	.10140	1.000	-.2979	.3324
	200000- 299999 CNY	-.32199	.21896	.869	-1.0025	.3585
	300000 -399999 CNY	-.38907	.35676	.976	-1.4979	.7197
	400000+ CNY	-.37057	.50195	.998	-1.9306	1.1894
50000 - 79999 CNY	Less than 9999 CNY	.17234	.06180	.120	-.0197	.3644
	10000- 29999 CNY	.12131	.07239	.761	-.1037	.3463
	30000 - 49999 CNY	-.05396	.07180	.998	-.2771	.1692
	80000 - 99999 CNY	-.13859	.09994	.903	-.4492	.1720
	100000 - 199999 CNY	-.03670	.10108	1.000	-.3508	.2774
	200000- 299999 CNY	-.37595	.21881	.735	-1.0560	.3041
	300000 -399999 CNY	-.44303	.35667	.947	-1.5515	.6655
	400000+ CNY	-.42453	.50188	.995	-1.9843	1.1353
80000 - 99999 CNY	Less than 9999 CNY	.31093*	.09337	.025	.0207	.6011
	10000- 29999 CNY	.25990	.10069	.196	-.0530	.5728

	30000 - 49999 CNY	.08463	.10027	.995	-.2270	.3963
	50000 - 79999 CNY	.13859	.09994	.903	-.1720	.4492
	100000 - 199999 CNY	.10189	.12294	.996	-.2802	.4840
	200000- 299999 CNY	-.23736	.22973	.983	-.9514	.4766
	300000 -399999 CNY	-.30443	.36347	.996	-1.4341	.8252
	400000+ CNY	-.28594	.50674	1.000	-1.8608	1.2890
100000 - 199999 CNY	Less than 9999 CNY	.20904	.09459	.400	-.0849	.5030
	10000- 29999 CNY	.15802	.10182	.830	-.1584	.4745
	30000 - 49999 CNY	-.01726	.10140	1.000	-.3324	.2979
	50000 - 79999 CNY	.03670	.10108	1.000	-.2774	.3508
	80000 - 99999 CNY	-.10189	.12294	.996	-.4840	.2802
	200000- 299999 CNY	-.33925	.23023	.868	-1.0548	.3763
	300000 -399999 CNY	-.40632	.36379	.972	-1.5370	.7243
	400000+ CNY	-.38783	.50696	.998	-1.9634	1.1878
200000- 299999 CNY	Less than 9999 CNY	.54829	.21589	.214	-.1227	1.2193
	10000- 29999 CNY	.49726	.21916	.362	-.1839	1.1784
	30000 - 49999 CNY	.32199	.21896	.869	-.3585	1.0025
	50000 - 79999 CNY	.37595	.21881	.735	-.3041	1.0560
	80000 - 99999 CNY	.23736	.22973	.983	-.4766	.9514
	100000 - 199999 CNY	.33925	.23023	.868	-.3763	1.0548
	300000 -399999 CNY	-.06707	.41232	1.000	-1.3485	1.2144
	400000+ CNY	-.04858	.54284	1.000	-1.7357	1.6385
300000 -399999 CNY	Less than 9999 CNY	.61537	.35489	.725	-.4876	1.7183
	10000- 29999 CNY	.56434	.35688	.815	-.5448	1.6735
	30000 - 49999 CNY	.38907	.35676	.976	-.7197	1.4979
	50000 - 79999 CNY	.44303	.35667	.947	-.6655	1.5515
	80000 - 99999 CNY	.30443	.36347	.996	-.8252	1.4341
	100000 - 199999 CNY	.40632	.36379	.972	-.7243	1.5370
	200000- 299999 CNY	.06707	.41232	1.000	-1.2144	1.3485
	400000+ CNY	.01849	.61156	1.000	-1.8822	1.9192
400000+ CNY	Less than 9999 CNY	.59687	.50061	.958	-.9590	2.1528
	10000- 29999 CNY	.54585	.50203	.976	-1.0144	2.1061
	30000 - 49999 CNY	.37057	.50195	.998	-1.1894	1.9306
	50000 - 79999 CNY	.42453	.50188	.995	-1.1353	1.9843
	80000 - 99999 CNY	.28594	.50674	1.000	-1.2890	1.8608
	100000 - 199999 CNY	.38783	.50696	.998	-1.1878	1.9634
	200000- 299999 CNY	.04858	.54284	1.000	-1.6385	1.7357
	300000 -399999 CNY	-.01849	.61156	1.000	-1.9192	1.8822

*. The mean difference is significant at the 0.05 level.

F.67d Effect size= Sum of squares between groups / Total sum of squares= 0.028= 0.03= a small effect

F.68 Independent-Sample T-Test: Feelings of safety and residents' self-identity (locals or migrants) in redeveloped villages

F.68a Group Statistics

Neighbourhood Type		Residents' self-identity to be a local or migrant	N	Mean	Std. Deviation	Std. Error Mean
Redeveloped villages	Zscore_safety	Local	193	-.3194	.69940	.05034
		Migrant	127	-.0423	.74270	.06590

F.68b Independent Samples Test

Neighbourhood Type			Levene's Test for		t-test for Equality of Means						
			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval	
										Lower	Upper
Redeveloped villages	Zscore_safety	Equal variances assumed	.001	.970	-3.383	318	.001	-.27711	.08191	-.43826	-.11595
		Equal variances not assumed			-3.341	258.248	.001	-.27711	.08293	-.44042	-.11380

F.68c Effect size = t^2 / t^2 + (N1 + N2 -2) = 0.035= 0.04 = a small-moderate effect

F.69 Independent-samples T-test: feelings of safety and residents' plans to move house in redeveloped villages

F.69a Group Statistics

Neighbourhood Type		Plans to move house in next few years	N	Mean	Std. Deviation	Std. Error Mean
Redeveloped villages	Zscore_safety	Yes	68	-.3706	.85759	.10400
		No	252	-.1659	.68502	.04315

F.69b Independent Samples Test

Neighbourhood Type			Levene's Test for		t-test for Equality of Means					
			F	SiE.	t	df	SiE. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval Lower	Upper
Redeveloped villages	Zscore_safety	Equal variances assumed	10.246	.002	-2.067	318	.040	-.20473	.09905	-.39960	-.00986
		Equal variances not assumed			-1.818	91.334	.072	-.20473	.11260	-.42838	.01891

F.70 One-Way Between-Groups ANOVA with Post-Hoc analyses: Feelings of safety and household income in commodity housing

F.70a Test of Homogeneity of Variances

Neighbourhood Type		Levene Statistic	df1	df2	SiF.
Commodity housing	Zscore_safety	1.479	8	295	.164

F.70b ANOVA

Zscore_safety

Neighbourhood Type		Sum of Squares	df	Mean Square	F	SiF.
Commodity housing	Between Groups	2.699	8	.337	.618	.763
	Within Groups	161.124	295	.546		
	Total	163.823	303			

F.71 One-Way Between-Groups ANOVA with Post-Hoc analyses: sense of place attachment and tenure in general

F.71a Multiple Comparisons

Dependent Variable: Zscore_overmeasure_q

Tukey HSD (I) Own or rent	(J) Own or rent	Mean Difference (I-J)	Std. Error	SiF.	95% Confidence Interval Lower Bound	Upper Bound
Own outright	Own with a mortgage or loan	.12683	.08404	.557	-.1028	.3564
	Pay rent by employer	.64484*	.10523	.000	.3573	.9324
	Pay part rent by employer, part rent by yourself	.20153	.19569	.842	-.3332	.7362
	Pay rent by yourself	.08976	.06034	.571	-.0751	.2546
Own with a mortgage or loan	Own outright	-.12683	.08404	.557	-.3564	.1028
	Pay rent by employer	.51801*	.12602	.000	.1737	.8623
	Pay part rent by employer, part rent by yourself	.07469	.20761	.996	-.4926	.6419
	Pay rent by yourself	-.03707	.09191	.994	-.2882	.2141
Pay rent by employer	Own outright	-.64484*	.10523	.000	-.9324	-.3573
	Own with a mortgage or loan	-.51801*	.12602	.000	-.8623	-.1737
	Pay part rent by employer, part rent by yourself	-.44332	.21706	.246	-1.0364	.1497
	Pay rent by yourself	-.55508*	.11162	.000	-.8601	-.2501
Pay part rent by employer, part rent by yourself	Own outright	-.20153	.19569	.842	-.7362	.3332
	Own with a mortgage or loan	-.07469	.20761	.996	-.6419	.4926
	Pay rent by employer	.44332	.21706	.246	-.1497	1.0364
	Pay rent by yourself	-.11176	.19920	.981	-.6560	.4325
Pay rent by yourself	Own outright	-.08976	.06034	.571	-.2546	.0751
	Own with a mortgage or loan	.03707	.09191	.994	-.2141	.2882
	Pay rent by employer	.55508*	.11162	.000	.2501	.8601
	Pay part rent by employer, part rent by yourself	.11176	.19920	.981	-.4325	.6560

*. The mean difference is significant at the 0.05 level.

Levene Statistic	df1	df2	SiF.
9.633	4	1111	.000

F.71b ANOVA

Zscore_overmeasure_q

	Sum of Squares	df	Mean Square	F	SiF.
Between Groups	27.227	4	6.807	9.639	.000
Within Groups	784.571	1111	.706		
Total	811.798	1115			

F.71c Effect size = Sum of squares between groups / Total sum of squares= 0.034= 0.03= a small effect

F.72 One-Way Between-Groups ANOVA with Post-Hoc analyses: sense of place attachment and tenure for villages, redeveloped villages and commodity housing separately

F.72a Multiple Comparisons

Dependent Variable: Zscore_overmeasure_q

Tukey HSD Neighbourhood Type	(I) Own or rent	(J) Own or rent	Mean Difference (I-J)	Std. Error	SiE.	95% Confidence Interval Lower Bound	Upper Bound
Villages	Own outright	Own with a mortgage or loan	.00108	.64593	1.000	-1.7675	1.7697
		Pay rent by employer	.52948*	.14993	.004	.1190	.9400
		Pay part rent by employer, part rent by yourself	.10580	.37580	.999	-.9232	1.1348
		Pay rent by yourself	.11860	.08815	.663	-.1228	.3600
	Own with a mortgage or loan	Own outright	-.00108	.64593	1.000	-1.7697	1.7675
		Pay rent by employer	.52840	.65822	.930	-1.2739	2.3307
		Pay part rent by employer, part rent by yourself	.10472	.74297	1.000	-1.9296	2.1390
		Pay rent by yourself	.11752	.64696	1.000	-1.6539	1.8889
	Pay rent by employer	Own outright	-.52948*	.14993	.004	-.9400	-.1190
		Own with a mortgage or loan	-.52840	.65822	.930	-2.3307	1.2739
		Pay part rent by employer, part rent by yourself	-.42368	.39656	.823	-1.5095	.6621
		Pay rent by yourself	-.41088	.15429	.061	-.8333	.0116
	Pay part rent by employer, part rent by yourself	Own outright	-.10580	.37580	.999	-1.1348	.9232
		Own with a mortgage or loan	-.10472	.74297	1.000	-2.1390	1.9296
		Pay rent by employer	.42368	.39656	.823	-.6621	1.5095
		Pay rent by yourself	.01279	.37756	1.000	-1.0210	1.0466
	Pay rent by yourself	Own outright	-.11860	.08815	.663	-.3600	.1228
		Own with a mortgage or loan	-.11752	.64696	1.000	-1.8889	1.6539
		Pay rent by employer	.41088	.15429	.061	-.0116	.8333
		Pay part rent by employer, part rent by yourself	-.01279	.37756	1.000	-1.0466	1.0210
Redeveloped villages	Own outright	Own with a mortgage or loan	.07852	.14638	.984	-.3231	.4801
		Pay rent by employer	.77139*	.15353	.000	.3502	1.1926
		Pay part rent by employer, part rent by yourself	-.08318	.26494	.998	-.8101	.6437
		Pay rent by yourself	-.12356	.10379	.757	-.4083	.1612
	Own with a mortgage or loan	Own outright	-.07852	.14638	.984	-.4801	.3231
		Pay rent by employer	.69287*	.19823	.005	.1490	1.2368
		Pay part rent by employer, part rent by yourself	-.16170	.29312	.982	-.9659	.6425
		Pay rent by yourself	-.20208	.16279	.727	-.6487	.2445
	Pay rent by employer	Own outright	-.77139*	.15353	.000	-1.1926	-.3502
		Own with a mortgage or loan	-.69287*	.19823	.005	-1.2368	-.1490
		Pay part rent by employer, part rent by yourself	-.85457*	.29675	.034	-1.6687	-.0404
		Pay rent by yourself	-.89495*	.16924	.000	-1.3593	-.4306
	Pay part rent by employer, part rent by yourself	Own outright	.08318	.26494	.998	-.6437	.8101
		Own with a mortgage or loan	.16170	.29312	.982	-.6425	.9659
		Pay rent by employer	.85457*	.29675	.034	.0404	1.6687
		Pay rent by yourself	-.04038	.27434	1.000	-.7931	.7123
	Pay rent by yourself	Own outright	.12356	.10379	.757	-.1612	.4083
		Own with a mortgage or loan	.20208	.16279	.727	-.2445	.6487
		Pay rent by employer	.89495*	.16924	.000	.4306	1.3593
		Pay part rent by employer, part rent by yourself	.04038	.27434	1.000	-.7123	.7931

*. The mean difference is significant at the 0.05 level.

F.72b ANOVA

Zscore_overmeasure_q

Neighbourhood Type		Sum of Squares	df	Mean Square	F	SiF.
Villages	Between Groups	10.551	4	2.638	3.186	.013
	Within Groups	401.583	485	.828		
	Total	412.135	489			
Redeveloped villages	Between Groups	16.193	4	4.048	7.515	.000
	Within Groups	169.699	315	.539		
	Total	185.893	319			
Commodity housing	Between Groups	5.643	4	1.411	2.076	.084
	Within Groups	204.507	301	.679		
	Total	210.149	305			

F.72c Test of Homogeneity of Variances

Neighbourhood Type		Levene Statistic	df1	df2	SiF.
Villages	Zscore_overmeasure_q	4.600	4	485	.001
Redeveloped villages	Zscore_overmeasure_q	8.807	4	315	.000
Commodity housing	Zscore_overmeasure_q	1.495	4	301	.203

F.72d Effect size:

Effect size= Sum of squares between groups / Total sum of squares= 0.026= 0.03= a small effect (villages)

Effect size= Sum of squares between groups / Total sum of squares= 0.087= 0.09= a medium effect (redeveloped villages)

F.73 One-Way Between-Groups ANOVA with Post-Hoc analyses: sense of place attachment and economic status in general

F.73a Test of Homogeneity of Variances

Levene Statistic	df1	df2	SiE.
2.573	6	1108	.018

F.73b ANOVA

Zscore_overmeasure_q

	Sum of Squares	df	Mean Square	F	SiF.
Between Groups	10.659	6	1.777	2.457	.023
Within Groups	801.137	1108	.723		
Total	811.796	1114			

The assumption of homogeneity of variance is violated because the significance value is less than 0.05.

F.74 One-Way Between-Groups ANOVA with Post-Hoc analyses: sense of place attachment and economic status in villages and redeveloped villages

F.74a Test of Homogeneity of Variances

Neighbourhood Type		Levene Statistic	df1	df2	SiF.
Villages	Zscore_overmeasure_q	3.326	6	483	.003
Redeveloped villages	Zscore_overmeasure_q	1.651	5	313	.146

F.74b ANOVA

Zscore_overmeasure_q

Neighbourhood Type		Sum of Squares	df	Mean Square	F	SiF.
Villages	Between Groups	8.964	6	1.494	1.790	.099
	Within Groups	403.171	483	.835		
	Total	412.135	489			
Redeveloped villages	Between Groups	4.643	5	.929	1.604	.159
	Within Groups	181.248	313	.579		
	Total	185.890	318			

F.75 One-Way Between-Groups ANOVA with Post-Hoc analyses: sense of place attachment and length of residence in villages

F.75a Multiple Comparisons

Dependent Variable: Zscore_attach

Tukey HSD Neighbourhood Type	(I) Length of residence	(J) Length of residence	Mean Difference (I-J)	Std. Error	SiF.	95% Confidence Interval Lower Bound	Upper Bound
Villages	Under 1 year	2-5 years	-.17841	.11634	.541	-.4970	.1401
		6-10 years	-.53535*	.13783	.001	-.9128	-.1580
		11-20 years	-.47581*	.13892	.006	-.8562	-.0954
		21 years+	-.96535*	.09213	.000	-1.2176	-.7131
	2-5 years	Under 1 year	.17841	.11634	.541	-.1401	.4970
		6-10 years	-.35694	.14723	.111	-.7601	.0462
		11-20 years	-.29740	.14825	.265	-.7033	.1085
		21 years+	-.78694*	.10567	.000	-1.0763	-.4976
	6-10 years	Under 1 year	.53535*	.13783	.001	.1580	.9128
		2-5 years	.35694	.14723	.111	-.0462	.7601
		11-20 years	.05954	.16565	.996	-.3940	.5131
		21 years+	-.43000*	.12895	.008	-.7831	-.0769
	11-20 years	Under 1 year	.47581*	.13892	.006	.0954	.8562
		2-5 years	.29740	.14825	.265	-.1085	.7033
		6-10 years	-.05954	.16565	.996	-.5131	.3940
		21 years+	-.48954*	.13012	.002	-.8458	-.1333
	21 years+	Under 1 year	.96535*	.09213	.000	.7131	1.2176
		2-5 years	.78694*	.10567	.000	.4976	1.0763
		6-10 years	.43000*	.12895	.008	.0769	.7831
		11-20 years	.48954*	.13012	.002	.1333	.8458

*. The mean difference is significant at the 0.05 level.

F.75b Test of Homogeneity of Variances

Neighbourhood Type		Levene Statistic	df1	df2	SiF.
Villages	Zscore_attach	11.836	4	482	.000

F.75c ANOVA

Zscore_attach

Neighbourhood Type		Sum of Squares	df	Mean Square	F	SiF.
Villages	Between Groups	80.615	4	20.154	32.287	.000
	Within Groups	300.863	482	.624		
	Total	381.477	486			

F.75d Effect size:

Sum of squares between groups / Total sum of squares = 0.211= 0.21= a large effect

F.76 One-Way Between-Groups ANOVA with Post-Hoc analyses: Sense of place attachment and household income in redeveloped villages

F.76a Test of Homogeneity of Variances

Neighbourhood Type		Levene Statistic	df1	df2	SiF.
Redeveloped villages	Zscore_overmeasure_q	6.372	8	310	.000

F.76b ANOVA

Zscore_overmeasure_q

Neighbourhood Type		Sum of Squares	df	Mean Square	F	SiF.
Redeveloped villages	Between Groups	17.834	8	2.229	4.112	.000
	Within Groups	168.056	310	.542		
	Total	185.890	318			

F.76c Multiple Comparisons

Dependent Variable: Zscore_overmeasure_q

Tukey HSD Neighbourhood Type	(I) Household income	(J) Household income	Mean Difference (I-J)	Std. Error	SiF.	95% Confidence Interval Lower Bound	Upper Bound
Redeveloped villages	Less than 9999CNY	10000- 29999 CNY	-.66994	.22928	.087	-1.3862	.0463
		30000 - 49999 CNY	-.77933*	.17415	.000	-1.3234	-.2353
		50000 - 79999 CNY	-.75627*	.15822	.000	-1.2505	-.2620
		80000 - 99999 CNY	-.62162*	.17315	.011	-1.1625	-.0807
		100000 - 199999 CNY	-.60288*	.14728	.002	-1.0630	-.1428
		200000- 299999 CNY	-.84481*	.23484	.011	-1.5784	-.1112
		300000 -399999 CNY	-.66803	.30639	.421	-1.6251	.2891
		400000+ CNY	-1.28294*	.35334	.010	-2.3867	-.1791

10000- 29999 CNY	Less than 9999 CNY	.66994	.22928	.087	-.0463	1.3862
	30000 - 49999 CNY	-.10939	.22370	1.000	-.8082	.5894
	50000 - 79999 CNY	-.08632	.21153	1.000	-.7471	.5745
	80000 - 99999 CNY	.04832	.22292	1.000	-.6481	.7447
	100000 - 199999 CNY	.06707	.20348	1.000	-.5686	.7027
	200000- 299999 CNY	-.17487	.27361	.999	-1.0296	.6799
	300000 -399999 CNY	.00192	.33703	1.000	-1.0509	1.0547
	400000+ CNY	-.61300	.38022	.798	-1.8007	.5747
30000 - 49999 CNY	Less than 9999 CNY	.77933*	.17415	.000	.2353	1.3234
	10000- 29999 CNY	.10939	.22370	1.000	-.5894	.8082
	50000 - 79999 CNY	.02306	.15002	1.000	-.4456	.4917
	80000 - 99999 CNY	.15771	.16569	.990	-.3599	.6753
	100000 - 199999 CNY	.17645	.13843	.938	-.2560	.6089
	200000- 299999 CNY	-.06548	.22940	1.000	-.7821	.6511
	300000 -399999 CNY	.11130	.30223	1.000	-.8328	1.0554
	400000+ CNY	-.50361	.34975	.881	-1.5962	.5890
50000 - 79999 CNY	Less than 9999 CNY	.75627*	.15822	.000	.2620	1.2505
	10000- 29999 CNY	.08632	.21153	1.000	-.5745	.7471
	30000 - 49999 CNY	-.02306	.15002	1.000	-.4917	.4456
	80000 - 99999 CNY	.13465	.14886	.993	-.3304	.5997
	100000 - 199999 CNY	.15339	.11776	.930	-.2145	.5213
	200000- 299999 CNY	-.08854	.21755	1.000	-.7681	.5910
	300000 -399999 CNY	.08824	.29334	1.000	-.8281	1.0046
	400000+ CNY	-.52667	.34209	.836	-1.5953	.5420
80000 - 99999 CNY	Less than 9999 CNY	.62162*	.17315	.011	.0807	1.1625
	10000- 29999 CNY	-.04832	.22292	1.000	-.7447	.6481
	30000 - 49999 CNY	-.15771	.16569	.990	-.6753	.3599
	50000 - 79999 CNY	-.13465	.14886	.993	-.5997	.3304
	100000 - 199999 CNY	.01874	.13717	1.000	-.4098	.4473
	200000- 299999 CNY	-.22319	.22864	.988	-.9374	.4910
	300000 -399999 CNY	-.04641	.30166	1.000	-.9887	.8959
	400000+ CNY	-.66132	.34925	.619	-1.7523	.4297
100000 - 199999 CNY	Less than 9999 CNY	.60288*	.14728	.002	.1428	1.0630
	10000- 29999 CNY	-.06707	.20348	1.000	-.7027	.5686
	30000 - 49999 CNY	-.17645	.13843	.938	-.6089	.2560
	50000 - 79999 CNY	-.15339	.11776	.930	-.5213	.2145
	80000 - 99999 CNY	-.01874	.13717	1.000	-.4473	.4098
	200000- 299999 CNY	-.24193	.20973	.965	-.8971	.4132
	300000 -399999 CNY	-.06515	.28759	1.000	-.9635	.8332
	400000+ CNY	-.68006	.33717	.533	-1.7333	.3732
200000- 299999 CNY	Less than 9999 CNY	.84481*	.23484	.011	.1112	1.5784
	10000- 29999 CNY	.17487	.27361	.999	-.6799	1.0296
	30000 - 49999 CNY	.06548	.22940	1.000	-.6511	.7821
	50000 - 79999 CNY	.08854	.21755	1.000	-.5910	.7681
	80000 - 99999 CNY	.22319	.22864	.988	-.4910	.9374
	100000 - 199999 CNY	.24193	.20973	.965	-.4132	.8971
	300000 -399999 CNY	.17678	.34083	1.000	-.8879	1.2415
	400000+ CNY	-.43813	.38360	.967	-1.6364	.7602
300000 - 399999 CNY	Less than 9999 CNY	.66803	.30639	.421	-.2891	1.6251
	10000- 29999 CNY	-.00192	.33703	1.000	-1.0547	1.0509
	30000 - 49999 CNY	-.11130	.30223	1.000	-1.0554	.8328
	50000 - 79999 CNY	-.08824	.29334	1.000	-1.0046	.8281
	80000 - 99999 CNY	.04641	.30166	1.000	-.8959	.9887
	100000 - 199999 CNY	.06515	.28759	1.000	-.8332	.9635
	200000- 299999 CNY	-.17678	.34083	1.000	-1.2415	.8879
	400000+ CNY	-.61491	.43113	.887	-1.9617	.7319
40000+	Less than 9999 CNY	1.28294*	.35334	.010	.1791	2.3867
	10000- 29999 CNY	.61300	.38022	.798	-.5747	1.8007
	30000 - 49999 CNY	.50361	.34975	.881	-.5890	1.5962
	50000 - 79999 CNY	.52667	.34209	.836	-.5420	1.5953
	80000 - 99999 CNY	.66132	.34925	.619	-.4297	1.7523
	100000 - 199999 CNY	.68006	.33717	.533	-.3732	1.7333
	200000- 299999 CNY	.43813	.38360	.967	-.7602	1.6364
	300000 -399999 CNY	.61491	.43113	.887	-.7319	1.9617

*. The mean difference is significant at the 0.05 level.

F.76d Effect size= Sum of squares between groups / Total sum of squares= 0.096= 0.10= a medium effect

F.77 One-way between-groups ANOVA with Post-Hoc analyses: sense of place attachment and household composition in redeveloped villages

F.77a Multiple Comparisons

Dependent Variable: Zscore_overmeasure_q

Tukey HSD Neighbourhood Type	(I) Household composition	(J) Household composition	Mean Difference (I-J)	Std. Error	SiF.	95% Confidence Interval Lower Bound	Upper Bound
Redeveloped villages	One adult under 60	One adult aged 60 or over	-.49716	.39184	.866	-1.6600	.6657
		Two adults both under 60	-.27886	.20323	.816	-.8820	.3243
		Two adults, at least one 60 or over	-.12009	.25113	.999	-.8654	.6252
		Three or more adults	-.17344	.17602	.957	-.6958	.3489
		Three or more adults with children, at least one under 18	-.41721*	.12412	.015	-.7856	-.0488
		2- parent family with children, at least one under 18	-.31377	.14233	.296	-.7362	.1086
	One adult aged 60 or over	One adult under 60	.49716	.39184	.866	-.6657	1.6600
		Two adults both under 60	.21830	.41484	.998	-1.0128	1.4494
		Two adults, at least one 60 or over	.37707	.44029	.979	-.9296	1.6838
		Three or more adults	.32372	.40221	.984	-.8699	1.5174
		Three or more adults with children, at least one under 18	.07995	.38236	1.000	-1.0548	1.2147
		2- parent family with children, at least one under 18	.18339	.38865	.999	-.9700	1.3368
	Two adults both under 60	One adult under 60	.27886	.20323	.816	-.3243	.8820
		One adult aged 60 or over	-.21830	.41484	.998	-1.4494	1.0128
		Two adults, at least one 60 or over	.15877	.28570	.998	-.6891	1.0067
		Three or more adults	.10542	.22257	.999	-.5551	.7660
		Three or more adults with children, at least one under 18	-.13835	.18429	.989	-.6853	.4086
		2- parent family with children, at least one under 18	-.03491	.19701	1.000	-.6196	.5498
	Two adults, at least one 60 or over	One adult under 60	.12009	.25113	.999	-.6252	.8654
		One adult aged 60 or over	-.37707	.44029	.979	-1.6838	.9296
		Two adults both under 60	-.15877	.28570	.998	-1.0067	.6891
		Three or more adults	-.05335	.26703	1.000	-.8458	.7391
		Three or more adults with children, at least one under 18	-.29712	.23607	.870	-.9977	.4035
		2- parent family with children, at least one under 18	-.19368	.24613	.986	-.9241	.5368
	Three or more adults	One adult under 60	.17344	.17602	.957	-.3489	.6958
		One adult aged 60 or over	-.32372	.40221	.984	-1.5174	.8699
		Two adults both under 60	-.10542	.22257	.999	-.7660	.5551
		Two adults, at least one 60 or over	.05335	.26703	1.000	-.7391	.8458
		Three or more adults with children, at least one under 18	-.24377	.15376	.692	-.7001	.2125
		2- parent family with children, at least one under 18	-.14033	.16880	.982	-.6413	.3606
	Three or more adults with children, at least one under 18	One adult under 60	.41721*	.12412	.015	.0488	.7856
		One adult aged 60 or over	-.07995	.38236	1.000	-1.2147	1.0548
		Two adults both under 60	.13835	.18429	.989	-.4086	.6853
		Two adults, at least one 60 or over	.29712	.23607	.870	-.4035	.9977
		Three or more adults	.24377	.15376	.692	-.2125	.7001
		2- parent family with children, at least one under 18	.10344	.11366	.971	-.2339	.4407
	2- parent family with children, at least one under 18	One adult under 60	.31377	.14233	.296	-.1086	.7362
		One adult aged 60 or over	-.18339	.38865	.999	-1.3368	.9700
		Two adults both under 60	.03491	.19701	1.000	-.5498	.6196
		Two adults, at least one 60 or over	.19368	.24613	.986	-.5368	.9241
		Three or more adults	.14033	.16880	.982	-.3606	.6413
		Three or more adults with children, at least one under 18	-.10344	.11366	.971	-.4407	.2339

*. The mean difference is significant at the 0.05 level.

Because the assumption of homogeneity of variance is violated in redeveloped villages, so a significance value of 0.01 is set for evaluating the results from the one-way ANOVA. The validity of the examinations below is problem and they are shown for information only.

F.77b Test of Homogeneity of Variances

Neighbourhood Type		Levene Statistic	df1	df2	SiF.
Redeveloped villages	Zscore_overmeasure_q	6.571	6	311	.000

F.77c ANOVA

Zscore_overmeasure_q

Neighbourhood Type		Sum of Squares	df	Mean Square	F	SiF.
Redeveloped villages	Between Groups	7.408	6	1.235	2.171	.046
	Within Groups	176.851	311	.569		
	Total	184.259	317			

F.77d Effect size = Sum of squares between groups / Total sum of squares = 0.040= 0.04= a small-moderate effect

F.78 One-Way Between-Groups ANOVA with Post-Hoc analyses: Sense of place attachment and housing type in general

F.78a Test of Homogeneity of Variances

	Levene Statistic	df1	df2	SiF.
Zscore_attach	5.338	4	1111	.000

F.78b ANOVA

Zscore_attach

	Sum of Squares	df	Mean Square	F	SiF.
Between Groups	12.532	4	3.133	4.436	.001
Within Groups	784.574	1111	.706		
Total	797.105	1115			

F.78c Multiple Comparisons

Dependent Variable: Zscore_attach

Tukey HSD (I) Accommodation type	(J) Accommodation type	Mean Difference (I-J)	Std. Error	SiF.	95% Confidence Interval Lower Bound	Upper Bound
Houses	Bungalows	.47879	.20077	.120	-.0698	1.0273
	Makeshift shacks on the farm land	.64009	.23537	.052	-.0030	1.2832
	Domotories of factories	.62467	.34464	.367	-.3170	1.5663
	Apartment blocks	-.04199	.05240	.930	-.1852	.1012
Bungalows	Houses	-.47879	.20077	.120	-1.0273	.0698
	Makeshift shacks on the farm land	.16130	.30587	.985	-.6744	.9970
	Domotories of factories	.14588	.39614	.996	-.9365	1.2283
	Apartment blocks	-.52077	.20224	.076	-1.0734	.0318
Makeshift shacks on the farm land	Houses	-.64009	.23537	.052	-1.2832	.0030
	Bungalows	-.16130	.30587	.985	-.9970	.6744
	Domotories of factories	-.01542	.41475	1.000	-1.1486	1.1178
	Apartment blocks	-.68207*	.23663	.033	-1.3286	-.0356
Domotories of factories	Houses	-.62467	.34464	.367	-1.5663	.3170
	Bungalows	-.14588	.39614	.996	-1.2283	.9365
	Makeshift shacks on the farm land	.01542	.41475	1.000	-1.1178	1.1486
	Apartment blocks	-.66666	.34550	.302	-1.6106	.2773
Apartment blocks	Houses	.04199	.05240	.930	-.1012	.1852
	Bungalows	.52077	.20224	.076	-.0318	1.0734
	Makeshift shacks on the farm land	.68207*	.23663	.033	.0356	1.3286
	Domotories of factories	.66666	.34550	.302	-.2773	1.6106

*. The mean difference is significant at the 0.05 level.

Because the assumption of homogeneity of variance is violated, so a significance value of 0.01 is set for evaluating the results from the one-way ANOVA. The statistical validity of the examinations below are problem and they are shown for information only.

F.78d Effect size = Sum of squares between groups / Total sum of squares = 0.016 = 0.02= a small effect

F.79 One-way between-groups ANOVA with Post-Hoc analyses: sense of place attachment and housing type in villages

F.79a Test of Homogeneity of Variances

Neighbourhood Type		Levene Statistic	df1	df2	SiF.
Villages	Zscore_attach	5.173	4	485	.000

F.79b ANOVA

Zscore_attach

Neighbourhood Type		Sum of Squares	df	Mean Square	F	Si
Villages	Between Groups	11.199	4	2.800	3.652	.006
	Within Groups	371.836	485	.767		
	Total	383.035	489			

The assumption of homogeneity of variance is violated because the significance value is less than 0.05.

F.80 Independent-sample T-Test: sense of place attachment and housing type in redeveloped villages

F.80a Group Statistics

Neighbourhood Type		Accommodation type	N	Mean	Std. Deviation	Std. Error Mean
Redeveloped villages	Zscore_attach	Houses	189	.1836	.81416	.05922
		Apartment blocks	131	-.2365	.77897	.06806

F.80b Independent Samples Test

Neighbourhood Type			Levene's Test for F		t-test for Equality of Means						
			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval Lower	Upper
Redeveloped villages	Zscore_attach	Equal variances assumed	.000	.993	4.620	318	.000	.42013	.09094	.24120	.59905
		Equal variances not assumed			4.657	287.442	.000	.42013	.09022	.24256	.59770

F.80c Effect size = $t^2 / t^2 + (N1 + N2 -2)$ = 0.063=0.06= a moderate effect

Appendix G. Findings from walking-along interview

Table G.1 The effect of maintenance on social interaction in general

	Frequency	Valid Percent	Cumulative Percent
Positive effect	32	59.3	59.3
No effect	22	40.7	100.0
Total	54	100.0	

Table G.2 The effect of maintenance on social interaction in the three neighbourhood types

Neigh_type		Frequency	Valid Percent	Cumulative Percent
Villages	Positive effect	12	66.7	66.7
	No effect	6	33.3	100.0
	Total	18	100.0	
Redeveloped villages	Positive effect	10	55.6	55.6
	No effect	8	44.4	100.0
	Total	18	100.0	
Commodity housing	Positive effect	10	55.6	55.6
	No effect	8	44.4	100.0
	Total	18	100.0	

Table G.3 The effect of accessibility on social interaction in general

	Frequency	Valid Percent	Cumulative Percent
Positive effect	32	59.3	59.3
No effect	22	40.7	100.0
Total	54	100.0	

Table G.4 The effect of accessibility on social interaction in the three neighbourhood types

Neigh_type		Frequency	Valid Percent	Cumulative Percent
Villages	Positive effect	11	61.1	61.1
	No effect	7	38.9	100.0
	Total	18	100.0	
Redeveloped villages	Positive effect	11	61.1	61.1
	No effect	7	38.9	100.0
	Total	18	100.0	
Commodity housing	Positive effect	10	55.6	55.6
	No effect	8	44.4	100.0
	Total	18	100.0	

Table G.5 The effect of legibility on social interaction in general

	Frequency	Valid Percent	Cumulative Percent
Positive effect	33	61.1	61.1
No effect	21	38.9	100.0
Total	54	100.0	

Table G.6 The effect of legibility on social interaction in the three neighbourhood types

Neigh_type		Frequency	Valid Percent	Cumulative Percent
Villages	Positive effect	16	88.9	88.9
	No effect	2	11.1	100.0
	Total	18	100.0	
Redeveloped villages	Positive effect	7	38.9	38.9
	No effect	11	61.1	100.0
	Total	18	100.0	
Commodity housing	Positive effect	10	55.6	55.6
	No effect	8	44.4	100.0
	Total	18	100.0	

Table G.7 The effect of neighbourhood boundary on social interaction in general

	Frequency	Valid Percent	Cumulative Percent
Positive effect	15	41.7	41.7
No effect	21	58.3	100.0
Total	36	100.0	
Missing	18		
Total	54		

Table G.8 The effect of neighbourhood boundary on social interaction in the three neighbourhood types

Neigh_type		Frequency	Valid Percent	Cumulative Percent
Villages		18		
Redeveloped villages	Positive effect	10	55.6	55.6
	No effect	8	44.4	100.0
	Total	18	100.0	
Commodity housing	Positive effect	5	27.8	27.8
	No effect	13	72.2	100.0
	Total	18	100.0	

Table G.9 The effect of the quality of neighbourhoods on social interaction in general

	Frequency	Valid Percent	Cumulative Percent
Positive effect	32	59.3	59.3
No effect	22	40.7	100.0
Total	54	100.0	

Table G.10 The effect of the quality of neighbourhoods on social interaction in the three neighbourhood types

Neigh_type		Frequency	Valid Percent	Cumulative Percent
Villages	Positive effect	10	55.6	55.6
	No effect	8	44.4	100.0
	Total	18	100.0	
Redeveloped villages	Positive effect	12	66.7	66.7
	No effect	6	33.3	100.0
	Total	18	100.0	
Commodity housing	Positive effect	10	55.6	55.6
	No effect	8	44.4	100.0
	Total	18	100.0	

Table G.11 The effect of the character of neighbourhoods on social interaction in general

	Frequency	Valid Percent	Cumulative Percent
Positive effect	28	51.9	51.9
No effect	26	48.1	100.0
Total	54	100.0	

Table G.12 The effect of the character of neighbourhoods on social interaction in the three neighbourhood types

Neigh_type		Frequency	Valid Percent	Cumulative Percent
Villages	Positive effect	10	55.6	55.6
	No effect	8	44.4	100.0
	Total	18	100.0	
Redeveloped villages	Positive effect	6	33.3	33.3
	No effect	12	66.7	100.0
	Total	18	100.0	
Commodity housing	Positive effect	12	66.7	66.7
	No effect	6	33.3	100.0
	Total	18	100.0	

Table G.13 The effect of the quality of neighbourhoods on sense of community in general

	Frequency	Valid Percent	Cumulative Percent
Positive effect	33	61.1	61.1
No effect	21	38.9	100.0
Total	54	100.0	

Table G.14 The effect of the quality of neighbourhoods on sense of community in the three neighbourhood types

Neigh_type		Frequency	Valid Percent	Cumulative Percent
Villages	Positive effect	10	55.6	55.6
	No effect	8	44.4	100.0
	Total	18	100.0	
Redeveloped villages	Positive effect	13	72.2	72.2
	No effect	5	27.8	100.0
	Total	18	100.0	
Commodity housing	Positive effect	10	55.6	55.6
	No effect	8	44.4	100.0
	Total	18	100.0	

Table G.15 The effect of accessibility on sense of community in general

	Frequency	Valid Percent	Cumulative Percent
Positive effect	49	90.7	90.7
No effect	5	9.3	100.0
Total	54	100.0	

Table G.16 The effect of accessibility on sense of community in the three neighbourhood types

Neigh_type		Frequency	Valid Percent	Cumulative Percent
Villages	Positive effect	17	94.4	94.4
	No effect	1	5.6	100.0
	Total	18	100.0	
Redeveloped villages	Positive effect	17	94.4	94.4
	No effect	1	5.6	100.0
	Total	18	100.0	
Commodity housing	Positive effect	15	83.3	83.3
	No effect	3	16.7	100.0
	Total	18	100.0	

Table G.17 The effect of attractiveness on sense of community in general

	Frequency	Valid Percent	Cumulative Percent
Positive effect	32	59.3	59.3
No effect	22	40.7	100.0
Total	54	100.0	

Table G.18 The effect of attractiveness on sense of community in the three neighbourhood types

Neigh_type		Frequency	Valid Percent	Cumulative Percent
Villages	Positive effect	11	61.1	61.1
	No effect	7	38.9	100.0
	Total	18	100.0	
Redeveloped villages	Positive effect	10	55.6	55.6
	No effect	8	44.4	100.0
	Total	18	100.0	
Commodity housing	Positive effect	11	61.1	61.1
	No effect	7	38.9	100.0
	Total	18	100.0	

Table G.19 The effect of maintenance on sense of community in general

	Frequency	Valid Percent	Cumulative Percent
Positive effect	32	59.3	59.3
No effect	22	40.7	100.0
Total	54	100.0	

Table G.20 The effect of maintenance on sense of community in the three neighbourhood types

Neigh_type		Frequency	Valid Percent	Cumulative Percent
Villages	Positive effect	10	55.6	55.6
	No effect	8	44.4	100.0
	Total	18	100.0	
Redeveloped villages	Positive effect	12	66.7	66.7
	No effect	6	33.3	100.0
	Total	18	100.0	
Commodity housing	Positive effect	10	55.6	55.6
	No effect	8	44.4	100.0
	Total	18	100.0	

Table G.21 The effect of neighbourhood boundary on sense of community in general

	Frequency	Valid Percent	Cumulative Percent
Positive effect	33	91.7	91.7
No effect	3	8.3	100.0
Total	36	100.0	
Missing	18		
Total	54		

Table G.22 The effect of neighbourhood boundary on sense of community in the three neighbourhood types

Neigh_type		Frequency	Valid Percent	Cumulative Percent
Villages	System	18		
Redeveloped villages	Positive effect	16	88.9	88.9
	No effect	2	11.1	100.0
	Total	18	100.0	
Commodity housing	Positive effect	17	94.4	94.4
	No effect	1	5.6	100.0
	Total	18	100.0	

Table G.23 The effect of the character of neighbourhoods on sense of community in general

	Frequency	Valid Percent	Cumulative Percent
Positive effect	37	68.5	68.5
No effect	17	31.5	100.0
Total	54	100.0	

Table G.24 The effect of the character of neighbourhoods on sense of community in the three neighbourhood types

Neigh_type		Frequency	Valid Percent	Cumulative Percent
Villages	Positive effect	10	55.6	55.6
	No effect	8	44.4	100.0
	Total	18	100.0	
Redeveloped villages	Positive effect	11	61.1	61.1
	No effect	7	38.9	100.0
	Total	18	100.0	
Commodity housing	Positive effect	16	88.9	88.9
	No effect	2	11.1	100.0
	Total	18	100.0	

Table G.25 The effect of accessibility on participation in organized activities in general

	Frequency	Valid Percent	Cumulative Percent
Positive effect	32	59.3	59.3
No effect	22	40.7	100.0
Total	54	100.0	

Table G.26 The effect of accessibility on participation in organized activities in the three neighbourhood types

Neigh_type		Frequency	Valid Percent	Cumulative Percent
Villages	Positive effect	11	61.1	61.1
	No effect	7	38.9	100.0
	Total	18	100.0	
Redeveloped villages	Positive effect	11	61.1	61.1
	No effect	7	38.9	100.0
	Total	18	100.0	
Commodity housing	Positive effect	10	55.6	55.6
	No effect	8	44.4	100.0
	Total	18	100.0	

Table G.27 The effect of maintenance on participation in organized activities in general

	Frequency	Valid Percent	Cumulative Percent
Positive effect	35	64.8	64.8
No effect	19	35.2	100.0
Total	54	100.0	

Table G.28 The effect of maintenance on participation in organized activities in the three neighbourhood types

Neigh_type		Frequency	Valid Percent	Cumulative Percent
Villages	Positive effect	11	61.1	61.1
	No effect	7	38.9	100.0
	Total	18	100.0	
Redeveloped villages	Positive effect	14	77.8	77.8
	No effect	4	22.2	100.0
	Total	18	100.0	
Commodity housing	Positive effect	10	55.6	55.6
	No effect	8	44.4	100.0
	Total	18	100.0	

Table G.29 The effect of legibility on participation in organized activities in general

	Frequency	Valid Percent	Cumulative Percent
Positive effect	30	55.6	55.6
No effect	24	44.4	100.0
Total	54	100.0	

Table G.30 The effect of legibility on participation in organized activities in the three neighbourhood types

Neigh_type		Frequency	Valid Percent	Cumulative Percent
Villages	Positive effect	10	55.6	55.6
	No effect	8	44.4	100.0
	Total	18	100.0	
Redeveloped villages	Positive effect	10	55.6	55.6
	No effect	8	44.4	100.0
	Total	18	100.0	
Commodity housing	Positive effect	10	55.6	55.6
	No effect	8	44.4	100.0
	Total	18	100.0	

Table G.31 The effect of the character of neighbourhoods on participation in organized activities in general

	Frequency	Valid Percent	Cumulative Percent
Positive effect	27	50.0	50.0
No effect	27	50.0	100.0
Total	54	100.0	

Table G.32 The effect of the character of neighbourhoods on participation in organized activities in the three neighbourhood types

Neigh_type		Frequency	Valid Percent	Cumulative Percent
Villages	Positive effect	10	55.6	55.6
	No effect	8	44.4	100.0
	Total	18	100.0	
Redeveloped villages	Positive effect	7	38.9	38.9
	No effect	11	61.1	100.0
	Total	18	100.0	
Commodity housing	Positive effect	10	55.6	55.6
	No effect	8	44.4	100.0
	Total	18	100.0	

Table G.33 The effect of accessibility on trust and reciprocity in general

	Frequency	Valid Percent	Cumulative Percent
Positive effect	30	55.6	55.6
No effect	24	44.4	100.0
Total	54	100.0	

Table G.34 The effect of accessibility on trust and reciprocity in the three neighbourhood types

Neigh_type		Frequency	Valid Percent	Cumulative Percent
Villages	Positive effect	14	77.8	77.8
	No effect	4	22.2	100.0
	Total	18	100.0	
Redeveloped villages	Positive effect	8	44.4	44.4
	No effect	10	55.6	100.0
	Total	18	100.0	
Commodity housing	Positive effect	8	44.4	44.4
	No effect	10	55.6	100.0
	Total	18	100.0	

Table G.35 The effect of legibility on trust and reciprocity in general

	Frequency	Valid Percent	Cumulative Percent
Positive effect	32	59.3	59.3
No effect	22	40.7	100.0
Total	54	100.0	

Table G.36 The effect of legibility on trust and reciprocity in the three neighbourhood types

Neigh_type		Frequency	Valid Percent	Cumulative Percent
Villages	Positive effect	16	88.9	88.9
	No effect	2	11.1	100.0
	Total	18	100.0	
Redeveloped villages	Positive effect	8	44.4	44.4
	No effect	10	55.6	100.0
	Total	18	100.0	
Commodity housing	Positive effect	8	44.4	44.4
	No effect	10	55.6	100.0
	Total	18	100.0	

Table G.37 The effect of accessibility on sense of safety in general

	Frequency	Valid Percent	Cumulative Percent
Positive effect	38	70.4	70.4
No effect	16	29.6	100.0
Total	54	100.0	

Table G.38 The effect of accessibility on sense of safety in the three neighbourhood types

Neigh_type		Frequency	Valid Percent	Cumulative Percent
Villages	Positive effect	14	77.8	77.8
	No effect	4	22.2	100.0
	Total	18	100.0	
Redeveloped villages	Positive effect	13	72.2	72.2
	No effect	5	27.8	100.0
	Total	18	100.0	
Commodity housing	Positive effect	11	61.1	61.1
	No effect	7	38.9	100.0
	Total	18	100.0	

Table G.39 The effect of maintenance on sense of safety in general

	Frequency	Valid Percent	Cumulative Percent
Positive effect	50	92.6	92.6
No effect	4	7.4	100.0
Total	54	100.0	

Table G.40 The effect of maintenance on sense of safety in the three neighbourhood types

Neigh_type		Frequency	Valid Percent	Cumulative Percent
Villages	Positive effect	17	94.4	94.4
	No effect	1	5.6	100.0
	Total	18	100.0	
Redeveloped villages	Positive effect	17	94.4	94.4
	No effect	1	5.6	100.0
	Total	18	100.0	
Commodity housing	Positive effect	16	88.9	88.9
	No effect	2	11.1	100.0
	Total	18	100.0	

Table G.41 The effect of the quality of neighbourhood on sense of safety in general

	Frequency	Valid Percent	Cumulative Percent
Positive effect	38	70.4	70.4
No effect	16	29.6	100.0
Total	54	100.0	

Table G.42 The effect of the quality of neighbourhood on sense of safety in the three neighbourhood types

Neigh_type		Frequency	Valid Percent	Cumulative Percent
Villages	Positive effect	12	66.7	66.7
	No effect	6	33.3	100.0
	Total	18	100.0	
Redeveloped villages	Positive effect	15	83.3	83.3
	No effect	3	16.7	100.0
	Total	18	100.0	
Commodity housing	Positive effect	11	61.1	61.1
	No effect	7	38.9	100.0
	Total	18	100.0	

Table G.43 The effect of attractiveness on sense of safety in general

	Frequency	Valid Percent	Cumulative Percent
Positive effect	31	57.4	57.4
No effect	23	42.6	100.0
Total	54	100.0	

Table G.44 The effect of attractiveness on sense of safety in the three neighbourhood types

Neigh_type		Frequency	Valid Percent	Cumulative Percent
Villages	Positive effect	12	66.7	66.7
	No effect	6	33.3	100.0
	Total	18	100.0	
Redeveloped villages	Positive effect	11	61.1	61.1
	No effect	7	38.9	100.0
	Total	18	100.0	
Commodity housing	Positive effect	8	44.4	44.4
	No effect	10	55.6	100.0
	Total	18	100.0	

Table G.45 The effect of mixed land use on sense of safety in general

	Frequency	Valid Percent	Cumulative Percent
Positive effect	28	51.9	51.9
No effect	26	48.1	100.0
Total	54	100.0	

Table G.46 The effect of mixed land use on sense of safety in the three neighbourhood types

Neigh_type		Frequency	Valid Percent	Cumulative Percent
Villages	Positive effect	10	55.6	55.6
	No effect	8	44.4	100.0
	Total	18	100.0	
Redeveloped villages	Positive effect	9	50.0	50.0
	No effect	9	50.0	100.0
	Total	18	100.0	
Commodity housing	Positive effect	9	50.0	50.0
	No effect	9	50.0	100.0
	Total	18	100.0	

Table G.47 The effect of the quality of neighbourhood on place attachment in general

	Frequency	Valid Percent	Cumulative Percent
Positive effect	37	68.5	68.5
No effect	17	31.5	100.0
Total	54	100.0	

Table G.48 The effect of the quality of neighbourhood on place attachment in the three neighbourhood types

Neigh_type		Frequency	Valid Percent	Cumulative Percent
Villages	Positive effect	12	66.7	66.7
	No effect	6	33.3	100.0
	Total	18	100.0	
Redeveloped villages	Positive effect	13	72.2	72.2
	No effect	5	27.8	100.0
	Total	18	100.0	
Commodity housing	Positive effect	12	66.7	66.7
	No effect	6	33.3	100.0
	Total	18	100.0	

Table G.49 The effect of maintenance on place attachment in general

	Frequency	Valid Percent	Cumulative Percent
Positive effect	38	70.4	70.4
No effect	16	29.6	100.0
Total	54	100.0	

Table G.50 The effect of maintenance on place attachment in the three neighbourhood types

Neigh_type		Frequency	Valid Percent	Cumulative Percent
Villages	Positive effect	14	77.8	77.8
	No effect	4	22.2	100.0
	Total	18	100.0	
Redeveloped villages	Positive effect	12	66.7	66.7
	No effect	6	33.3	100.0
	Total	18	100.0	
Commodity housing	Positive effect	12	66.7	66.7
	No effect	6	33.3	100.0
	Total	18	100.0	

Table G.51 The effect of attractiveness on place attachment in general

	Frequency	Valid Percent	Cumulative Percent
Positive effect	33	61.1	61.1
No effect	21	38.9	100.0
Total	54	100.0	

Table G.52 The effect of attractiveness on place attachment in the three neighbourhood types

Neigh_type		Frequency	Valid Percent	Cumulative Percent
Villages	Positive effect	10	55.6	55.6
	No effect	8	44.4	100.0
	Total	18	100.0	
Redeveloped villages	Positive effect	10	55.6	55.6
	No effect	8	44.4	100.0
	Total	18	100.0	
Commodity housing	Positive effect	13	72.2	72.2
	No effect	5	27.8	100.0
	Total	18	100.0	

Table G.53 The effect of accessibility on place attachment in general

	Frequency	Valid Percent	Cumulative Percent
Positive effect	40	74.1	74.1
No effect	14	25.9	100.0
Total	54	100.0	

Table G.54 The effect of accessibility on place attachment in the three neighbourhood types

Neigh_type		Frequency	Valid Percent	Cumulative Percent
Villages	Positive effect	14	77.8	77.8
	No effect	4	22.2	100.0
	Total	18	100.0	
Redeveloped villages	Positive effect	14	77.8	77.8
	No effect	4	22.2	100.0
	Total	18	100.0	
Commodity housing	Positive effect	12	66.7	66.7
	No effect	6	33.3	100.0
	Total	18	100.0	

Table G.55 The effect of the character of neighbourhood on place attachment in general

	Frequency	Valid Percent	Cumulative Percent
Positive effect	33	61.1	61.1
No effect	21	38.9	100.0
Total	54	100.0	

Table G.56 The effect of the character of neighbourhood on place attachment in the three neighbourhood types

Neigh_type		Frequency	Valid Percent	Cumulative Percent
Villages	Positive effect	10	55.6	55.6
	No effect	8	44.4	100.0
	Total	18	100.0	
Redeveloped villages	Positive effect	10	55.6	55.6
	No effect	8	44.4	100.0
	Total	18	100.0	
Commodity housing	Positive effect	13	72.2	72.2
	No effect	5	27.8	100.0
	Total	18	100.0	

Table G.57 The effect of maintenance on social interaction for locals and migrants in the three neighbourhood types

Neigh_type	Local_Migrant		Frequency	Valid Percent	Cumulative Percent
Villages	Locals	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
	Migrants	Positive effect	7	77.8	77.8
		No effect	2	22.2	100.0
		Total	9	100.0	
Redeveloped villages	Locals	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
	Migrants	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
Commodity housing	Locals	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
	Migrants	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	

Table G.58 The effect of maintenance on sense of community for locals and migrants in the three neighbourhood types

Neigh_type	Local_Migrant		Frequency	Valid Percent	Cumulative Percent
Villages	Locals	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
	Migrants	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
Redeveloped villages	Locals	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
	Migrants	Positive effect	7	77.8	77.8
		No effect	2	22.2	100.0
		Total	9	100.0	
Commodity housing	Locals	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
	Migrants	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	

Table G.59 The effect of maintenance on participation in organized activities for locals and migrants in the three neighbourhood types

Neigh_type	Local_Migrant		Frequency	Valid Percent	Cumulative Percent
Villages	Locals	Positive effect	6	66.7	66.7
		No effect	3	33.3	100.0
		Total	9	100.0	
	Migrants	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
Redeveloped villages	Locals	Positive effect	9	100.0	100.0
	Migrants	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
Commodity housing	Locals	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
	Migrants	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	

Table G.60 The effect of maintenance on safety for locals and migrants in the three neighbourhood types

Neigh_type	Local_Migrant		Frequency	Valid Percent	Cumulative Percent
Villages	Locals	Positive effect	8	88.9	88.9
		No effect	1	11.1	100.0
		Total	9	100.0	
	Migrants	Positive effect	9	100.0	100.0
Redeveloped villages	Locals	Positive effect	9	100.0	100.0
	Migrants	Positive effect	8	88.9	88.9
		No effect	1	11.1	100.0
		Total	9	100.0	
Commodity housing	Locals	Positive effect	8	88.9	88.9
		No effect	1	11.1	100.0
		Total	9	100.0	
	Migrants	Positive effect	8	88.9	88.9
		No effect	1	11.1	100.0
		Total	9	100.0	

Table G.61 The effect of maintenance on place attachment for locals and migrants in the three neighbourhood types

Neigh_type	Local_Migrant		Frequency	Valid Percent	Cumulative Percent
Villages	Locals	Positive effect	6	66.7	66.7
		No effect	3	33.3	100.0
		Total	9	100.0	
	Migrants	Positive effect	8	88.9	88.9
		No effect	1	11.1	100.0
		Total	9	100.0	
Redeveloped villages	Locals	Positive effect	6	66.7	66.7
		No effect	3	33.3	100.0
		Total	9	100.0	
	Migrants	Positive effect	6	66.7	66.7
		No effect	3	33.3	100.0
		Total	9	100.0	
Commodity housing	Locals	Positive effect	6	66.7	66.7
		No effect	3	33.3	100.0
		Total	9	100.0	
	Migrants	Positive effect	6	66.7	66.7
		No effect	3	33.3	100.0
		Total	9	100.0	

Table G.62 The effect of accessibility on social interaction for locals and migrants in the three neighbourhood types

Neigh_type	Local_Migrant		Frequency	Valid Percent	Cumulative Percent
Villages	Locals	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
	Migrants	Positive effect	6	66.7	66.7
		No effect	3	33.3	100.0
		Total	9	100.0	
Redeveloped villages	Locals	Positive effect	6	66.7	66.7
		No effect	3	33.3	100.0
		Total	9	100.0	
	Migrants	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
Commodity housing	Locals	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
	Migrants	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	

Table G.63 The effect of accessibility on sense of community for locals and migrants in the three neighbourhood types

Neigh_type	Local_Migrant		Frequency	Valid Percent	Cumulative Percent
Villages	Locals	Positive effect	8	88.9	88.9
		No effect	1	11.1	100.0
		Total	9	100.0	
	Migrants	Positive effect	9	100.0	100.0
Redeveloped villages	Locals	Positive effect	8	88.9	88.9
		No effect	1	11.1	100.0
		Total	9	100.0	
	Migrants	Positive effect	9	100.0	100.0
Commodity housing	Locals	Positive effect	9	100.0	100.0
	Migrants	Positive effect	6	66.7	66.7
		No effect	3	33.3	100.0
		Total	9	100.0	

Table G.64 The effect of accessibility on participation in activities for locals and migrants in the three neighbourhood types

Neigh_type	Local_Migrant		Frequency	Valid Percent	Cumulative Percent
Villages	Locals	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
	Migrants	Positive effect	6	66.7	66.7
		No effect	3	33.3	100.0
		Total	9	100.0	
Redeveloped villages	Locals	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
	Migrants	Positive effect	6	66.7	66.7
		No effect	3	33.3	100.0
		Total	9	100.0	
Commodity housing	Locals	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
	Migrants	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	

Table G.65 The effect of accessibility on trust and reciprocity for locals and migrants in the three neighbourhood types

Neigh_type	Local_Migrant		Frequency	Valid Percent	Cumulative Percent
Villages	Locals	Positive effect	6	66.7	66.7
		No effect	3	33.3	100.0
		Total	9	100.0	
	Migrants	Positive effect	8	88.9	88.9
		No effect	1	11.1	100.0
		Total	9	100.0	
Redeveloped villages	Locals	Positive effect	4	44.4	44.4
		No effect	5	55.6	100.0
		Total	9	100.0	
	Migrants	Positive effect	4	44.4	44.4
		No effect	5	55.6	100.0
		Total	9	100.0	
Commodity housing	Locals	Positive effect	4	44.4	44.4
		No effect	5	55.6	100.0
		Total	9	100.0	
	Migrants	Positive effect	4	44.4	44.4
		No effect	5	55.6	100.0
		Total	9	100.0	

Table G.66 The effect of accessibility on sense of safety for locals and migrants in the three neighbourhood types

Neigh_type	Local_Migrant		Frequency	Valid Percent	Cumulative Percent
Villages	Locals	Positive effect	7	77.8	77.8
		No effect	2	22.2	100.0
		Total	9	100.0	
	Migrants	Positive effect	7	77.8	77.8
		No effect	2	22.2	100.0
		Total	9	100.0	
Redeveloped villages	Locals	Positive effect	7	77.8	77.8
		No effect	2	22.2	100.0
		Total	9	100.0	
	Migrants	Positive effect	6	66.7	66.7
		No effect	3	33.3	100.0
		Total	9	100.0	
Commodity housing	Locals	Positive effect	6	66.7	66.7
		No effect	3	33.3	100.0
		Total	9	100.0	
	Migrants	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	

Table G.67 The effect of accessibility on place attachment for locals and migrants in the three neighbourhood types

Neigh_type	Local_Migrant		Frequency	Valid Percent	Cumulative Percent
Villages	Locals	Positive effect	6	66.7	66.7
		No effect	3	33.3	100.0
		Total	9	100.0	
	Migrants	Positive effect	8	88.9	88.9
		No effect	1	11.1	100.0
		Total	9	100.0	
Redeveloped villages	Locals	Positive effect	8	88.9	88.9
		No effect	1	11.1	100.0
		Total	9	100.0	
	Migrants	Positive effect	6	66.7	66.7
		No effect	3	33.3	100.0
		Total	9	100.0	
Commodity housing	Locals	Positive effect	6	66.7	66.7
		No effect	3	33.3	100.0
		Total	9	100.0	
	Migrants	Positive effect	6	66.7	66.7
		No effect	3	33.3	100.0
		Total	9	100.0	

Table G.68 The effect of the quality of neighbourhood on social interaction for locals and migrants in the three neighbourhood types

Neigh_type	Local_Migrant		Frequency	Valid Percent	Cumulative Percent
Villages	Locals	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
	Migrants	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
Redeveloped villages	Locals	Positive effect	7	77.8	77.8
		No effect	2	22.2	100.0
		Total	9	100.0	
	Migrants	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
Commodity housing	Locals	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
	Migrants	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	

Table G.69 The effect of the quality of neighbourhood on sense of community for locals and migrants in the three neighbourhood types

Neigh_type	Local_Migrant		Frequency	Valid Percent	Cumulative Percent
Villages	Locals	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
	Migrants	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
Redeveloped villages	Locals	Positive effect	7	77.8	77.8
		No effect	2	22.2	100.0
		Total	9	100.0	
	Migrants	Positive effect	6	66.7	66.7
		No effect	3	33.3	100.0
		Total	9	100.0	
Commodity housing	Locals	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
	Migrants	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	

Table G.70 The effect of the quality of neighbourhood on sense of safety for locals and migrants in the three neighbourhood types

Neigh_type	Local_Migrant		Frequency	Valid Percent	Cumulative Percent
Villages	Locals	Positive effect	6	66.7	66.7
		No effect	3	33.3	100.0
		Total	9	100.0	
	Migrants	Positive effect	6	66.7	66.7
		No effect	3	33.3	100.0
		Total	9	100.0	
Redeveloped villages	Locals	Positive effect	8	88.9	88.9
		No effect	1	11.1	100.0
		Total	9	100.0	
	Migrants	Positive effect	7	77.8	77.8
		No effect	2	22.2	100.0
		Total	9	100.0	
Commodity housing	Locals	Positive effect	6	66.7	66.7
		No effect	3	33.3	100.0
		Total	9	100.0	
	Migrants	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	

Table G.71 The effect of the character of neighbourhood on social interaction for locals and migrants in the three neighbourhood types

Neigh_type	Local_Migrant		Frequency	Valid Percent	Cumulative Percent
Villages	Locals	Positive effect	6	66.7	66.7
		No effect	3	33.3	100.0
		Total	9	100.0	
	Migrants	Positive effect	4	44.4	44.4
		No effect	5	55.6	100.0
		Total	9	100.0	
Redeveloped villages	Locals	Positive effect	3	33.3	33.3
		No effect	6	66.7	100.0
		Total	9	100.0	
	Migrants	Positive effect	3	33.3	33.3
		No effect	6	66.7	100.0
		Total	9	100.0	
Commodity housing	Locals	Positive effect	6	33.3	33.3
		No effect	3	66.7	100.0
		Total	9	100.0	
	Migrants	Positive effect	6	33.3	33.3
		No effect	3	66.7	100.0
		Total	9	100.0	

Table G.72 The effect of the character of neighbourhood on sense of community for locals and migrants in the three neighbourhood types

Neigh_type	Local_Migrant		Frequency	Valid Percent	Cumulative Percent
Villages	Locals	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
	Migrants	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
Redeveloped villages	Locals	Positive effect	6	66.7	66.7
		No effect	3	33.3	100.0
		Total	9	100.0	
	Migrants	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
Commodity housing	Locals	Positive effect	9	100.0	100.0
	Migrants	Positive effect	7	77.8	77.8
		No effect	2	22.2	100.0
		Total	9	100.0	

Table G.73 The effect of the character of neighbourhood on participation in organized activities for locals and migrants in the three neighbourhood types

Neigh_type	Local_Migrant		Frequency	Valid Percent	Cumulative Percent
Villages	Locals	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
	Migrants	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
Redeveloped villages	Locals	Positive effect	2	22.2	22.2
		No effect	7	77.8	100.0
		Total	9	100.0	
	Migrants	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
Commodity housing	Locals	Positive effect	4	44.4	44.4
		No effect	5	55.6	100.0
		Total	9	100.0	
	Migrants	Positive effect	6	66.7	66.7
		No effect	3	33.3	100.0
		Total	9	100.0	

Table G.74 The effect of the character of neighbourhood on place attachment for locals and migrants in the three neighbourhood types

Neigh_type	Local_Migrant		Frequency	Valid Percent	Cumulative Percent
Villages	Locals	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
	Migrants	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
Redeveloped villages	Locals	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
	Migrants	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
Commodity housing	Locals	Positive effect	6	66.7	66.7
		No effect	3	33.3	100.0
		Total	9	100.0	
	Migrants	Positive effect	7	77.8	77.8
		No effect	2	22.2	100.0
		Total	9	100.0	

Table G.75 The effect of attractiveness on sense of community for locals and migrants in the three neighbourhood types

Neigh_type	Local_Migrant		Frequency	Valid Percent	Cumulative Percent
Villages	Locals	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
	Migrants	Positive effect	6	66.7	66.7
		No effect	3	33.3	100.0
		Total	9	100.0	
Redeveloped villages	Locals	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
	Migrants	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
Commodity housing	Locals	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
	Migrants	Positive effect	6	66.7	66.7
		No effect	3	33.3	100.0
		Total	9	100.0	

Table G.76 The effect of attractiveness on sense of safety for locals and migrants in the three neighbourhood types

Neigh_type	Local_Migrant		Frequency	Valid Percent	Cumulative Percent
Villages	Locals	Positive effect	6	66.7	66.7
		No effect	3	33.3	100.0
		Total	9	100.0	
	Migrants	Positive effect	6	66.7	66.7
		No effect	3	33.3	100.0
		Total	9	100.0	
Redeveloped villages	Locals	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
	Migrants	Positive effect	6	66.7	66.7
		No effect	3	33.3	100.0
		Total	9	100.0	
Commodity housing	Locals	Positive effect	4	44.4	44.4
		No effect	5	55.6	100.0
		Total	9	100.0	
	Migrants	Positive effect	4	44.4	44.4
		No effect	5	55.6	100.0
		Total	9	100.0	

Table G.77 The effect of attractiveness on place attachment for locals and migrants in the three neighbourhood types

Neigh_type	Local_Migrant		Frequency	Valid Percent	Cumulative Percent
Villages	Locals	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
	Migrants	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
Redeveloped villages	Locals	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
	Migrants	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
Commodity housing	Locals	Positive effect	7	77.8	77.8
		No effect	2	22.2	100.0
		Total	9	100.0	
	Migrants	Positive effect	6	66.7	66.7
		No effect	3	33.3	100.0
		Total	9	100.0	

Table G.78 The effect of legibility on social interaction for locals and migrants in the three neighbourhood types

Neigh_type	Local_Migrant		Frequency	Valid Percent	Cumulative Percent
Villages	Locals	Positive effect	8	88.9	88.9
		No effect	1	11.1	100.0
		Total	9	100.0	
	Migrants	Positive effect	8	88.9	88.9
		No effect	1	11.1	100.0
		Total	9	100.0	
Redeveloped villages	Locals	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
	Migrants	Positive effect	3	33.3	33.3
		No effect	6	66.7	100.0
		Total	9	100.0	
Commodity housing	Locals	Positive effect	3	33.3	33.3
		No effect	6	66.7	100.0
		Total	9	100.0	
	Migrants	Positive effect	7	77.8	77.8
		No effect	2	22.2	100.0
		Total	9	100.0	

Table G.79 The effect of legibility on participation in organised activities for locals and migrants in the three neighbourhood types

Neigh_type	Local_Migrant		Frequency	Valid Percent	Cumulative Percent
Villages	Locals	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
	Migrants	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
Redeveloped villages	Locals	Positive effect	6	66.7	66.7
		No effect	3	33.3	100.0
		Total	9	100.0	
	Migrants	Positive effect	4	44.4	44.4
		No effect	5	55.6	100.0
		Total	9	100.0	
Commodity housing	Locals	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	
	Migrants	Positive effect	5	55.6	55.6
		No effect	4	44.4	100.0
		Total	9	100.0	

Table G.80 The effect of legibility on trust and reciprocity for locals and migrants in the three neighbourhood types

Neigh_type	Local_Migrant		Frequency	Valid Percent	Cumulative Percent
Villages	Locals	Positive effect	8	88.9	88.9
		No effect	1	11.1	100.0
		Total	9	100.0	
	Migrants	Positive effect	8	88.9	88.9
		No effect	1	11.1	100.0
		Total	9	100.0	
Redeveloped villages	Locals	Positive effect	4	44.4	44.4
		No effect	5	55.6	100.0
		Total	9	100.0	
	Migrants	Positive effect	4	44.4	44.4
		No effect	5	55.6	100.0
		Total	9	100.0	
Commodity housing	Locals	Positive effect	4	44.4	44.4
		No effect	5	55.6	100.0
		Total	9	100.0	
	Migrants	Positive effect	4	44.4	44.4
		No effect	5	55.6	100.0
		Total	9	100.0	