Ageing in another country: the impact of family and neighbourhood environment on the wellbeing of older Chinese immigrants

Siyao Gao

B.Sc., M.Sc.

School of Engineering and Built Environment
Griffith University

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Statement of Originality

This work has not previously been submitted for a degree or diploma in any university. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the thesis itself.

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Abstract
The older Chinese immigrant group is one of the largest non-English-speaking ageing groups in Australia. A large volume of research has examined the health status and the social environment of older Chinese immigrants, yet less scholarly effort has been devoted to the impacts of the neighbourhood environment on the wellbeing of older Chinese immigrants, making it difficult for urban planners and policy makers to provide appropriate neighbourhood environments for this cohort.

This thesis aims to explore this issue by focusing on the two following research questions: first, to understand older Chinese immigrants’ experiences and perceptions of the neighbourhood environment in Australia; and second, to understand the effects of the neighbourhood environment (i.e. family relationships, accessibility to essential facilities, public transportation and walking environments) on the wellbeing of older Chinese immigrants.

Through a case study on the Gold Coast (Queensland, Australia), this thesis applies both qualitative and quantitative research methodologies. The use of travel diaries and mapping exercises were employed to acquire primary data. Semi-structured interviews were also undertaken to explore older Chinese immigrants’ perceptions of their neighbourhood environment and wellbeing. Thirty older Chinese immigrants participated in this research.

Three main findings emerged from this research. First, the study demonstrates that the main reason for older Chinese immigrants moving to the Gold Coast is to reunite with their adult children which is guided by the complex feelings of family commitment, personal values and the need of elder care. Although older Chinese immigrants have met their values of caring for their family members, excessive housework might negatively influence their wellbeing. The key components of older Chinese immigrants’ wellbeing include family relationships, independent lives and social networks. The second main finding is related to the effects of the neighbourhood environment on wellbeing. The thesis research finds that low accessibility to essential facilities, difficulties in taking public transportation and unfamiliar environments negatively influence older Chinese immigrants’ ability to conduct daily activities and this undermines their wellbeing. The majority of participants have a limited range of activities because they can only walk to their destinations. Language barriers and unfamiliar environments impede participants taking public transport. Interaction with the neighbourhood environment is mediated by older Chinese immigrants’ lifestyles and previous experiences. Chinese community centres and Chinese grocery stores are particularly important for older
Chinese immigrants. The third finding of this thesis focuses on green spaces. Older Chinese immigrants have easy access to green spaces near their homes while a majority of them have difficulties in accessing city parks to conduct preferred activities. Walking and social activities are the most popular activities in green spaces. Values of keeping healthy, maintaining active lifestyles and being social encourage older Chinese immigrants to visit green spaces.

This thesis not only enriches the literature about older Chinese immigrants, neighbourhood environments and wellbeing studies but also has significant implications for urban planners and policy makers to enhance the wellbeing of older Chinese immigrants. The research findings highlight the need for including older immigrants’ perceptions during the process of planning an inclusive neighbourhood environment.
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Chapter 1: Introduction

This introduction chapter firstly outlines the research background and the significance of the research. The second section the review of main concepts. This is followed by introducing the research aims and questions. Finally, this chapter introduces the structure and content of this thesis.

1.1 Research Background and Rationale

The number of worldwide immigrants has been growing rapidly in recent years (United Nations, 2017). The Chinese population, in particular, is a key component and provides the fourth-largest immigration group worldwide (United Nations, 2017). According to the statistical results from the International Organisation for Migration (2018), the largest proportion (74%) of immigrants are working age. However, due to population ageing and older immigrants reuniting with their adult children, older immigrants are a fast-growing, rapidly ageing minority group (Luo & Menec, 2018; King et al., 2014). Australia is a developed country with the largest proportion of Chinese immigrants (United Nations, 2017). Chinese people represent the third-largest immigrant group and the largest non-English-speaking minority group in Australia accounting for 2.7% of the total population and 1.6% of the total ageing population in 2016 (Australia Bureau of Statistics, 2016; Australian Institute of Health and Welfare, 2018).

Chinese immigrants have garnered the interest of many researchers. For example, the existing literature investigates the determinants that influence the quality of life of older Chinese immigrants, including language proficiency, length of living in foreign countries, economic dependency, living arrangement and support networks (Da & Garcia, 2015; Dong et al., 2015; Guo et al., 2020). Ip et al. (2007) examined the social wellbeing of older Chinese immigrants and demonstrated that the majority of older Chinese immigrants have language problems which negatively influences their mobility and leads to social isolation. The health and wellbeing of older Chinese immigrants are important topics and most studies investigated older Chinese immigrants’ health status (Corlin et al., 2014; Dong et al., 2012a; Mao et al., 2015), difficulties in using health services (Guruge et al., 2015; Ip et al., 2007; Lai & Chau, 2007; Yap et al., 2018), health beliefs (Jette & Vertinsky, 2012; Lai & Surood, 2009; Tieu & Konnert, 2014), health screening
(Simon et al., 2017) and physical activities (Kwon et al., 2015; Liu et al., 2015). Family relationships are also an important topic in the research about older Chinese immigrants. For instance, Guo et al. (2016) and Lin et al. (2015, 2017) investigated family relationships while others investigated older Chinese immigrants’ authority in families (Wong et al., 2006), conflicts and mutual support (Dong et al., 2012b; Lin et al., 2016) and family care for older Chinese immigrants (Lo & Russell, 2007). Recent literature has examined the social environment for older Chinese immigrants including social networks, social support, sense of home, sense of community and ethnic identities (Lai, 2012; Li, 2012; Li et al., 2014; Liu et al., 2019, 2020; Tang et al., 2018).

Overall, previous studies mostly focus on older Chinese immigrants’ health and social relationships and find that the wellbeing of older immigrants is particularly vulnerable (Diener, 2009; Nordbakke & Schwanen, 2014). However, few studies investigate the overall wellbeing of older Chinese immigrants based on environmental perspectives.

The neighbourhood environment is specifically important because older people normally experience mobility limitation and disability (Hillcoat-Nalletamby & Ogg, 2014; Wiles et al., 2012; Ziegler & Schwanen, 2011). The conduction of activities depends on capabilities which are shaped by the environment (Gatrell, 2013). Hence, older people heavily rely on the facilities and the environment in their neighbourhoods (Chaudhury et al., 2016; Moran et al., 2014; Zhao & Chung, 2017). A key responsibility to policy makers and urban planners is to construct a neighbourhood environment that supports the wellbeing of older people (Fleuret & Atkinson, 2007; Kent & Thompson, 2014). ‘Ageing-in-place’ is regarded as the most effective strategy for addressing the problem caused by an ageing population (Lui et al., 2009; Olsberg & Winters 2005). This policy is defined as enabling older people to live in the neighbourhood with some level of independence and social connection with friends and family (Wiles et al., 2012) which is also favoured by many older people themselves.

The importance of the neighbourhood environment in maintaining older people’s wellbeing has been widely investigated in previous research (Burton et al., 2011; Chaudhury et al., 2016; Engel et al., 2016; Feng et al., 2018; Liu et al., 2017a; Smith et al., 2013; Spring, 2017; Sugiyama & Thompson, 2007; Vine et al., 2012; Yen et al., 2009). The neighbourhood environment could enhance or undermine the independence, mobility and autonomy of older people (Schwanen & Ziegler, 2011). Previous studies (King et al.,
2011; Sugiyama & Thompson, 2007; Yen & Anderson, 2012) argue that the neighbourhood environment contributes to the wellbeing of older people by providing more opportunities to conduct healthier behaviours such as physical activities, social activities and having a healthy diet. However, limited research explores the effects of the neighbourhood environment on older immigrants’ wellbeing (Bird et al., 2009; Cerin et al., 2019; Keating et al., 2013; Lewin, 2001; Neville et al., 2018).

The increasing number of older immigrants has implications for public policy and urban planning in Australia (Chhetri et al., 2020). It may raise essential questions for urban planners and policy makers to consider their roles in maintaining the wellbeing of older immigrants. Older people are less resilient and less likely to adapt to changes in their neighbourhood environment compared with younger cohorts (Kim & Han 2014; Li et al., 2018). When older Chinese immigrants move to Australia, the neighbourhood environment is totally different to China. This group of people, in leaving their familiar neighbourhood environment, lose the connection with their hometown geographically and interpersonally. At the same time, they need to adapt to the new neighbourhood environment and build new connections with the new place of residence in the host country (Jetten et al., 2018; Liu et al., 2017b). Although previous studies find that older Chinese immigrants are socially isolated (Ip et al., 2007), they attempt to participate in society (Li & Chong, 2012; Johansson et al., 2013). It can be inferred that a key method to maintain older Chinese immigrants’ wellbeing is to provide supportive facilities and services to help them adapt to the environment. Therefore, it is important to deepen the understanding of the relationships between the neighbourhood environment and the wellbeing of older Chinese immigrants.

This research cannot neglect family relationships because in Chinese culture, unique characteristics in the parent-child relationships significantly influence the lived experiences of older Chinese immigrants (Kim & Silverstein, 2020; Lin et al., 2017). The Confucian concept of filial piety defines the family relationships which prescribes children’s responsibilities of attending to parental needs and caring for their aged parents (Mao et al., 2018). Filial piety involves adult children providing material and emotional support for older Chinese immigrants (Guo et al., 2018) which is closely associated with psychological wellbeing and the use of healthcare services (Dong et al. 2012b). Thus, family relationships are important in investigating the wellbeing of older Chinese immigrants.
Within this study, the relationships between neighbourhood environments and wellbeing are based in the context of immigrants. Understanding the research questions cannot be achieved without referring to some key cultural elements. The understanding of the relationship between neighbourhood environments and wellbeing is formed in a particular multicultural context. Older Chinese immigrants bring their values, traditions, languages and habits when they move to a different country and culture (Dane et al., 2020; Vertovec, 2015). Older Chinese immigrants’ experiences of interacting with the neighbourhood environment, such as physical and social activities and their perceptions of the neighbourhood environment are determined by their cultural background, lifestyle, mother tongue and socio-economic profile. The common characteristic between two different cultures is the value (Schwartz, 2012). An individual’s perceptions, activities and wellbeing are influenced by their values (Raibley, 2010; Schwartz & Sortheix, 2018). However, few studies focus on value theory to examine the effects of the neighbourhood environment. This research employs value theory to understand the link between neighbourhood environments and wellbeing.

The next section defines the main concepts and the links between these concepts which guide the research.

1.2 Review of Main Concepts

1.2.1 Older Chinese Immigrants

The term ‘immigration’ refers to transnational movement with the intent of becoming a permanent resident of the destination country while migration refers to temporary movement (Horevitz, 2009). Generally, older Chinese immigrants can be divided into two groups: those who immigrate at a younger age and grow old in Australia and those who make the journey in later life to join their adult children’s families (Liu et al., 2019). The latter older group are the focus of this study. This group of people normally come through Parent Visas (Caidi et al., 2020) and prepare to live close to or with their adult children in Australia for as long as possible.

More specifically, this research focuses on older Chinese immigrants who are 55 years old and over and have immigrated from mainland China. The age focus is based on China’s statutory retirement policy (i.e. State Council Temporary Measures on Workers'
Retirement, Resignation) in which men retire at 60 years of age regardless of occupation and women retire at 55 if they are public servants or 50 if they are blue-collar workers (State Council, 1978). In this study, the occupation of the participants prior to their immigration was not considered as it was deemed not relevant to the core concern of this research. This is a limitation of this thesis. It would be helpful if future studies worked to better understand participants’ living experiences after immigration. Older Chinese immigrants from mainland China account for the majority proportion of older Chinese immigrants and make up the fastest growing group among other older Chinese groups (Australian Bureau of Statistics, 2016). As a result, this research focuses on older Chinese immigrants from mainland China because they are more representative in the older Chinese group.

1.2.2 Wellbeing

Wellbeing is the main focus of this research and an indicator of the overall quality of life and the effects of the neighbourhood environment on the older people (Ziegler & Schwanen, 2011; Stiglitz et al., 2009). Maintaining the health and wellbeing of older people are important topics in both political and academic fields (Barton & Grant, 2013; Kearns & Andrews, 2005; Nordbakke & Schwanen, 2014; Sfeatcu et al., 2014; Wiles et al., 2012). Based on the complex nature of older people’s everyday experiences, various disciplines such as psychology, medical science, gerontology, sociology and geography all contribute to the knowledge of older people’s wellbeing from different perspectives (Cheng & Chan, 2006; Fleuret & Atkinson, 2007; Wang & Wang, 2016; Ziegler & Schwanen, 2011). Wellbeing is understood as ‘a holistic conception of positive human function’ (Conradson, 2012, p. 16). The concept refers to not only positive health but also emotional and social dimensions. This research takes wellbeing as the major perspective to examine the effects of the neighbourhood environment on older Chinese immigrants.

The understanding of wellbeing is normally divided into objective or subjective perspectives. The objective perspective focuses on individuals’ objective living conditions, such as the neighbourhood type and housing circumstances (Sugiyama & Thompson, 2007) which are measured according to certain criteria (Wang & Wang, 2016). The subjective perspectives of wellbeing are individuals’ perceptions of how they live
(Diener et al., 2009). As Diener (2009) argues, objective and subjective phenomena complement each other to contribute to the deep understanding of wellbeing.

This research focuses on the subjective aspect of wellbeing. Subjective wellbeing and psychological wellbeing are two main concepts investigated by previous studies (Morrison, 2007). Subjective wellbeing consists of cognitive (e.g. life satisfaction) and affective (e.g. positive and negative affect) components (Diener et al., 2009). Psychological wellbeing indicates self-fulfilment and optimal development (Ryff, 2014). These two understandings of wellbeing are also partly overlapped (Ziegler & Schwanen, 2011). Another strand of research combines subjective wellbeing and psychological wellbeing and focuses on the holistic characters of wellbeing which is grounded in an individual’s everyday experiences and the state of attainment goals (Bowling, 2005).

Previous research mostly explores the abstract nature of wellbeing by splitting the concept into constitutive dimensions (Atkinson et al., 2012). This conceptualisation of wellbeing normally includes physical, psychological and social aspects (Schwanen & Ziegler, 2011). As Ryan and Deci (2001, p.161) argue, wellbeing is promoted by ‘strong attachment relationships, age-appropriate cognitive, interpersonal relationships, coping skills and supportive environments’. Based on the characteristics of wellbeing, previous research (Dyck & Dossa, 2007; Wood & Martin, 2020) investigates the experiences of wellbeing for migrants. The results can be applied to understand immigrants’ wellbeing, as immigrants, similar to migrants, retain their unique lived experiences and cultures in the new environment. The research notes that the wellbeing of immigrants is a layered process which is influenced by their culture and values. Therefore, the understanding of immigrants’ culture and values is important when exploring wellbeing.

Furthermore, the life of older Chinese immigrants is evaluated by using wellbeing which may be better than other criteria such as life satisfaction and health. For example, life satisfaction normally reflects living conditions and people’s perceptions of their lives; this indicates the cognitive components of wellbeing (Veenhoven, 2002). However, in this research, wellbeing is not only related to life satisfaction but also refers to an individual’s coping skills, choices, as well as the context within which individuals maintain everyday lives (Nordbakke, 2013). Health is also a significant concept that has been widely investigated in previous studies. However, this concept mainly focuses on physical and mental health which can be seen as one dimension of wellbeing (Riva & Curtis, 2012). Other aspects of wellbeing such as independence and social networks
cannot be depicted only by health (Ziegler & Schwanen, 2011). Wellbeing can be used to further understand the functions of the neighbourhood environment (Conradson, 2012) that are important in determining older Chinese immigrants’ lived experiences.

Overall, according to previous studies (Gilroy, 2008; Nordbakke & Schwanen, 2014; Ryan & Deci, 2001; Ziegler & Schwanen, 2011), the concept of wellbeing examined in this thesis primarily means having the ability to meet older Chinese immigrants’ needs in daily life. The determinants that influence the wellbeing of older Chinese immigrants include: maintaining good physical and mental health, a strong social network, intimate relationships with adult children, the capacity to access destinations and the opportunity to conduct their preferred physical and social activities (e.g. tai chi, square dancing and chatting with other Chinese friends).

1.2.3 Neighbourhood Environment

This research examines the neighbourhood environment which mainly refers to both physical spaces and social spheres. The notion of neighbourhood is an important concept in urban planning. Although numerous studies have attempted to define ‘neighbourhood’ (Alidoust et al., 2017; Buffel et al., 2012; Flowerdew et al., 2008; Galster, 2001; McNeill et al., 2006; Young et al., 2004), no consensus definition exists. For example, the Dictionary of Human Geography defines the neighbourhood as a residential area which is linked by social relations between residents of a local area and is related to concepts of communities (Castree et al., 2013). Östh et al. (2014) argue that the neighbourhood consists of the nearest 500 residents while Ball (2012) notes that the neighbourhood is an area within about a ten-minute walk around one’s home. Some scholars suggest that the definition of neighbourhood depends on the objective of the study. For instance, administrative areas such as census tracts and postal code areas are employed by governments to collect statistics and economic data (van Ham et al., 2013). However, these physical definitions cannot accurately represent the neighbourhood environment that influences the physical and social activities of residents (Kwan, 2012; Schwanen & Wang, 2014). Social contexts of the neighbourhood environment and daily activities cannot be defined based on precise boundaries (Milton et al., 2015). As Hwang (2017) argues, the scale of neighbourhood ranges from street to city. Therefore, the research in
this thesis refers to the neighbourhood as a spectrum of environments ranging from domestic home to the scale of the city.

The neighbourhood emphasises the mixture of land uses such as residential areas, shops, recreational areas, outdoor spaces and facilities (Chaudhury et al., 2016). Physical features also create opportunities for residents to connect with others (Finlay et al., 2015; Liu et al., 2020; Mouratidis, 2018). Overall, the neighbourhood environment is a multi-dimensional concept including physical environmental features, social environment and home environment (Chaudhury et al., 2016). As previous studies define (McNeill et al., 2006; Shaw et al., 2017, Szreter & Woolcock, 2004), the physical environment comprises the natural and built environment. The neighbourhood social environment has been conceptualised into three domains: social networks, community characteristics and community organisations. The home environment includes relationships with family members.

Previous studies have verified that the neighbourhood environment has a significant impact on the wellbeing of older people (Cao, 2016; Chaudhury et al., 2016; Finlay et al., 2015; Gatrell, 2013; Liu et al., 2017; Mouratidis, 2018; Schwanen & Páez, 2010; Sugiyama et al., 2009; Sugiyama & Thompson, 2007; Vafaei et al., 2016; Van Holle et al., 2016; Zhang & Zhang, 2017). The neighbourhood physical environment supports residents’ wellbeing by providing safety and supportive features (e.g. well-maintained street furniture, low curbs, streetlights and accessible sidewalks), appropriate public transportation (e.g. travel routes, transit routes, the physical design of bus stops and adequate and affordable public transportation), enjoyable scenery (e.g. well maintained landscaping) as well as accessible facilities (e.g. banks, grocery stores, community centres, green spaces and health care) (Chaudhury et al., 2016; Levasseur et al., 2015; Vafaei et al., 2016; Walford et al., 2017). For older people, the neighbourhood environment encourages physical and social activities to enhance their wellbeing. For example, a walkable environment encourages older people to conduct walking activities and provides more opportunities to meet and interact with neighbours (Marquet & Miralles-Guasch, 2015; Sugiyama et al., 2008; Winter et al., 2015). Benches on the street also facilitate visual contact and short conversation with neighbours and thus cultivates social networks (Ottoni et al., 2016). The planning and design of the neighbourhood environment could support physical and social activities of older people which in hand
facilitates their wellbeing (Cerin et al., 2017; Chaudhury et al., 2016; Kou et al., 2017; Soma et al., 2017; Zhang et al., 2019).

The second important domain of the neighbourhood is the social environment. Neighbourhood social environment is normally composed of social networks (e.g. contact with friends and interpersonal relationships), community characteristics (e.g. satisfaction with living in the area, socioeconomic backgrounds of residents and involvement with neighbours) and community organisations (Foxton & Jones, 2011; Luo, 2016; Mcneill, 2006). Previous research finds that social environmental factors such as social contacts and affiliation to groups significantly facilitate the use of health services, social integration and the conduction of social activities which is associated with the wellbeing of older people (Luo, 2016; Park et al., 2012; Yen et al., 2012). Van Cauwenberg et al. (2014) also demonstrate that social participation and social interaction can lower sedentary time and facilitate older people to conduct physical activities. Another essential factor of older people’s environment is culturally appropriate services and activities (Luo, 2016). This is especially so for immigrants (Sezer, 2018; Kim & Silverstein, 2020). As Makwarimba et al. (2010) pointed out, older immigrants are more likely to participate in their own cultural or ethnic community groups in which they can speak their own languages and share ethnic food.

The third aspect of the neighbourhood environment is the home environment. In this research, family relationships are the most important component of the home environment. This is because family relationships are often the centre of older Chinese immigrants’ lives (Treas & Batalova, 2009) and support older Chinese immigrants’ daily activities in the neighbourhood (Lo & Russell, 2007). Previous studies find that the living arrangement (e.g. joint living arrangements), interaction with family members (e.g. younger generations respecting the elders) and housework have an impact on the wellbeing of older residents (Lo & Russell, 2007; Sixsmith et al., 2016; Wiles et al., 2012). Family members are usually the main caregivers for older immigrants (Lai et al., 2019; Lin et al., 2014). Living with family members promotes the likelihood of receiving support (Tang et al., 2020). However, conflicts with other family members have a negative impact on older people’s mental health (Lin & Chen, 2018; Tang et al., 2020).
1.2.4 Value Theory

Values can be seen as the most important concept of social science (Schwartz et al., 2012). Values influence individuals’ cognition of the world, which in turn, affect individuals’ moods, actions and emotions to the objective context. It guides principles of life and the goals that people hope to achieve and thus explains why wellbeing is ‘something that people have a particular reason to care about’ (Tiberius, 2014, p.6). By utilising values, individuals’ goals in life, intentional activities and corresponding attitudes and actions can be understood (Rokeach, 1973; Schwartz et al., 2012).

Regarding value and wellbeing, people’s values are ordered by their importance which influences their priority of needs and preferences (Tiberius, 2014). It should also be noted that fulfilling a single value at the expense of attaining other values to a lesser degree might not contribute to the best overall wellbeing (Tiberius, 2014). For example, Caidi et al. (2020) investigate older Chinese immigrants who live in Australia and Canada and find that older Chinese immigrants move to other counties for the purpose of reuniting with adult children which could fulfil their filial values. However, older Chinese immigrants have to face other challenges such as adapting to the new environment and social isolation which negatively influences wellbeing (Li et al., 2018). As Sortheix and Schwartz (2017) conclude, when a person’s value is threatened, he or she will activate a negative mood. For example, Lai et al. (2019) find that older Chinese immigrants heavily rely on their adult children, resulting in their authority in their families being negatively influenced. The findings show that older Chinese immigrants’ family values are threatened, and their wellbeing is undermined.

This research regards wellbeing as the ability for immigrants to meet their needs in daily life. In other words, people are more likely to experience positive wellbeing when they can express and fulfill their values and attain their goals. When situational context blocks people's realization of their values, they are likely to experience negative wellbeing (Sagiv & Schwartz, 2000). Regarding the neighbourhood environment, wellbeing could be influenced by the degree to which people perceive that their surrounding environments help them to meet their needs and fulfil their goals (Schwartz & Sortheix, 2018; Sortheix & Schwartz, 2017). Therefore, wellbeing can be viewed as the outcome of the dissonance between one’s ‘perceived actual environment’ and the ‘desired environment’ that supports their values. As Tiberius (2014) and Ratzlaff et al. (2000) claim that the fit
between individuals’ values and the opportunities or constraints in the environment may promote or undermine wellbeing. Overall, the understanding of wellbeing needs to acknowledge values, capabilities of people and available opportunities in the environment (Andrews et al., 2014; Fleuret & Atkinson, 2007).

The environment is lived in and experienced by individuals. Briefly, to understand neighbourhood environments and wellbeing, attention is paid to the preferred daily activities that are guided by older Chinese immigrants’ values. Value theory is important in interpreting why these interactions are conducted and its impact on the wellbeing of older Chinese immigrants. People’s values influence their physical, social and emotional interactions with the neighbourhood environment and their perceptions of the neighbourhood environment (Cresswell, 2014; Huang et al., 2017; Mallett, 2004). For example, Blundell and Clare (2012) point out that cultures and values influence the behaviours in the family context. In this thesis, the analysis of the older Chinese immigrants’ daily activities and perceptions of the neighbourhood environment through the lens of value theory could provide new insights into the way in which the neighbourhood environment influences the wellbeing of older Chinese immigrants.

According to the value theory, the prediction is made that older Chinese immigrants maintain their values after moving but their aspirations may also change when they live in the new neighbourhood environment (Easterlin, 2003; Tan & Tambyah, 2016). One distinctive characteristic of the value system in Chinese culture is the centrality of family which emphasises family benefit and stipulates the family relationships such as geographic distance between older parents and adult children, frequency of contact and supporting behaviours (Guo et al., 2009; Huang et al., 2017; Liu, 2013). Joint living arrangements, mutual support, respect for the elders and close emotional ties between the generations impact the progress of developing a sense of home in the new destination. Practical help with everyday activities provided by adult children also contributes to older people’s capacity to access essential facilities and conduct physical and social activities (Ip et al., 2007; Li et al., 2010; Lo & Russell, 2007). Another characteristic of values is related to older Chinese immigrants’ activities. Physical and social activities are seen as an important strategy to promote health (Jette & Vertinsky, 2012). Meaningful (i.e. Chinese) activities are organised in Chinese community centres and praised by older Chinese immigrants (Wood & Martin, 2020) which indicate that daily activities and destinations are guided by older Chinese immigrants’ values.
1.3 Thesis Aims and Research Questions

Given the previous background, the main aim of this thesis is to investigate how the neighbourhood environment influences the wellbeing of older Chinese immigrants. Within this, family relationships and neighbourhood physical and social environments (i.e. accessibility, walkability, safety, green spaces and social activities) are incorporated because these are the main domains that influence the wellbeing of older Chinese immigrants (Cerin et al., 2019; Lai et al., 2019; Li et al., 2018; Lin et al., 2017). This thesis investigates older Chinese immigrants’ experiences and perceptions of the neighbourhood and examines their own perceptions of wellbeing. The explanation of how wellbeing is evaluated will be presented in the methodology chapter. In particular, this thesis achieves the main aim by addressing the following interrelated research questions.

Research Question 1: At the family level, how do family relationships influence the wellbeing of older Chinese immigrants? (with an emphasis on the interaction with adult children and the daily activities within the home context) (Chapter 4)

Research Question 2: Beyond the home environment, how do neighbourhood physical environments affect daily activities, travel behaviours and wellbeing of older Chinese immigrants? (Chapter 5)

Research Question 3: Urban public green spaces are seen as an important feature to support physical activities for older Chinese immigrants and are accessed freely by urban residents. How do urban public green spaces contribute to the wellbeing of older Chinese immigrants? (Chapter 6)

1.4 Structure and Content of the Thesis

This thesis is structured in accordance with the Griffith University guidelines on ‘inclusion of papers within the thesis’ (the detail on this thesis format can be seen in Appendix 1). The guideline allows for the inclusion of papers that are accepted by, submitted and prepared for submission to journals. Hence, each chapter that is the result of a submitted paper has a methodology section. As a result of using this format in the results chapters, some repetitions in the literature review, methods, case study description
and reference lists exist. Each result chapter has a different format; however, they all follow the research objective and answer the interrelated research questions. Additionally, since each chapter focuses on one aspect of the neighbourhood environment, the focus on key concepts that refer to the neighbourhood environment might be slightly different.

Eight chapters constitute this thesis: an introduction chapter (Chapter 1), a methodology chapter (Chapter 2), a literature review chapter (Chapter 3), three results chapters (Chapter 4-6), a discussion (Chapter 7) and a conclusion chapter (Chapter 8). The papers that form Chapter 3 to 6 are as follows.

**Gao, S., Dupre, K., & Bosman, C. (2019).** Understanding the neighbourhood environment and the health and wellbeing of older Chinese immigrants: A systematic literature review. *Ageing & Society*, 1-21. DOI: [https://doi.org/10.1017/S0144686X1900134X](https://doi.org/10.1017/S0144686X1900134X) (Chapter 3)

**Gao, S., Dupre, K., & Bosman, C. (under review).** Parenting immigrants: understanding how family relationships impact the wellbeing of older Chinese immigrants living on the Gold Coast, Australia. *Emotions of Inclusion and Exclusion in Transnational Spaces (tentative title)* (Chapter 4)

**Gao, S., Dupre, K., & Bosman, C. (under review)** Moving to another country: understanding the characteristics of the built environment that influence the wellbeing of older Chinese immigrants: a case study on the Gold Coast, Australia. *Geoforum* (Chapter 5)

# How does the neighbourhood environment influence the wellbeing of older Chinese immigrants?

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Research Questions</th>
<th>Required Data</th>
<th>Data Collection</th>
</tr>
</thead>
</table>
| 3       | What are the research progress and gaps in current studies of older Chinese immigrants? | (1) Journal articles  
(2) Book chapters | Desktop research |
| 4       | How do family relationships influence the immigration and wellbeing of older Chinese immigrants? | (1) Interaction with family members  
(2) Daily activities in their homes  
(3) Perceived wellbeing status | Semi-structured interviews |
| 5       | How do urban physical environments affect daily activities, travel behaviours and wellbeing of older Chinese immigrants? | (1) Physical activities in the neighbourhood  
(2) The use of essential facilities  
(3) Perceptions of the neighbourhood environment  
(3) Associations between physical environments and wellbeing | (1) Semi-structured interviews  
(2) Travel diary  
(3) Mapping |
| 6       | How do urban public green spaces contribute to the wellbeing of older Chinese immigrants? | (1) Activities related to green spaces  
(2) The accessibility to green spaces  
(3) Associations between green spaces and wellbeing | (1) Semi-structured interviews  
(2) Travel diary  
(3) Mapping |

Figure 1-1 Overview of the thesis structure and its content.

Figure 1-1 illustrates a detailed synopsis of the thesis structure and its content. As shown in this figure, **Chapter 3** presents a review of the literature on the neighbourhood
environment of older Chinese immigrants and their health and wellbeing. The chapter includes a paper which focuses on the health and wellbeing status of this cohort globally, with an emphasis on the impact of the surrounding environment. The paper reviews literature on the family relationship, neighbourhood physical and social environments and the health and wellbeing of older Chinese immigrants. This paper identifies that family relationships and social isolation are widely examined by previous research and have significant impact on the wellbeing of older Chinese immigrants. Given the challenges regarding older Chinese immigrants, the review paper then identifies gaps created by limited research on the associations between the overall neighbourhood environment and the wellbeing of older Chinese immigrants. Since the paper only reviews the literature published between 2000 and 2018, Chapter 3 also presents an update that reviews the literature published between 2018 and 2020. The update is presented after the journal article. The review chapter emphasises the importance of studying the family relationships and the neighbourhood environment for older Chinese immigrants. Chapters 4 to 6 present the findings relating to the impacts of family relationships and the neighbourhood physical environment on the wellbeing of older Chinese immigrants. The research was conducted in the city of Gold Coast, Australia. The focus of this thesis is to understand older Chinese immigrants’ interaction with family members and experiences of the neighbourhood environment and the impacts that these environments have on their wellbeing.

As discussed in the literature review article (Chapter 3), the family is the main factor that contributes to the health and wellbeing of older Chinese immigrants. However, it is still unclear about the way in which the family relationships influence the wellbeing of older Chinese immigrants. **Chapter 4** consists of a paper that investigates the impact of family relationships on older Chinese immigrants’ decision to immigrate, daily activities and their wellbeing (research question 1). This research mainly focuses on the home environment of older Chinese immigrants, their immigration experiences and perceived wellbeing. It finds that conflicts and affinities exist within families which influence daily activities and the wellbeing of older Chinese immigrants. Apart from family members, independent life and being able to participate in social activities are essential determinants that impact older Chinese immigrants’ perceived wellbeing. Older Chinese immigrants’ independent life and daily activities can be maintained by the physical environment which is the focus of chapters 5 and 6.
Chapter 5 presents a paper on the association between physical environments and daily activities and wellbeing of older Chinese immigrants (research question 2). This research also uses travel diaries and the mapping method to understand daily activities and investigates how the characteristics of neighbourhood environments (e.g. safety, accessibility of essential facilities, quality and provision of walking paths, legibility of road networks and the availability of public transport) impact on older Chinese immigrants’ interactions with the neighbourhood environment and their overall wellbeing.

Chapter 5 uses travel diaries to understand the physical activities of older Chinese immigrants and finds that green spaces are identified as the key place for older Chinese immigrants to conduct physical, social and recreational activities. Chapter 6 focuses on the particular physical environment, namely green space. This chapter includes a paper which aims to understand the way in which older Chinese immigrants interact with green spaces near their homes and city parks. The research focuses on issues of accessibility of green spaces, preferences of activities and how the green space maintains the wellbeing of older Chinese immigrants.

These chapters are followed by a discussion chapter (Chapter 7) and a conclusion chapter (Chapter 8) which synthesises the findings presented in different chapters. The discussion chapter discusses the main findings of the thesis. It focuses on the main concept of the research including the adaptation experiences of older Chinese immigrants, their wellbeing and the reflection of urban planning. In the conclusion chapter, final conclusions and contributions are provided. This chapter identifies how the research has contributed to the existing knowledge and discusses the implications of the findings. This is followed by the limitations of this research and the presentation of the directions for potential future research which could facilitate the wellbeing of older immigrants.
Chapter 2: Research Methodology

This section presents the methodology used in this research. The methodology, as Sutrisna (2009) argues, indicates the logic and the principle of a scientific investigation which is the overall strategy to understand the research questions. This chapter explains the reasons for choosing the research tools to answer the research questions (Madden, 2010). The design of the research methods is based on the established frameworks that present the linkage among the main concepts. The focus of this research is on older Chinese immigrants’ experiences and perceptions of the environment. With this in mind, this chapter firstly outlines the research framework that underpins the methodology. This is followed by outlining the understanding of qualitative research methods, the reason for using qualitative methods and the process of data collection. The study area is introduced in the third section which presents background information relating to the City of Gold Coast. The fourth section presents the main methods used to collect data, including travel diaries, mapping exercises and interviews. This is followed by the measurement of the key concepts and how the development of the interview questionnaire was interpreted. The next section pays attention to the analytical process including the coding procedure and data analysis to reflect the interrelationship between research findings and the data. Finally, the chapter concludes with the challenges and limitations in conducting this qualitative research.

2.1 Research Framework

Existing literature contributes to building the research framework (see Figure 2-1) which considers the relationships between the neighbourhood environment, wellbeing and values in relation to older Chinese immigrants. The theoretical starting point of this research concerns values as a key element to understand the relationships between neighbourhood environments and wellbeing. As previous studies (Huang et al., 2017; Kearns & Andrews, 2010; Lin et al., 2016; Makwarimba et al., 2010; Shumway-Cook et al., 2005; Tan & Tambyah, 2015) find, individuals’ values and preferences may influence their activities and their perceptions of the neighbourhood environment. Values influence the way in which older immigrants interact with the neighbourhood environment and inform their lived experiences (Koo, 2011; Stewart, 2008). For example, older Chinese people are more likely to walk or take public transport to destinations (Boakye-Dankwa
et al., 2019). Cultural preferences of the health food grocery store are important for older Chinese immigrants’ shopping behaviours (Cerin et al., 2019; Wang & Lo, 2007). Older Chinese people prefer physical activities that can promote their mental and physical health (Jette & Vertinsky, 2011). Regarding social activities, older immigrants prefer ethnically exclusive senior centres which enable them to develop their social networks and participate in physical activities (Makwarimba et al., 2010). As Da and Garcia (2015) concludes, group activities are a major type of physical activity for older Chinese adults.

This study focuses on the overall wellbeing status of older Chinese immigrants and since wellbeing consists of various domains, it is necessary to further investigate the change in main components of wellbeing after immigration in order to fully explain the impact of the neighbourhood environment on older Chinese immigrants. From the aforementioned studies, Figure 2-1 disentangles the relationships between neighbourhood environments and wellbeing and their respective components for older Chinese immigrants. The shaded part in Figure 2-1 is the focus of this study. It considers the wellbeing as five aspects: (1) good physical and mental health, (2) social networks, (3) family relationships, (4) capacity to access destinations and (5) conduct preferred physical and social activities. The neighbourhood environment consists of the physical environment, social environment and home environment. The unique values that influence the links between neighbourhood environments and wellbeing include entrenched lifestyles and family values. The following sections will present the research method to understand the research questions.
Figure 2-1 Research framework of the relationships between the neighbourhood environment and the wellbeing of older Chinese immigrants (‘R’ indicates the research questions of this study).

2.2 Research Methodology

Different research methods relate to the idea of the nature of knowledge and how it can be understood and analysed (Flick, 2014). This study adopted a systematic quantitative literature review method, which is emerging in a range of scientific disciplines as an appropriate methodology. A core benefit of this methodology is that the literature collection technique expands, rather than refines, the depth of the review. As such, this review method is appropriate for areas of research that explore across diverse research fields. The reviewed literature within this thesis demonstrates this as it covers a breadth of topics, including the health and wellbeing of older people, health and ageing policies, and the importance of older immigrants’ living environments.

Urban planning studies and the research on the wellbeing of a particular population group have applied increasingly diverse and mixed methods in elucidating knowledge on the effects of the neighbourhood environment (Kou et al., 2018; Walford et al., 2017; Zhou et al., 2017). A growing body of research projects applied mixed approaches, such as
interviews, photovoice, focus group, GPS data, activity/travel diary and mapping exercises to gain participants’ knowledge (Fang et al., 2016; Hand et al., 2017; Hand et al., 2018; Katigbak et al., 2019; Milton et al., 2015; Zeitler and Buys, 2015). This becomes a fairly popular way of constructing a more complete picture of the relationships between the neighbourhood environment and perceived wellbeing (Zhou et al., 2017). This section introduces the rationale for using qualitative methods in this research.

2.2.1 Nature of Qualitative Methods

This research mostly employs qualitative methodologies. Individuals perceive and understand place differently (Wang & Wang, 2016) and qualitative research deciphers the meanings that people apply to the world (Liamputtong & Ezzy, 2005). Qualitative research facilitates the interpretation of complex interrelations between determinants rather than identifying statistical relationships. Gaber et al. (2007) comment that qualitative research investigates and provides explanations for specific events and behaviours in a particular context and Atkinson (1998) argues that qualitative methods are the best way to obtain unique experiences and perceptions of a person. McCormack et al. (2010) also indicate that perceptions and continuous experiences of the neighbourhood environment may not be reached by relying solely on quantitative methods. The subjective nature of perceptions of neighbourhood environments and wellbeing was the main reason for utilising qualitative methods. This is especially the case for the older Chinese immigrants because the changes in social and cultural circumstance between Australia and China make their experiences and perceptions even more complex (Zhang, 2016).

Another advantage of using qualitative research is that it focuses on participants’ perceptions and not the meaning that researchers pre-set (Silverman, 2005). As Winchester and Rofe (2016) advise, there is no “correct” interpretation but various meanings. As such, qualitative research is able to form new themes to answer the research questions, although one shortcoming is the difficulty to replicate the results in some cases (Liamputtong & Ezzy, 2009).

The quality of the analytical process is essential to address the validity and reliability of the data and results (Yin, 2003). One approach to increase the robustness of qualitative
research is to employ multiple methods (Flick, 2018; Wilson, 2006) to understand different sides of the phenomenon. Not only multiple sources of evidence provide different perspectives and a more holistic picture of the research but they also triangulate the findings. A mixed method approach is thus adopted in this research to examine the research questions.

2.2.2 The Importance of the Case Study

This research employed a case study to understand the relationships between the neighbourhood environment and the wellbeing of older Chinese immigrants. The case study method, now one of the most significant forms of qualitative inquiry, is widely used to understand research problems. Yin (2009) defines a case study research design as a practical inquiry that investigates a current event in-depth in the actual context. In other words, the purpose of a case study is to derive a deep understanding of the research phenomenon, such as an event, a process, a situation and a particular place in the real world. The case study deconstructs and subsequently reconstructs the research phenomenon and allows the researcher to have a comprehensive and holistic understanding of complex issues and examines the role of context that impacts the results (Creswell, 2007; Yin, 2009). For example, the transport system, green spaces, and urban planning on the Gold Coast shape participants’ daily travel activities and wellbeing, which is different from older immigrants in other cities.

By using the case study, the researcher cannot only examine individuals’ experiences and perspectives but also scrutinise the effects of context on the results (Creswell, 2007; Denscombe, 2007; Gerring, 2007; Yin, 2009). As a result, the case study cannot only explore the phenomenon but tests causal mechanisms among various variables (Yin, 2009). This is what has been done when looking at the environment. The research not only explores the individual experience, it also investigates the neighbourhood environment in which the participants reside and how this contextual factor effects the results. The case study contributes to the understanding of the phenomenon from various perspectives with the use of multiple data resources and methods. This promotes the validity or credibility of the case study design and provides a holistic and much richer understanding (Creswell, 2007). In this study, this was done both through personal stories and travel diaries, improving the triangulation of the results.
Single case design and embedded units of analysis is the most common type of case study (Yin, 2009). A single case can be one group of people with similar characteristics (Baxter & Jack, 2008) such as older Chinese immigrants in this research. The embedded design consists of both qualitative and quantitative methods in order to depict a holistic picture of the research phenomenon. Mixed method approaches in the single case study are the primary strategy in order for the researcher to view the phenomenon from multiple perspectives and collect data using multiple techniques such as interviews, focus groups and observations (Yin, 2009). This enables the research to conduct a more synergistic and comprehensive analysis of data (Harrison et al., 2017).

In this research, the case study research design was judged appropriate to explore the research questions. The societal, political, social and environmental contexts largely determine the function of communities and societies (Ward et al., 2010). For older Chinese immigrants, their adaptation processes and daily activities are place-based (Phillips & Robinson, 2015). Hence, the context of the case study influences the relationships between the neighbourhood environment and older Chinese immigrants.

This study targeted older Chinese immigrants living in the city of Gold Coast as a unit of analysis. The study also incorporated a comprehensive analysis of the effects of the neighbourhood environment. A mixed-method approach was employed to collect various pieces of data on the older Chinese immigrants such as their travel data, activities and perceptions. Multiple data collection methods, including semi-structured interviews, mapping exercise and travel diaries were used.

### 2.3 Case Study Area

The City of Gold Coast is located in southeast Queensland (Figure 2-2 and Figure 2-3) with 621,000 residents in 2019 (City of Gold Coast, 2020). The city is the second largest city in Queensland and the sixth-largest city in Australia (Australian Bureau of Statistics, 2016). The geography of the Gold Coast is a subtropical coastal strip with a coastline stretching for 70 kilometres. The sunny subtropical climate and mean temperature between 17.2°C and 25.1°C make the Gold Coast known as the ‘Sun-belt’ in Australia (Stimson & Minnery, 1998), as well as a popular destination for an ageing population (Gold Coast City Council, n.d.). In 2019, older people aged 65 years old and over on the
Gold Coast accounted for 16.6% (103,000) of the total Gold Coast population (Gold Coast City Council, n.d.) and the number of older people on the Gold Coast is expected to increase to 20.7% by 2041 (Gold Coast City Council, n.d.). Consequently, investigating the neighbourhood environment of the Gold Coast and its impacts on the older people is relevant.

Figure 2-2 Location of the City of Gold Coast in Australia (Source: The Author).
The Gold Coast also attracts a large number of immigrants and thus presents an increasingly multicultural population profile (Dedekorkut-Howes & Bosman, 2015). The census data concludes the number of older immigrants (Australian Bureau of Statistics, 2016a) and find that the number of Chinese immigrants increased from 3900 to 9900
The number of the older Chinese population more than tripled from 650 to 1700 people (Australian Bureau of Statistics, 2016a) which warrants critical attention.

The rationale for choosing the Gold Coast as the geographical focus of this research is threefold. First, research should pay more attention to Chinese immigrants in non-capital cities. Extensive literature has already investigated older Chinese immigrants in capital cities such as Melbourne and Sydney (Lo & Russell, 2007, Lin et al., 2016, Ip et al., 2007). From the gold rush period in the 19th century onwards, these cities have a long history of Chinese immigration, high concentrations of Chinese immigrants, well-established community projects and Chinese communities (Chhetri et al., 2020). However, fewer studies have focused on Chinese immigrants in other cities. Second, the fact that Chinese immigrants are now moving to other cities rather than Sydney, Melbourne and Brisbane and are forming new communities there (Wang et al., 2018) is of specific interest for this research. Finally, the Gold Coast is convenient for the author who is living there, as it helps to develop rapport with and social networks in the older Chinese communities. The author, also a Chinese citizen, can be seen as an insider of Chinese communities on the Gold Coast. As such, relevant lived experiences and cultural knowledge attained as a result of this insider status enhanced the data collection and analysis.

2.4 Research Methods and Data Collection Procedure

2.4.1 Ethical Considerations and Research Method Overview

Ethical considerations concern responsibilities to avoid harm to the target people or the community in the study (Fetterman, 2010). To this end, in this study, the primary ethical consideration was related to the research participants and concerned issues of trust and confidentiality. The premise of the research was that participation in research was voluntary. Before the start of the research, participant information sheets and consent forms were provided to the participants and these documents were translated into Mandarin to facilitate a clear understanding of the research (see Appendices 3 and 4). The interviewer also explained the research aims to every participant. Issues of anonymity and confidentiality were considered to protect the privacy of participants in the study and
pseudonyms (rather than participants’ real names) were used in this research. The use of pseudonyms also denoted them as active and engaged humans (Allen & Wiles, 2016).

This research was approved by the Human Research Ethics Committee of Griffith University (GU Ref No: 2018/464) (see Appendix 2).

Regarding the research methods and as previously explained, materials were collected from a variety of sources to triangulate results and acquire a more nuanced yet objective analysis. Three methods were combined, namely interviews, travel diary and mapping which captured participants’ experiences of daily activities and perspectives of the neighbourhood environment. The travel diary method and mapping exercises provided quantitative data to investigate participants’ experiences of the neighbourhood environment which revealed the objective pattern of their activities. The quantitative activity data lacked a detailed understanding of the environmental factors that limited the individual interaction with the neighbourhood environment. The spatial data collected from maps only contained the travel tracks and the travel destination and it did not provide the information related to why a particular route was chosen and why a trip was made. Qualitative data was generated by interviews to elucidate participants’ perceptions and feelings related to their experiences that otherwise are lost in quantitative analysis. The interview methods could also triangulate some of the quantitative data. Participants first undertook the travel diaries then were interviewed and asked to complete the mapping exercise. The following sections describe each method more in detail.

2.4.2 Travel Diaries

The daily activities of older Chinese immigrants were recorded using travel diaries. To enable this method, the interviewer sent the travel and activity information to the participants electronically through a digital document. More specifically, this information was sent to the participants via text message at least one week prior to the interviews. The travel diary was in Chinese. Participants were required to answer only with few words (not full sentences) that will capture their answer to the questions. After finishing the travel diary data collection, the researcher translated the data into English for further analysis. The latter included departure place and time, arrival place and time, trip purpose or activities they undertook, choice of transport (e.g. on foot, by bicycle, by public
transport and by car as a driver or passenger), travelled with whom, the reason why they chose the route and who participated in the activity. A trip is defined as a journey from an origin to a single destination within the Gold Coast and trips within the participant’s house or a trip to other cities or countries were excluded. If participants undertook a trip with two purposes (such as shopping and having coffee with friends) the two purposes were recorded. If participants indicated that they did not leave their residence but some activities happened at home such as meeting friends, the trip would be assigned zero but the activity would be included. As such, the researcher could understand how long each trip took, at what time they conduct the activities and their transport mode. The travel diary data was the starting point of the interviews with discussions about the travel the participants had conducted and the places they had visited.

Although travel diaries have some disadvantages such as the higher possibility of missing some data (Stopher & Greaves, 2007) or presenting a greater level of burden on the participants (Draijer et al., 2000), this method remains to date the main method of collecting activities and travel data. The travel diary data was collected over seven continuous days, at least, in order to find weekly activity patterns of older Chinese immigrants. It was expected that the weekly data would be used to infer participants’ activity patterns in the future weeks. In order to avoid missing travel data, the researcher also sent messages to participants everyday or every second day to remind participants to fill the travel diaries. By contacting the participants, the researcher was able to fill in gaps within the travel diaries to assist participants with recording all their travel activities. With this assistance from the researcher, all the participants finished their travel diaries.

2.4.3 Semi-Structured Interviews

In-depth semi-structured interviews were the primary research method employed for collecting data as interview data was seen as sensitive to social realities and was applied to understand participants’ deep experiences, perspectives and emotional feelings (Valentine, 2005). The interview was a cooperation process between the interviewer and interviewee. The interview data showed the situational discourse which resulted from the interactions between the interviewer and interviewees (Fontana & Frey, 2005). The close relationships between the interviewer and interviewee promoted their mutual understanding and thus the quality of the results (Winchester & Rofe, 2016). A pilot study
and continuous contact with the interviewers were undertaken before conducting the formal interviews. The participants in the pilot study were involved in the final research sample. All the participants in the pilot study immigrated to Australia to take care of their adult children. Mr Fu has bought a small apartment and only lives with his wife. Other participants lived with their spouse and children’s families. Mrs Yue only applied for a visiting visa to take care of her grandchildren for several years. Other participants have gained the parent permanent resident visa.

Table 2-1 Characteristics of Participants in the Pilot Study

<table>
<thead>
<tr>
<th>Case #.</th>
<th>Pseudonym</th>
<th>Age</th>
<th>Gender</th>
<th>Marital Status*</th>
<th>Length of residence in AU</th>
<th>Migration Category **</th>
<th>Monthly Income (AU $)</th>
<th>Living arrangement ***</th>
<th>No. of Child</th>
<th>Grand-child</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Su</td>
<td>Su</td>
<td>67</td>
<td>Male</td>
<td>M</td>
<td>6</td>
<td>PR</td>
<td>4k</td>
<td>S&amp;C</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2. Fu</td>
<td>Fu</td>
<td>67</td>
<td>Male</td>
<td>M</td>
<td>4</td>
<td>PR</td>
<td>2k</td>
<td>S</td>
<td>3 (2 in China)</td>
<td>2</td>
</tr>
<tr>
<td>3. Chong</td>
<td>Chong</td>
<td>70</td>
<td>Male</td>
<td>M</td>
<td>3</td>
<td>PR</td>
<td>2k</td>
<td>S&amp;C</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>4. Ju</td>
<td>Ju</td>
<td>72</td>
<td>Male</td>
<td>M</td>
<td>3</td>
<td>PR</td>
<td>2k</td>
<td>S&amp;C</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>5. Yue</td>
<td>Yue</td>
<td>61</td>
<td>Female</td>
<td>M</td>
<td>2</td>
<td>VV</td>
<td>2k</td>
<td>S&amp;C</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>6. Yi</td>
<td>Yi</td>
<td>71</td>
<td>Male</td>
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<td>PR</td>
<td>3k</td>
<td>S&amp;C</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

*For marital status, M=Married, W=Windowed
**For migration category, PR=Parent reunion, VV=Visiting visa
***For living arrangement, C=Living with children’s families, S=Living with spouse, S&C=Living with spouse and children’s families

During the interviews, new interview questions emerged which provided more in-depth understanding or participants’ perspectives. Interviews were face-to-face and took around 30-90 minutes depending on interviewees’ desire to communicate. The participants were older Chinese immigrants aged 55 years and over and had lived on the Gold Coast for more than six months which enabled them to provide reliable information about both their hometowns and the Gold Coast.

The development of the interview questions followed the process of transforming research questions into concept domains and variables, variables into measurements and measurements into questions (Guirk & O’Neill, 2016). Additionally, closed and open-ended questions were combined. Open-ended questions have the potential to yield in-depth answers, accommodate any new perceptions in the process of interviews and allow participants to express their own interests (Guest et al., 2006).
Regarding the research questions, the interviewer firstly asked participants background information, including age, gender, length of stay in Australia, marital status, level of education, understanding of English, living arrangements, religious participation, visa status and monthly income. Then it was followed by a series of more specific research questions as fully listed in Appendix 5. There were two topics, namely travel and wellbeing. For example, in order to understand participants’ decisions to immigrate and the impact of immigration, questions such as “what were your motivations to immigrate to Australia?” and “what are your general feelings about your immigration to Australia?” aimed to elucidate immigrants’ perceptions and the factors that influenced their decision-making process. Questions regarding families such as “what roles do your families play in your decisions to immigration?”, “do you feel happy when you live with your adult children?”, “what support do your adult children offer in daily life?” and “what do you do at home and do you provide some type of support to your adult children?” helped elucidate the family relationships and the wellbeing of older Chinese immigrants. In terms of the effects of the neighbourhood physical and social environment, this research focused on two points. First, questions such as “how did your daily activities change after immigrating?”, “how do you travel to green spaces/shopping malls/community centres”, “do you take public transportation and do you drive on the Gold Coast?” and “how do you perceive the neighbourhood environment?” helped elucidate the impact of the neighbourhood environment on the wellbeing of older Chinese immigrants. Second, questions such as “do you have social activities?” and “how often do you meet with your friends?” were presented to understand the neighbourhood social environments for older Chinese immigrants (see the detailed interview questionnaire in Appendix 5). The interviews were audio-recorded to collect data objectively and to assure that the information of the interviews was fully transcribed (Jamshed, 2014; Rutakumwa et al., 2020). Also, this allowed the researcher to focus on the conversation with the participants.

In the initial stage of the interview, the researcher only asked some broad research questions to prevent participants from being influenced by any established perspectives. As the interview proceeded, the interview changed from broad questions to more detailed descriptions about their experiences and perceptions of the neighbourhood environment. Through this process, the interviewer could gradually focus on the answers that were mostly relevant to the research questions. After asking participants’ background information, the interviewer discussed the travel diary data and mapping data with
interviewees. The quantitative travel diaries and map of their activities were used to prompt discussions about their interactions with the neighbourhood environment. The interview was adapted according to the travel data and in reaction to the results of the travel diaries in order to be more relevant to the participants and understand better their circumstances. For example, “why did you go to the supermarket/church/community centre/green space/beach?” “how did you evaluate these places?” and “did these places meet your needs?” Then, the interviewer identified the most popular activities and destinations and asked participants, for instance, “why did you go to the beach/community centre mostly?” “why didn’t you go to other places?” According to the results given by maps, the questions included “why did you choose these routes?” “how did you get the destination?” and “do you think it’s convenient to go to these places?”

When, in some circumstances, it was difficult for participants to fully answer the questions, the researcher used prompts to encourage participants to answer the question, such as ‘why is this issue important to you?’ or ‘can you explain more about that issue?’

Regarding the wellbeing focus, as Wood and Martin (2020) commented, it is important to understand what wellbeing is and how it can be understood by people with various cultures and values. Since this project seeks to evaluate the influence of the neighbourhood environment on the wellbeing of older Chinese immigrants, it was decided that measurement of wellbeing will be based only on self-rating. Self-rated wellbeing is understood as perceived and thus subjective wellbeing, yet this concept synthesises the domains of wellbeing such as physical and psychological health, social connections and capability to travel which are all highly representative variables (Peralta et al., 2018). The question “how do you feel now being in Australia?” was asked to evaluate participants’ wellbeing.

Qualitative interviews were carried out between March 2019 and May 2019. Before processing the formal interviews, the interviewer contacted the participants through local Chinese organisations. On the Gold Coast, the research found that several Chinese organisations had been established in recent years. These organisations provide social and recreational activities and elderly support services to help older Chinese immigrants live on the Gold Coast. These organisations included the Gold Coast Chinese Association (built in 2013), Evergreen Community Gold Coast Branch (built in 2013) and Chinese art troupe (built in 2019).
Through these local organisations, the interviewer had the opportunity to approach potential participants during their activities, gain their trust and invite them to participate in the research. The participants were recruited through a combination of convenience, snowball sampling and assistance with the leader of a Chinese organisation. The researcher, as a Chinese student, whose first language is Mandarin, has the advantage of knowing the first language and the culture of the participants. The researcher went several times to activities participants attended. As a result, it was easy for the researcher to approach participants and build rapport with them. The interviews took place at a location that was convenient to the participants, such as parks, Chinese organisations and coffee shops. Participants first finished the travel diaries before the interview, then were interviewed and the mapping exercises conducted. The following sections describe the mapping exercises.

The number of participants was determined mostly due to two factors. The first factor was the time constrains involving network building, reaching out to participants, building trust, conducting face-to-face interviews and following up. The second factor was the reaching saturation (Mason, 2010), or in other words, the fact that the collection of new qualitative data stopped when the interview data presented enough information to reproduce the study. 30 participants were included in this research. Research participants consisted of 11 males and 19 females. Their age ranged from 61 to 83 years. At the time of the interviews, their length of stay in Australia ranged from 1 to 15 years. Regards living arrangement, 17 participants lived with their spouse and adult children, ten participants lived with their spouses only, and three lived with their adult children only. It is important to note, no participants lived alone.

2.4.4 Mapping

A key component of the interview process was a map drawing exercise whereby participants drew travel routes, revealing vital sites and linkages between people and environments in a supplement to the verbal description (Brennan-Horley et al., 2010; Powell, 2010). Spatial data could be used to describe the geographical accessibility of older people to the key facilities (Zeitler & Buys, 2015). It combined the strengths of qualitative research and spatial research (Knigge & Cope, 2009; Powell, 2010; Teixeira, 2018). The mapping method offered a way to address the problem that perceptual answers
to qualitative research may not provide a clear analysis (Brennan-Horley et al., 2010). Mapping was utilised as a complementary way to assist the understanding of participants’ travel experiences and constraints in context (Merriman, 2014). In this research, mapping was used to collect spatial data which visualised the travel routes and activities that older Chinese immigrants experienced.

During face-to-face interviews, first, the interviewer asked participants to draw their travel routes according to their travel diary data. The interviewer presented digital Google Maps on a laptop, because regular digital maps could zoom in and out, which helped participants recognise their travel routes and destinations clearly. The participants located their homes on the maps with the assistance of the researcher. The interviewer then inquired about participants’ travels and daily activities. Participants were asked to see the map and point out the sites of activities and related travel routes. Then, the interviewer asked the questions such as the reason why they chose the routes and the travel methods. The spatial data from the map was then digitised into ArcMap 10.3. By using ArcMap 10.3, travel routes were overlaid on local roads or key facilities in order to perceive their daily activities on the Gold Coast. The 1000m activity zones around participants’ homes were also shown to illustrate participants’ ranges of activity. At every analysis stage, the spatial data from the maps were compared to the interview data and travel diary data to be further analysed.

Among the 30 participants, 18 participants completed maps (2 couples participated in the mapping exercise, so the maps only present 16 houses). Due to confidential considerations (2 participants) and inability to recognise English maps (10 participants), 12 participants did not complete maps. The travel diaries and mapping exercises acted as a starting place for the interviews. For those who did not finish mappings, interviews were mainly based on their travel diaries.

### 2.5 Data Analysis

The previous section explored methodological choices and introduced the data collection processes. This section presents the process of making sense of the collected data to reflect the associations between the analysis process and research findings, including data analysis and the development of concepts and themes. The data analysis was guided by
the constant comparative methods developed by Strauss and Corbin (1998). The information collected from the research was condensed to develop the core concepts and themes to answer the research questions.

The analysis of data also followed two distinctive traditions: deductive and inductive logic which have been extensively used in previous scholarship (Cresswell, 2007). Deductive approach uses the data to support or falsify the existing theories (Gale et al., 2013; Hsieh & Shannon, 2005). The inductive logic understands the data from the social world to search for patterns as well as conceptual and theoretical understandings (Graneheim et al., 2017; Schreier, 2012). In this research, the inductive method was firstly used to conclude the patterns from the qualitative data and identify the key information of the data. The analysis of the data cannot avoid established conceptual frames and theories (Herbert, 2010). This means that the conclusion of the data was influenced by the researcher’s experiences (Graneheim et al., 2017). Based on these experiences, the researcher could conduct deductive approaches to compare the emerged themes with previous theories.

As suggested by Miles and Huberman (1994), the qualitative data was analysed in an open-ended way to make sure it was not constrained by pre-set theories and previous studies. The ways in which these arguments were developed were not constrained with questions and hypotheses. However, it should be noted that the arguments derived from the analysis of qualitative data did not necessarily contradict existing scholarship. For example, Caidi et al. (2020) investigated the experiences of older Chinese immigrants and argued that family members provide emotional and instrumental support in the daily lives of older Chinese immigrants. The result was also demonstrated by previous studies (Lo & Russell, 2007; Lin et al., 2017). The research of Guo et al. (2020) explores family relationships for older Chinese immigrants based on filial pieties and intergenerational solidarity theory.

As it is commonly agreed that researchers draw on their experiences to compare the information and then create findings, the insights and general analysis were developed from the researcher’s previous experiences. The development of codes, concepts and themes was a subjective process which was influenced by the researcher’s own understanding of the world (Crang, 2005) through which the frameworks emerging from previous literature and theory always guided and shaped this analysis. The combination
of deductive and inductive approaches in the analysis made the interpretation of data a reflective rather than unilinear process. In the analysis of the specific qualitative data, the researcher needed to constantly go back to previous coding and concepts to correct and refine the themes and findings.

The findings synthesised the travel diary, mapping data and interview data. The travel diary and mapping data included travel patterns and daily activities of participants and were organised and analysed using descriptive statistics and spatial analysis (e.g. accessibility analysis). These objective results validated the subjective interview data.

Before the analysis, predetermined codes were also developed before collecting primary data according to the literature review and the research questions. Open coding was the first step to condense the data. After reading the transcript verbatim, descriptive and inferential information was assigned labels (Miles & Huberman, 1994). This type of organising data was a deductive approach. Another type of code was emergent data which was created during and after data collection and analysis (inductive approach) (Taylor & Bogdan, 1998). Similar codes were grouped into a number of concepts. Concepts were constantly compared with each other. Similarities and differences within each code and concept were found and misinterpretations were gradually dissolved. Finally, the main themes and subthemes were generated in the analysis process. These themes included ‘family relationships’, ‘housework’, ‘the neighbourhood physical environment’, ‘the neighbourhood social environment’, ‘green spaces’, ‘physical activities’ and ‘perceived wellbeing’. The interconnections between themes enabled the author to construct the conceptual framework to develop arguments. In this thesis, the analysis of the data from interviews was conducted using QSR NVivo 12 software which facilitates the management and interpretation of the data.

Lastly, a strict protocol was established to reduce language issues at the stage of connecting with participants, interviewing them and analysing the collected data. The conversations with older Chinese immigrants and formal interviews were conducted in Mandarin which is the native language for both interviewer and interviewees. This was important since all the participants in this research reported that they could not communicate well enough in English. After conducting the interviews, the transcription was made in Mandarin and then translated into English for other researchers to read and make sure the analysis was correct which provided more insights into the analysis. In the
analytical process, initially, the main researcher produced the data in Mandarin to avoid losing meaning and then translated it into English. An external independent research colleague, who is also Chinese, has looked at 5% of the translation (from Chinese back to English) to check the accuracy of the translation. To ensure the authenticity of the findings in English and avoid losing contextual and cultural meaning, both English native speakers and researchers contributed to the translation in presenting the results. In this strategy, the researcher was able to capture explicit meanings embedded in the words (Suh et al., 2009).

2.6 Limitations

Limitations of research methods normally relate to the time and resources constraints, perspectives of methodology, personal choices and the quality of conducting the research (Green & Thorogood, 2018). Several limitations to this study deserve particular attention, namely participant recruitment, bias, single perspective, time, homogenisation of the participants and generalisation.

The first limitation regards the method of recruiting participants. The interviewer approached the participants with the assistance of Chinese community centres and through the snowballing method. Therefore, it could be suggested that the participants in this research were more active in taking part in social activities. Older Chinese immigrants who are less mobile or socially isolated are more likely under-represented which influences the results of this research.

The second limitation relates to the bias regarding the characteristics and processes of the qualitative analysis. Although multiple data collection methods were employed to acquire more information and validate data, participants’ perceptions of the neighbourhood environment were based on their own experiences and backgrounds. This is the first bias. Additionally, in the analysis process, the interpretations of qualitative data were also mediated by the researcher’s own social and cultural positions which might present some bias. Nonetheless, the use of triangulation aimed to diminish the potential biases to some extent and improve the quality of data and the analytical process. Despite the informative and diagnostic character of the mapping methods to explore the pattern of outdoor activities and their spatial distribution, it had some limitations. For example, in this
research, participants only recalled their travel routes which might miss key information of travel routes or provide incorrect data. In future research, GPS devices can be used to collect the data. A more reliable image of the activity and travel maps could be obtained and analysed.

The third limitation concerns the single perspective used for this research. This research only collected older Chinese immigrants’ perceptions of their wellbeing, although perspectives from different groups such as older Chinese immigrants’ adult children and Chinese community service providers would be valuable to provide a more accurate understanding of the research questions. Due to the restricted time available for this study, this research only interviewed older Chinese immigrants as the group directly concerned by this research.

The fourth limitation regards the time factor. Perceptions of wellbeing, phenomenon, people and activities change across time (Saldaña, 2003). This study did not use a longitudinal approach because of time constraints but rather proposed a time capsule during which data was collected. This data (e.g. wellbeing perspectives) might vary if it was captured at another time. For instance, bad weather or accidental conflicts with family members could lead to unhappiness while older Chinese immigrants might experience longer times of happiness when living with their adult children. Besides, research has also shown that the length of stay influences data. For example, when older Chinese immigrants live in the host city for a longer time, they can acculturate their life and thus gain better wellbeing (Mao et al., 2020). This example shows the significance of taking time or long-term study into consideration in future research (Nordbakke & Schwanen, 2014).

Another limitation is the homogenisation of the participants. This research regarded older Chinese immigrants as a homogeneous group and thus did not appreciate the existing diversity within the group. For example, the research did not scrutinise the family tie, e.g. the immigrants staying with their sons or daughters, although the research of Shih and Pyke (2010) had found that the daughter-in-law-mother-in-law relationship is an important determinant that influences the harmony in Asian families; Ishii-Kuntz (2000) even argued that it shapes the family life. Despite this limitation, the study could present older Chinese immigrants’ interactions with their families. Future research could
investigate further the relationship between older Chinese immigrants and adult children, thus providing a more accurate and in-depth result.

Lastly, this research adopts a mixed method that combines quantitative (i.e. travel data) and qualitative data (i.e. interview data). However, it is important to recognise only 30 participants were included in the study, which dose limit the generalisations and representations presented from the data. To gain a more holistic view, future research could utilise complementary quantitative techniques such as a larger number of participants or using GPS devices to collect objective spatial data. Additionally, this study only conducted the fieldwork on the Gold Coast which presents a unique context in terms of public transportation, natural environment and social services. These features vary from one urban area to another which may lead to different social life and daily activities (Mouratidis, 2018). Extending research to other cities or countries could reduce this context-based limitation.

2.7 Conclusion

This chapter explained the methodology used to answer the research questions and the limitations attached to the overall investigation. Although limitations can be frustrating, they participate to delineate very clearly the current investigation, and, most importantly, raise awareness about the improvements that could be implemented regarding the methodology.

The next chapter introduces a literature review which provides detailed existing research progress and research gaps about older Chinese immigrants.
Chapter 3: Understanding the Neighbourhood Environment and the Health and Wellbeing of Older Chinese Immigrants: A Systematic Literature Review

This chapter presents the literature review undertaken at the start of this research which informed the research questions. An updated section is provided to cover any new scholarship that may have been produced since then. The first literature review is a co-authored journal article, accepted in the journal *Ageing & Society*, Impact Factor=1.768.


The co-authors of this paper are the thesis supervisors, Associate Professor Karine Dupre and Professor Caryl Bosman. The writer of this thesis (Siyao Gao) contributed to the manuscript in developing the research questions and research design, conducting the literature review, data analysis and drafting and revising the manuscript in collaboration with co-authors.
3.1 Abstract

Neighbourhood environment has a significant impact on the health and wellbeing of older people. In recent years, the increase in older Chinese immigrants globally has attracted a growing amount of research which has investigated the health and wellbeing of these elderly residents. The aim of this study is to provide a systematic literature review of the findings on the health and wellbeing of older Chinese immigrants and the ways in which the neighbourhood environment impacts them. A systematic search was conducted using online databases where 52 articles met specific criteria and were subsequently reviewed critically. An inductive approach was undertaken to analyse the data extracted from the selected articles. The review was categorised according to the following themes: neighbourhood social environment, neighbourhood physical environment and place attachment. The findings show that the majority of research has investigated the health status of older immigrants, and in particular, the impacts related to the social environments in which they live. The literature review indicated that there is scope for future studies to investigate the impact of the physical neighbourhood environment on this group of people.

**Keywords:** neighbourhood environment; health and wellbeing; older Chinese immigrants
3.2 Introduction

The rising number of international migrants has emerged as a significant demographic structural change worldwide. China provided the fourth largest number of international migrants (11 million) globally in 2017 (United Nations, 2017). The popular destination countries for Chinese migrants are mostly Western developed countries, such as the United States of America (USA), Canada and Australia (Figure 3-1), where international immigrants account for a high percentage of the total population (14.4, 21.9 and 28.6%, respectively). The Chinese population was the only group to appear among the five largest ethnic groups in these three countries (Migration Policy Institute, 2018). Although the main proportion of international immigrants (74%) are working age (United Nations, 2017), due to population ageing and parents joining their immigrant adult children, older Chinese immigrants are a fast-growing, rapidly ageing minority group (Lai, 2004).

Figure 3-1 Countries where large numbers of Chinese immigrants reside.
Source: United Nations, December 2018
(http://www.un.org/en/development/desa/population/migration/data/)

With the changes of demographic structure, it is worthwhile considering the health and wellbeing of these specific populations as they face challenges that their local cohort do not. Older Chinese immigrants, as an ethnic minority group, often are regarded as the most vulnerable population (Lai & Chau, 2007a). Language limitations and transportation barriers are two main factors that lead to less mobility and incapacity to integrate into the new place of residence (Ip et al., 2007). They are generally socially isolated and at high risk of mental diseases in comparison with their counterparts in the new place of residence (Abbott et al., 2003). At the same time, older Chinese immigrants experience higher levels
of functional limitations than their counterparts in China (Wu et al., 2011), which significantly impact the quality of life of these older immigrants.

In recent decades, policy makers and researchers have paid growing attention to how a neighbourhood environment correlates to the health and wellbeing of older residents (Wiles et al., 2009; Parra et al., 2010; Mathis et al., 2015; Loo et al., 2017). Despite these significant developments, only a very small number of these studies have focused on ethnic minority groups (Bird et al., 2009). Health and wellbeing have been a predominant topic in the analysis of older immigrants, which has attracted increasing scholarly attention in the field of medical, psychological and social science. Since health and wellbeing is becoming an important topic in geography (Cutchin, 2007), this research is drawn from a human geography perspective and aims to understand the relationship between the neighbourhood environment and the health and wellbeing of older Chinese immigrants.

Living in familiar homes and communities is favoured by older people because it maintains their autonomy, independence, and connection with family and friends (World Health Organization, 2007), thus many older people choose to live in their homes as long as possible before moving to aged-care facilities. This means that older people living independently account for a large proportion of the total aged population. Therefore, older Chinese immigrants who live or lived independently is the target group in this research. Older Chinese immigrants are less resilient to dramatic changes in their living environments after migrating. The most significant change many confront is the unfamiliar and often contradictory everyday living experience in their new place of residence. Understanding the relationship between the environment and the individual's wellbeing will provide opportunities for urban planners to intervene and establish necessary support structures to improve the health and wellbeing of older Chinese immigrants.

Interestingly, although a number of studies have investigated the neighbourhood, there is still no consensus definition on what ‘neighbourhood’ means (Young et al., 2004; McNeill et al., 2006; Flowerdew et al., 2008; Buffel et al., 2012; Alidoust et al., 2017). Neighbourhood physical and social environments can provide a full picture of the whole environment. The physical environment refers to the geographic area which comprises the natural and built aspects of neighbourhoods (Ball, 2012). The social environment is
understood as communication networks, social engagement and social norms (McNeill et al., 2006; Castree et al., 2013; Shaw et al., 2017). Reviewing literature according to these different dimensions of the neighbourhood environment promotes a deeper understanding on this complex topic and offers insights for policy makers and those engaged in planning, designing and building inclusive neighbourhoods that foster health and wellbeing.

Previous review studies investigate how neighbourhood environment aspects, such as physical (Cunningham & Michael, 2004; Van Cauwenberg et al., 2011; Barnett et al., 2017; Cerin et al., 2017; Tuckett et al., 2018), social (Cattan et al., 2005; Julien, 2012) and safety (Won, 2016) shape the health and wellbeing of older adults. However, older immigrants, who account for an increasing proportion of older people, are largely ignored in these reviews. With the increase in the number of studies exploring associations between neighbourhood environments and health and wellbeing of older Chinese immigrants, it would be timely to pause and review the existing literature to identify gaps, trends and contradictions.

This research critically reviews the effects neighbourhood social and physical environments have on older Chinese immigrants, with the aim of mapping what we know about these topics, and highlighting gaps and opportunities for further research. This review provides a more comprehensive understanding of the role the neighbourhood environment plays in the lives of older, ethnic minority immigrant groups. The paper begins by reviewing the health and wellbeing status of immigrants. The next section outlines the systematically quantitative literature review method. This is followed by a review of the current literature relating to the changes in social and physical environments within neighbourhoods which affect older Chinese immigrants, and the ways in which these changes influence their health and wellbeing. Finally, future research directions are discussed.

3.3 Health and Wellbeing of Older Chinese Immigrants

The health and wellbeing status of immigrants has attracted the interests of many governments and scholars. Table 3-1 compares the three largest health problems (diabetes, hypertension and physical inactive) (Chiu et al., 2010; Bloom & Black, 2016; Jin et al., 2017) among Chinese immigrants and the overall population in the USA, Canada and
Australia. The results show that compared to the overall population, Chinese immigrants have a similar rate of diabetes. However, the rate of Chinese immigrants who have hypertension is higher than their local counterparts, and Chinese immigrants are physically less active than other local groups. These data indicate that more attention needs to be paid to the health status of Chinese immigrants.

Table 3-1 Health status of Chinese immigrants in the USA, Canada and Australia

<table>
<thead>
<tr>
<th></th>
<th>Diabetes</th>
<th>Hypertension</th>
<th>Physically Active</th>
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<tbody>
<tr>
<td></td>
<td>Chinese</td>
<td>Local population</td>
<td>Chinese</td>
</tr>
<tr>
<td>The USA</td>
<td>9%</td>
<td>15.90%</td>
<td>33%</td>
</tr>
<tr>
<td>Canada</td>
<td>4.30%</td>
<td>4.20%</td>
<td>15.00%</td>
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<tr>
<td>Australia</td>
<td>9.30%</td>
<td>9%</td>
<td>28.80%</td>
</tr>
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</table>

Data source: Bloom and Black (2016); Chiu et al. (2010); Jin et al. (2017)

In this review, health and wellbeing are always coupled together, representing a complete state of physical, mental and social wellbeing (World Health Organization, 2007). Older Chinese immigrants warrant more attention to their health and wellbeing, as they are less resilient, less likely to adapt to changes and potentially exposed to more challenges in their local environment (Chow, 2010; Tsoh et al., 2016). Previous studies have used health assessment scales to measure health and wellbeing status. These assessments include (a) health-related quality of life (Kwon et al., 2015); (b) Medical Outcomes Study Short Form (SF-36; Mui et al., 2007); (c) four wellbeing indicators: depression, anxiety, loneliness and quality of life (Lin et al., 2016); and (d) self-rated health (Chow, 2010; Tsoh et al., 2016). The results of these assessment tools show that older Chinese immigrants are more likely to, one, rate their health as poor, and two, suffer from depressive symptoms and loneliness (Tsoh et al., 2016).

Previous research focused on the health and wellbeing measurement tools rather than the impact of neighbourhood environments in shaping the health and wellbeing of this group of people. Among the reviewed studies, the provision of health-care services, which can be regarded as one element of neighbourhood environments, has been the attention of some scholars and policy makers. Poor health and wellbeing among older Chinese immigrants are often linked to their under-utilisation of the health-care system and social services (Miltiades & Wu, 2008). Lai and Chau (2007a) suggested that older Chinese immigrants refrain from accessing health and social service providers due to: language...
barriers, transportation, service costs, long waiting times for appointments and treatments, cultural norms/value impediments between service providers, fear, traditional folk medicines and the lack of knowledge about health-care services. Research on the use of health services and the effects this has on the health and wellbeing of users currently has not been translated into policy. In the USA, Canada and Australia, no health and wellbeing-related policies specifically relating to older immigrants are available. Most public health systems only cover individuals who have permanent residency.

3.4 Research Methods

A systematic quantitative literature review method was undertaken to collect and analyse secondary data for this research. This approach contrasts with the more traditional narrative literature review, in which authors use their own understanding of the subject matter to select and judge representative literature. This more traditional review emphasises what is known, rather than what is unknown. The narrative literature review method used for literature selection is internalised and selective, rather than being standardised, reproducible and transparent in comparison with a systematic literature review (Petticrew & Robert, 2006). This systematic quantitative method addresses publication bias and is used for the collection of literature that is explicit and reproducible (Pickering et al., 2015). The systematic literature review method provides a framework on which to organise the literature systematically, making the review ideal for multi-disciplinary research. Although this method is suitable for use in quite narrowly defined research questions, the result of such a systematic review can be comprehensive (Kamler, 2008).

Literature searches for this study were conducted between November 2017 and February 2018, using scholarly electronic databases (ScienceDirect, ProQuest, Web of Science and Google Scholar) to identify original research papers. Only articles published after the year 2000 were sought in order to identify recent trends. The search topic for this review focused on the ‘health and wellbeing’, as already defined, of older Chinese immigrants. According to the research background and question, the keywords used for the search were grouped into two categories: ageing population (older people, elderly, older adults) and Chinese immigrants. Additional sources were also identified from the reference lists included in the selected papers.
A two-step inclusion process was applied to review the identified literature. Firstly, article titles were screened and examined to exclude non-relevant articles. Secondly, article abstracts were reviewed for relevant content based on the following three criteria: (a) original research papers published in peer-reviewed English-language science journals, (b) the aimed cohorts must be older Chinese immigrants, and (c) the study focused on the health and wellbeing of older people who lived independently. An initial keyword search identified around 885 articles. After removing irrelevant and duplicated articles and screening the titles, 172 papers were selected for abstract evaluation. Excluding the articles which were not related to the topic of neighbourhood environment and health and wellbeing, 52 articles were finally critically reviewed (Table 3-2). Some limitations were identified in this method. All the research papers included in this review were in English. The omission of relevant articles published in other languages, especially Chinese, may influence the findings of this review. Moreover, only including peer-reviewed articles published in scholarly journals meant that other literature, like grey literature, book chapters and conference papers, were excluded. While these limitations may influence the depth of the findings, the significance of this review lies in its generalisation and transferability.

Table 3-2 General characteristics and methodological aspects of the included articles

<table>
<thead>
<tr>
<th>General characteristics</th>
<th>No of articles</th>
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<tr>
<td>US</td>
<td>24</td>
<td>(Kwon et al., 2015; Wong et al., American Journal of Public Health (AJPH); 2006; Zhan et al., 2017; Aroian et Archives of Gerontology and Geriatrics; Clinical al., 2005; Pang et al., 2003; Lan, Gerontologist; Ethnicity &amp; Health; Gerontology; 2002; Chun et al., 2011; Dong et al., Health &amp; social work; Health Education &amp; 2012a; Chiang &amp; Sun, 2009; Lee, Behavior; Journal of Aging and Health; Journal of 2007; Tsog et al., 2016; Wyatt et al., Community Health; Journal of Cross-Cultural 2014; Hei &amp; Dong, 2017; Wong et Gerontology; Journal of Family Issues; Journal of 2015; Wong et al., 2007; Mui et Human Behavior in the Social Environment; al., 2007; Lin et al., 2014; Parikh et Journal of Intergenerational Relationships; Journal al., 2009; Kim et al., 2017; Kang et of Religion, Spirituality &amp; Aging; Journal of Social al., 2012; Dong &amp; Chang, 2017; work; Journal of the American Geriatrics Society; Dong et al., 2014; Dong et al., Public Health Nursing; Research in Nursing &amp; Health; Social Science &amp; Medicine; Social Work in Public Health; The Gerontologist; The International Journal of Aging and Human Development; The Journals of Gerontology)</td>
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<td>Activities, Adaptation &amp; Aging; Aging &amp; Mental Health; Canadian Journal on Aging; Ethnicity and health; Health &amp; Social Work; Journal of Cross-Cultural Gerontology; Journal of Gerontological</td>
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<td>Country</td>
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<td>Australia</td>
<td>Social Work; Journal of Immigrant and Minority Health; Social Indicators Research; Social Work</td>
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<td></td>
<td>Koo, 2011; Lin et al., 2016; Tan et al., 2010; Lin et al., 2017; Tsang et al., 2004; Mariño et al., 2012; Leung 2002</td>
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<td>New Zealand</td>
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<td>(Li et al., 2010; Li et al., 2014; Selvarajah, 2004)</td>
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<td>Ageing &amp; Society: Health Expectations; International Journal of Qualitative Studies on Health and Well-Being</td>
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<td>(Miltiades &amp; Wu, 2008; Wu et al., 2011)</td>
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**Data collection method**

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<th>Method</th>
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<td>Quantitative</td>
<td>Chau &amp; Lai, 2011; Chuang &amp; Sun, 2009; Chow, 2010, 2012; Dong &amp; Chang, 2017; Dong et al., 2014; Hei &amp; Dong, 2017; Kang et al., 2012; Kim et al., 2017; Kim et al 2015; Kwon et al., 2015; Lai &amp; Chau, 2007a; Lai &amp; Surood, 2013; Lai et al., 2007; Lee, 2007; Leung, 2002; Lin et al., 2014; Lin et al., 2017; Luo &amp; Menec, 2018; Mariño et al., 2012; Miltiades &amp; Wu, 2008; Mui et al., 2007; Parikh et al., 2009; Selvarajah, 2004; Tieu &amp; Konnert, 2015; Tieu &amp; Konnert, 2014; Tsoh et al., 2016; Wong et al., 2007; Wu et al., 2011; Wyatt et al., 2014</td>
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<td>Qualitative</td>
<td>Arosan et al., 2005; Chau &amp; Yu, 2010; Chun et al., 2011; Da &amp; Garcia, 2015; Dong et al., 2012b; Koo, 2011; Li et al., 2010; Li et al., 2014; Lin et al., 2016; Liu et al., 2014; Liu et al., 2015; Lo &amp; Russell, 2007; Luo, 2016; Pang et al., 2003; Pei-Chia, 2002; Tan et al., 2010; Tsang et al., 2004; Wong et al., 2005, 2006; Zhan et al., 2017</td>
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<td>Topic Health</td>
<td>14</td>
<td>(Kwon et al., 2015; Lin et al., 2016; Dong et al., 2012a; Lee, 2007; Tsoh et al., 2016; Wyatt et al., 2014; Mui et al., 2007; Mariño et al., 2012; Lin et al., 2014; Leung, 2002; Lai et al., 2007; Kim et al., 2017; Dong et al., 2014; Chow, 2010) American Journal of Public Health (AJPH); International Psychogeriatrics; Archives of Gerontology and Geriatrics; Journal of Religion, Spirituality &amp; Aging; Journal of Community Health; Health Education &amp; Behavior; Health &amp; social work; International Journal of Public Health; Clinical Gerontologist; Australian Journal of Primary Health; Canadian Journal on Aging; Social Work in Public Health; Journal of Aging and Health; Ethnicity and health.</td>
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<td>Health related behaviour</td>
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<td>(Lai &amp; Chau, 2007a; Lai &amp; Chau, 2007b; Aroian et al., 2005; Pang et al., 2003; Miltiades &amp; Wu, 2008; Chiang &amp; Sun, 2009; Liu et al., 2015; Liu et al., 2014; Parikh et al., 2009; Chow, 2012; Tieu &amp; Konnert, 2014; Chau &amp; Yu, 2010) Social Work; Health &amp; Social Work; Research in Nursing &amp; Health; The Gerontologist; Social Science &amp; Medicine; Public Health Nursing; Health Expectations; International Journal of Qualitative Studies on Health and Well-being; Journal of Community Health; Social Indicators Research; Aging &amp; Mental Health; Aging &amp; Society.</td>
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<td>Family relationship</td>
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<td>(Wong et al., 2006; Lo &amp; Russell, 2007; Pei-Chia, 2002; Lin et al., 2017; Dong et al., 2012b) The Journals of Gerontology; Contemporary Nurse; Journal of Family Issues; Ageing &amp; Society; Journal of Intergenerational Relationships.</td>
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<td>Sense of home</td>
<td>2</td>
<td>(Zhan et al., 2017; Wen Li et al., 2010) Journal of Cross-Cultural Gerontology; Journal of Health Psychology.</td>
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<tr>
<td>Perceptions on Ageing</td>
<td>2</td>
<td>(Koo, 2011; Tan et al., 2010) Journal of Aging and Physical Activity; Journal of Health Psychology.</td>
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Note: USA: United States of America.

Data were then entered into an Excel spreadsheet and analysed using the following categories: author, year of publication, article title, journal name, the country in which the study was located, study design, the aim of the study, methods, sample size and outcome. The literature review search found that older Chinese immigrants attracted diverse scholarly interest in countries which attracted large numbers of immigrants. The majority of studies (N = 35) were conducted in North America, of which 24 were within
the USA and 11 were located in Canada. Nine studies were found in Australia, three in New Zealand and three in the United Kingdom. Two studies were multinational, covering the USA and China.


3.5 Research Topics

An increase in the number of Chinese immigrants globally has posed more challenges, not only for the issue of health but also for the environment in which they live (International Organization for Migration, 2018). The steadily increased number in the
calculation of literature every five years shows that the research on this group of people has been becoming an increasingly popular topic since 2000 (Figure 3-2). From 2001 to 2005, three papers concentrated on health problems, three papers studied the social environment and one article focused on family relationships of older Chinese immigrants. Between 2006 and 2010, figures for papers that were published on issues relating to health increased to ten, while three articles focused on social relationships. As for family relationships, sense of home and perceptions on ageing among older Chinese immigrants, each had one article that researched these topics. From the year 2011 to 2015, ten articles concentrated on the issues of health, while research on social environment increased dramatically, showing that seven articles researched social relationships, two articles focused on family relationships and one article concentrated on the perceptions of ageing. Finally, in 2016 and 2017, four articles concentrated on the social relationships of older Chinese immigrants and three articles investigated health issues. There was only one article that focused on family relationships and one article that investigated the sense of home of older Chinese immigrants.

![Figure 3-2 Numbers of articles on different topics.](image)

### 3.5.1 The Relationship Between the Social Environment and Health and Wellbeing

The neighbourhood social environment has been conceptualised as the interaction of local residents. Social networks (Tieu & Konnert, 2014; Park et al., 2015) and neighbourhood
engagement (Luo & Menec, 2018) are two dominant themes in the social environment body of literature. Although migration enables older immigrants to reunite with their children, they also face the loss of connection with their friends and neighbours in their home countries (Ryan et al., 2009). Seventeen of the reviewed studies have critically analysed social networks, and found the existence of severe social pressures (e.g. small social network, restricted social participation, social isolation, and loneliness) among this group (Ip et al., 2007; Wu et al., 2011; Kim et al., 2015; Luo, 2016; Dong & Chang, 2017; Luo & Menec, 2018).

Social networks refer to the web of interpersonal relationships with family, friends and neighbours. Previous research argued that older Chinese immigrants had small and family-oriented social networks (Dong & Chang, 2017; Luo & Menec, 2018). Heavy domestic responsibilities, limited English proficiency and restricted mobility in a foreign country are factors that influence older Chinese immigrants in building social networks, which then influence the sense of wellbeing and social inclusion experienced by this group (Ip et al., 2007; Diwan, 2008; Da & Garcia, 2015; Luo, 2016).

Family relations comprise a large proportion of social networks of older Chinese immigrants (Dong & Chang, 2017). Filial piety is deeply valued in Eastern culture (Lo & Russell, 2007), and adult children generally have responsibilities outside the home and they frequently play core roles in providing informal care to their parents, including financial, instrumental and emotional support (Wong et al., 2005; Wu et al., 2011; Dong et al., 2012b). Five articles critically explored family relationships among older Chinese immigrants (Pei-Chia, 2002; Wong et al. 2006; Lo & Russell, 2007; Dong et al. 2012b; Lin et al., 2017). The most frequently cited reasons for the migration of older Chinese people include family and domestic responsibilities, such as taking care of grandchildren and assisting in household work (Da & Garcia, 2015). These findings show that family relations do not always meet the needs of filial expectations of immigrant parents. Older Chinese immigrants frequently feel they are peripheral to the family and no longer have any authority because of their lack of language proficiency and knowledge of Western culture. This often leads to feelings of uselessness in family decision-making (Wong et al., 2006; Ip et al., 2007). As a result, older Chinese immigrants are more likely to want to live independently, since they are reluctant to live in someone else's home (Wong et al., 2007; Da & Garcia, 2015). This lack of satisfying intergenerational relationships is
the main factor influencing the wellbeing of older immigrants (Dong et al., 2012b; Luo & Menec, 2018).

Relationships of friends constitute a minor component of the social networks of many older Chinese immigrants (Dong & Chang, 2017). Friends usually offer general information or advice (learning English, applying for citizenship or using health services) and some level of companionship (Wong et al., 2005; Tieu & Konnert, 2014). Apart from social networks, community engagement, as an important domain in the neighbourhood social environment, also influences the health and wellbeing of older Chinese immigrants. Tan et al. (2010) found that in Chinese cultural norms, participation in social activities and community work is regarded as ‘ageing’ successfully. However, a previous study found that the rate of civic and social participation by older Chinese immigrants was low, and higher participation in inappropriate civic activities may even result in stress and anxiety (Luo & Menec, 2018). This demonstrates the need to understand the social environment of older Chinese immigrants specifically because these environments contribute to their health and wellbeing (Tan et al., 2010; Van Cauwenberg et al., 2014; Tiraphat et al., 2017; Luo & Menec, 2018).

3.5.2 The Relationship Between the Physical Environment and Health and Wellbeing

Apart from the dramatic shifts in the social environment, the physical environment also dramatically changes after migrating to a foreign country. Although the impact of the built environment on the wellbeing of older people has been well documented (Van Cauwenberg et al., 2011; Timmermans et al., 2016; Soma et al., 2017), there is a relatively small body of literature that casts a geographic lens on the relationship between older Chinese immigrants’ health and wellbeing, and the effects of their built environments (green space, street, facilities, and safety and accessibility, for instance). Living in strange built environments can be extremely distressing. Only two studies by Da and Garcia (2015) and Selvarajah (2004) were found which suggested good traffic management could improve the quality of life of older Chinese immigrants. In addition, research on the physical environment for other ethnic minority groups was also scarce. Sawchuk et al. (2011) investigated physical environment barriers and facilitators of walking and physical activity among older Indian immigrants, and found that better accessibility to interesting places, shopping places and parks would encourage more physical activity.
Physical activities are important in understanding how the built environment influences the health and wellbeing of older Chinese immigrants, which is a crucial research topic in gerontology geography (Van Cauwenberg et al., 2011; Barnett et al., 2017; Tuckett et al., 2018). More research is needed to understand this area.

In relation to the natural environment, there are relatively few studies on the impact the natural environment has on the wellbeing of older immigrants. Some studies mentioned that fresh air, a healthy environment and clean water are factors that influence the wellbeing of older immigrants (Da & Garcia, 2015; Ip et al., 2007). However, no literature was found which critically investigated how the change in the natural environment influenced the wellbeing of older immigrants.

3.5.3 The Relationship Between Place Attachment and Health and Wellbeing

Place attachment for older Chinese immigrants was a recurring topic in the literature reviewed. Migrating to another country requires a redefinition of what place means, and transnational migration exposes the fluid and dynamic nature of the place and its meanings, which does not mean abandoning attachment to the place of origin but building a sense of place within the destination. Older Chinese immigrants were a special group who left their home country and settled in foreign countries in their later lives. The experience of trading-off between two lives in two countries influences the wellbeing of older Chinese immigrants (Li et al., 2014). In addition, Zhan et al. (2017) provided insight into the factors that may influence the sense of home among elderly Chinese Americans, and suggested that English proficiency, favourable family relationships and social policies will influence the sense of home as well as health and wellbeing. However, studies seemed to need further research to study the physical aspects of place attachment and its relationship with health and wellbeing for older Chinese immigrants.

3.6 Discussion and Conclusion

The last few decades have seen an increase in research to show that older Chinese immigrants are facing various challenges in their neighbourhood environment. Using research from 2000, this review attempts to show not only health and wellbeing issues, but also the relationship between the neighbourhood environment and the health and
wellbeing of older Chinese immigrants. The dramatic increase in older Chinese immigrants worldwide and the vulnerability of this group indicate the importance of research on different topics regarding this group of people. Social environments surrounding older Chinese immigrants have been critically researched in existing literature. However, less is known about how the physical environmental and geographical mechanisms link older Chinese immigrants to their health and wellbeing.

This review focused on the associations between neighbourhood environment, as a concept which synthesises both physical and social aspects, and health and wellbeing. It is important to focus on the impact of not only neighbourhood social environments but also the physical environment. In current literature, impacts of social environment on older Chinese immigrants have been investigated critically in the areas of social science. However, few studies concentrated on physical environment and environmental development regarding older Chinese immigrants from the perspective of geography. Therefore, future research opportunities lie in exploring how older Chinese immigrants interact with their neighbourhood environment. In future studies, a perspective from urban planning and design could help to understand how to build a better physical environment for residents with various cultural backgrounds. Important elements of the physical environment, such as urban design, crime prevention, provision of roads and pathways for daily travel, land use, and distances between amenities and facilities (Davison & Lawson, 2006) could also be investigated critically. In order to meet the challenges of building the environment for all segments of population, planners and policy makers are encouraged to understand the interaction between the environment and different groups of people to provide appropriate measures to create supportive and effective environments.

Apart from the general impacts of the physical environment on older people, the distinctive characteristics of Chinese immigrants (such as their culture, traditions and social ideology) need to be identified as this influences their perception of their physical environment. Chinese culture influences values held by this group, which then impacts their behaviour. For example, harmonious human and earth relations or conformity with nature in Chinese culture stresses the importance of the natural environment on health (Chen, 1996). Chinese traditions and social ideology can influence daily activities such as entertainment activities (Ip et al., 2007), shopping for traditional Chinese groceries
(Wang & Lo, 2007) and health-care seeking, as well as taking traditional Chinese medicine (Lai & Chappell, 2006).

In terms of the social environment, family is the most significant factor influencing the health and wellbeing of older Chinese immigrants in Eastern culture (Lo & Russell, 2007; Dong et al., 2012b). This review demonstrates that older Chinese immigrants are meeting various challenges in their neighbourhood environment, such as social exclusion and lower participation in social activity. Existing reviewed studies found that although the family is still the main provider of care, this type of support is in decline (Wong et al., 2006; Dong et al., 2012b). Changes to ‘traditional’ family care and the familial relationship coupled with the loss of social networks and support after migration impact immigrant's health and wellbeing (Ip et al., 2007; Wu et al., 2011). This suggests that other social support providers, such as social organisations, neighbourhood centres and health-care professionals, have a role to play in promoting the health and wellbeing of older Chinese immigrants.

In future research, other types of health and wellbeing policies for older immigrants should be taken into consideration as well. The wellbeing of older Chinese immigrants and their use of health care has been critically investigated by a large body of literature, but few studies provide practical policies to improve the status quo. Most research found that language barriers were the main factor influencing access to health care, but empirical research revealed that simply providing a linguistically appropriate health service had no significant impact on the use of these services by older Chinese immigrants (Lai & Chau, 2007b). Therefore, further research on how to improve access to and use of health-care services is needed. Apart from improving the health service itself, other useful management tools could be considered such as health education and health policy workshops to help older immigrants get a better understanding of how to use health care.

Additionally, Australia is the third largest Western country that hosts Chinese immigrants worldwide (Figure 3-1). One in three older people were born overseas and the majority of these were originally from non-English-speaking countries. The number of international immigrants has been increasing rapidly in recent years (Australian Institute of Health and Welfare, 2018). However, the number of studies on older Chinese immigrants in Australia is limited. Poorer socio-economic status, language barriers and the lack of knowledge on the use of services among these older immigrants will pose
more burden on the housing market, health care and other social welfare services. However, the review showed that the number of articles is small and the research topic into this group of people is relatively narrow. Therefore, more research in various topics regarding older Chinese immigrants is needed in Australia.

The primary strength of this review is its focus on older Chinese immigrants, an under-studied population in urban geography and an important group for future health-care systems. In this review, due to the multi-disciplinary nature of this topic, a comprehensive search in multiple databases was undertaken. This review explored peer-reviewed literature that investigated the health and wellbeing of older Chinese immigrants. An analysis based on the neighbourhood environment was undertaken. The results suggest that older Chinese immigrants are less resilient and face various challenges within both the social and physical environments that comprise a neighbourhood. This finding emphasises the significant need for future research and, in particular, research exploring reasons for these challenges. This research potentially has profound implications for urban planning and wellbeing policies. In particular, existing literature has neglected to address the effects of the neighbourhood physical environment on health and wellbeing. There is a need for further research on the relations between physical environment and health and wellbeing to understand better the impact this will have on the health and wellbeing of these older Chinese immigrants. This knowledge provides a unique opportunity for policy reforms in regard to social welfare, multiculturalism, social engagement, as well as neighbourhood redesign and development.
3.7 Update of the Literature Review

This section is an update of the literature regarding the neighbourhood environment and older Chinese immigrants from 2018 onwards using the same scholarly electronic databases (ScienceDirect, ProQuest, Web of Science and Google Scholar), the same keywords (older people, elderly, older adults, Chinese immigrants) and review method (systematic quantitative literature review method). The initial search found 22 articles. After screening non-relevant literature, 18 articles were finally critically reviewed, of which 10 articles were located within the US (Guo et al., 2020; Kim & Silverstein, 2020; Lai et al., 2019a; Lai et al., 2019b; Li et al., 2018; Li et al., 2020; Liu et al., 2019a; Mao et al., 2018; Mao et al., 2020; Tang et al., 2018; Tang et al., 2020; Wang and Zhan, 2019), 5 articles were in Australia (Cerin et al., 2019; Dow et al., 2018; Du et al., 2019; Liu et al., 2020; Liu et al, 2020; Liu et al., 2019b) and one article investigated the older Chinese immigrants both in Australia and Canada (Caidi et al., 2020).

The updated review finds that the social environment remains the main topics of interest which is consistent with the original literature review. Findings confirm that older Chinese immigrants are more likely to suffer social isolations and depression than general older adults (Dow et al., 2018); relationships with friends and families significantly influence the psychological wellbeing of older Chinese immigrants (Liu et al., 2019a); family plays a key role in maintaining the quality of life of older Chinese immigrants (Lai, et al., 2019a; Mao et al., 2018). Guo et al. (2020) underline that the wellbeing of older Chinese immigrants is also generated from the combinations of retaining family support and embracing the host society’s cultural practices.

The first literature review found that previous studies focused on older Chinese immigrants’ experiences of interaction with families and the use of health services while this updated section finds that more studies investigate the determinants that promote or impede older Chinese immigrants’ social engagement. Lai et al. (2019b) pointed out that neighbourhood cohesion has a positive impact on the social engagement of older Chinese immigrants. Tang et al., (2020) also emphasised that living in a cohesive neighbourhood may contribute to social activities and enhance the cognitive functioning of older Chinese immigrants. Li et al. (2018) examined challenges that influence older Chinese immigrants’ integration into society and found that the determinants contain language barriers, loneliness, social isolation and insufficient use of social services. Family and social networks help older Chinese immigrants gain an understanding of the new place of
residence and facilitate social inclusion (Caidi et al., 2020). Furthermore, in the process of engaging society, older Chinese immigrants desire to develop the ability to access necessary services independently and build connections with new places (Du et al., 2019).

Several studies broadly focus on community: the neighbourhood cohesion (Lai et al., 2019b; Tang et al., 2020), sense of community (Tang et al., 2018) and community centres (Kim & Silverstein, 2020). After immigration, older immigrants need to adapt to new neighbourhood environments (Li et al., 2018). However, more studies also argued that older immigrants can be resilient and re-establish relations to new places by actively engaging with society (Johansson et al., 2013).

The updated literature review also shows that the sense of home has received more research in recent years. Tang et al. (2018) found that the sense of home positively contributes to health and alleviates depressive symptoms. For older Chinese immigrants, home can be seen as a site where belonging and identity are developed and cultural and social connections are maintained. Liu et al. (2019b, 2020) investigated the development of the sense of home and concluded that older Chinese immigrants’ experiences of constructing the home are influenced by family, social networks and having gardens at home.

Importantly, for this research one article focuses on the physical and social environmental factors that influence the daily activities of older Chinese immigrants (Cerin et al., 2019). The authors organised the Nominal Group Technique (NGT) sessions to collect older Chinese immigrant’s opinions on the neighbourhood environmental facilitators of and barriers to their physical activities, healthy diet and contact with others. This research used descriptive statistical results to demonstrate the associations between the environment and lived experiences and highlighted that accessible destinations, recreational facilities, public transport and community centres could promote the physical activities and social engagement of older Chinese immigrants.

Overall, the updated review shows that an increasing number of studies have investigated the wellbeing of older Chinese immigrants with an emerging focus on the effects of the physical environment, thus showing that the topic is becoming important and may reflect the increase of older immigrants. This thesis, as such, participates in this trend. The following table 3-3 synthesises the study design, assessment tools and the findings of the updated literature review.
<table>
<thead>
<tr>
<th>Authors/Geographic Location</th>
<th>Study Design</th>
<th>Assessment Tools</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cerin et al., (2019)/Australia</td>
<td>A cross-sectional design</td>
<td>Physical and social factors of environments are developed by Nominal Group Technique (NGT) sessions.</td>
<td>Proximity to destinations and public transport contribute to the physical activities.</td>
</tr>
<tr>
<td>Du et al., (2019)/Australia</td>
<td>Focus group</td>
<td>1. Economic situation. 2. Health services. 3. Social activities. 4. Language. 5. Culture.</td>
<td>Older Chinese immigrants in the early stage of immigration have limited access to necessary services.</td>
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<tr>
<td>Guo et al., (2020)/The USA</td>
<td>Two-wave panel data of the Population Study of Chinese Elderly in Chicago (PINE)</td>
<td>1. Older parent-adult child relations. 2. Depression was measured by Patient Health Questionnaire-9 (PHQ-9). 3. Quality of life: self-rated general quality of life.</td>
<td>Better wellbeing of older Chinese immigrants stems from the optimal combination of retaining the supportive heritage culture and embracing the host society’s instrumental cultural elements.</td>
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<tr>
<td>Authors/Geographic Location</td>
<td>Study Design</td>
<td>Assessment Tools</td>
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<tr>
<td>Li et al., (2018)/ Australia</td>
<td>A qualitative study with semi-structured interview</td>
<td>1. Socio-demographic information. 2. Participants’ perceptions and experiences of aging in the United States and China. 3. Potential resources at different levels that can contribute to their successful aging out of place.</td>
<td>1. Challenges of ageing in the US include language barriers, loneliness and social isolation and insufficient use of social services. 2. Acceptance and optimism; independence and autonomy; informal social support; and use of the formal social welfare system contribute to resilience.</td>
</tr>
<tr>
<td>Li et al., (2020)/ The USA</td>
<td>A cross-sectional data set</td>
<td>1. Healthy aging: physical disability, cognitive impairment and physical functioning. 2. Acculturation: PINE Acculturation Scale. 3. Neighbourhood belonging: Sense of Community Index. 4. Perceived discrimination: Experiences of Discrimination instrument.</td>
<td>Acculturation and a greater sense of neighbourhood belonging was positively associated with healthy aging. Experiences of discrimination were negatively associated with healthy ageing.</td>
</tr>
<tr>
<td>Liu et al., (2020)/ Australia</td>
<td>A qualitative study with semi-structured interview</td>
<td>1. What ‘home’ means to older Chinese migrants. 2. What do older Chinese immigrants do to build a sense of home in Australia?</td>
<td>The experience of constructing home is influenced by family, social networks and having gardens at home.</td>
</tr>
<tr>
<td>Liu et al., (2019a)/ The USA</td>
<td>A cross-sectional data set</td>
<td>1. Depressive symptoms: The Patient Health Questionnaire. 2. Loneliness: Revised-University of California at Los Angeles Loneliness Scale. 3. Quality of life: self-rated general quality of life.</td>
<td>The loss of friends has both negative and positive effects on the psychological wellbeing of older Chinese immigrants.</td>
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<tr>
<td>Authors/Geographic Location</td>
<td>Study Design</td>
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<tr>
<td>Liu et al., (2019b)/Australia</td>
<td>A qualitative study with semi-structured interview</td>
<td>1. The meaning of home. 2. Cultural identification and intergenerational relationships. 3. Social connectedness with the community and friends.</td>
<td>Home is a site where belonging becomes layered; identity is developed; and cultural and social connections are maintained.</td>
</tr>
<tr>
<td>Mao et al., (2018)/The USA</td>
<td>A cross-sectional data set</td>
<td>1. Functional limitations: rating IADLs and ADLs. 2. Intergenerational support. 3. Acculturation: length of stay in the United States and English proficiency.</td>
<td>1. Receiving financial support from children and co-residing with offspring are significantly correlated with more limitations in instrumental activities. 2. Perceived emotional cohesion with children is significantly correlated with fewer such limitations.</td>
</tr>
<tr>
<td>Wang and Zhan (2019)/The USA</td>
<td>A qualitative study with interview</td>
<td>1. Older Chinese immigrants’ daily life experiences. 2. Supports and constraints from their social network. 3. Family relationships. 4. Settlement trajectories.</td>
<td>1. Older Chinese immigrants experience a cultural shift from inter-generational interdependence to American value of independence. 2. Ethnic-specific social services contribute to the development of the independent life for older Chinese immigrants.</td>
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Chapter 4: Parenting Immigrants: Understanding How Family Relationships Impact the Wellbeing of Older Chinese Immigrants Living on the Gold Coast, Australia

The previous chapter reviewed the literature related to the older Chinese immigrants and indicated that to date, few studies investigate the associations between the family, immigration experiences and the wellbeing of older Chinese immigrants. This chapter further explores these links under the form of a co-authored journal article that has been organised as a book chapter. This article has been submitted and under reviewed in the book called *Emotions of Inclusion and Exclusion in Transnational Spaces* (tentative title).

Gao, S., Dupre, K., & Bosman, C. (under review). Parenting immigrants: understanding how family relationships impact the wellbeing of older Chinese immigrants living on the Gold Coast, Australia.

The co-authors of this paper are thesis supervisors, Associate Professor Karine Dupre and Professor Caryl Bosman. The writer of this thesis (Siyao Gao) contributed to the manuscript in developing the initial literature review, definition of the main concepts, data collection, data analysis and drafting and revising the manuscript in collaboration with co-authors.
4.1 Abstract

The experience of older Chinese immigrants brings particular challenges to their wellbeing, especially when they have to make a new home in a foreign country. This study aims to understand the immigration history of this specific group and unravel the complex links between family relationships and wellbeing based on 30 semi-structured in-depth interviews that took place between February and May 2019. Four themes emerged from the interviews. First, the decision to immigrate is the result of the combined influence of family values, affinities and the need for aged care. Second, after immigration, older Chinese immigrants normally undertake housework for the whole family which negatively influences their wellbeing. The third theme pertains to the interactions amongst family members after reuniting with their adult children. The final theme shows that Chinese immigrants’ perception of wellbeing is influenced by family relationships, an independent lifestyle and social networks. In presenting the story of older Chinese immigrants, this research highlights the complex feelings of family commitment, personal values and the need for aged care among older Chinese immigrants. Practical implications for social policy makers to better facilitate this group’s wellbeing are provided.

Keywords: family relationships; wellbeing; older Chinese immigrants; immigration
4.2 Introduction

Accelerating transnational movements and the growing ageing population have prompted serious questions about the wellbeing of older immigrants. In the context of globalisation, an increasing number of older people leave their homes to move to other countries (United Nations, 2019) and a significant number of scholars and policymakers around the world are increasingly concerned about older immigrants’ health and wellbeing, their relationships with their families and their creation of the ‘home’ (Blunt, 2005; Buffel, 2017; Ciobanu, 2017). Despite an increasing focus on older immigrants in literature (Wood and Martin, 2019; Wylie, 2007), it is important to understand the nexus between family relationships while the wellbeing of older immigrants remains underexplored. This is especially so for elderly immigrants from non-Western societies and those who immigrated during later life (Lewin, 2001; Lin et al., 2015).

Because of the decline in health throughout ageing, the understanding and key components of wellbeing later in life change dramatically (Gilroy, 2007). Wellbeing is increasingly important in policy making which has been investigated in various disciplines (e.g. sociology, geography, psychology and economics) (Atkinson and Joyce, 2011; Fleuret and Atkinson, 2007; Gatrell, 2013; Ziegler and Schwanen, 2011). Wellbeing is, however, an elusive concept, understood by variables that measure this concept indirectly (Andrews et al., 2014). Some scholars consider wellbeing as an objective phenomenon related to an individual's living environment (Fleuret and Atkinson, 2007; Phillips, 2004) while other approaches include subjective experiences as well such as autonomy, personal growth, positive relationships with others and purpose in life (Ryff, 1995; Catrell, 2013; Wang and Wang, 2015). Ziegler and Schwanen (2011) summarised that the dimensions of wellbeing for older people include good physical and mental health, strong social networks and relationships with family and friends, the capacity to access information and be involved in society, sufficient income and a secure home.

Existing research that examines the wellbeing of older Chinese immigrants mainly concentrates on health issues. These studies find that immigrants are at higher risk of suffering from mental health issues such as depression and loneliness, language barriers and transportation limitations impeding their use of health services (Lai, 2009; Lin et al.,
As wellbeing is related to multiple components, more research is needed to understand older Chinese immigrants’ overall wellbeing.

Current literature reveals that mobility, living environments and family support are the main topics explored in research pertaining the wellbeing of older people (Chaudhury et al., 2016; Cuignet et al., 2019; Lin et al., 2015; Wiles et al., 2012). For instance, Nordbakke and Schwanen (2014) find that the environment influences wellbeing by affecting the mobility of older people while others such as Burr and Mutchler (2012) and Wu et al. (2011) discover that living arrangements and housing ownership are also key factors that impact older immigrant’s quality of life specifically. Regarding the research on older Chinese immigrants, previous studies have examined the effects of the social environment on the older Chinese immigrants and finds that difficulties in building social networks results in social isolation (Da and Garcia, 2015; Ip et al., 2007). Adult children are the main source of informal, yet instrumental, emotional support that contributes to the overall wellbeing of older Chinese immigrants (Dong et al., 2012; Guo et al., 2016; Lin et al., 2015). However, few of them explore older Chinese immigrants’ interactions with family members and how the family relationship influences the wellbeing of older Chinese immigrants.

Lin et al. (2015) and Phillips et al. (2008) have shown that family relationships become increasingly important to older people as they age. Family relationships shape the lives of family members and can be understood by embodied practices such as the exchange of care and social interactions between family members (Sheng and Settles, 2006). Katz (2009), for example, has specifically investigated how interaction, dependency, conflict, support and cooperation have effects on the lives and experiences of older people while Guo et al. (2016) showed how intergenerational care (e.g. structural, financial and emotional support) is closely related to the mental wellbeing of immigrants. Family support can prevent loneliness for older people while unsatisfactory family relationships can negatively influence their wellbeing (Liu, et al., 2017; Ward, 2009). Surprisingly, limited research has investigated the weight of these family relationships on the wellbeing of older immigrants.

Hence, the aim of this research is to fill in this gap by investigating the following questions of ‘what kinds of family relationships do older Chinese immigrants have and how do they affect their wellbeing?’ This paper starts with the methodology to introduce
the case study, data collection and data analysis processes. Then, the result section, based on the interviews, examines the reasons for immigration and the different elements of family relationships that may affect the wellbeing of older Chinese immigrants. This is followed by a discussion about the difficulties that older Chinese immigrants face when they interact with their families. Finally, the paper concludes with insights for further research on older Chinese immigrants and provides practical suggestions for how the wellbeing of older Chinese immigrants can be improved.

4.3 Methodology

The participants in this study are immigrants from mainland China who are now living in Gold Coast, Australia. Chinese immigration has a long history in Australia, from the gold rush era in the 19th century to the more contemporary waves (Ip et al., 2007). Consequently, among the ethnically diverse society of Australia, Chinese immigrants have become a substantial component, representing 2.7% of Australia’s total population (ABS, 2019). Although the Gold Coast (the sixth largest city in Australia) has never been a historical settlement area for Chinese immigrants, its rapid urban development and increasing multicultural demographic has resulted in the number of Chinese immigrants more than doubling from 2011 to 2016 (from 4500 to 9900) (ABS, 2016; Bosman, 2016). Chinese immigrants of all age groups have actually become the largest non-English speaking immigrant group (1.7% of the population) with some mature Chinese communities existing on the Gold Coast (Australian Bureau of Statistics, 2016).

Older Chinese immigrants can be generally divided into two groups: those who immigrated at a younger age and grew old in Australia and those who made the journey in later life. Many studies have researched the experience of immigration and how it is influenced by family relationships and values (Dou and Liu, 2017; Liu, 2014; Luo and Menec, 2018). Others have shown how, in the transnational context, family-oriented values can be challenged (Li and Chong, 2012) and identities contested (Guo et al., 2020; Lin et al., 2015; Lo and Russell, 2007). However, existing scholarship has paid less attention to the ‘later in life’ immigrant group while investigating family relationship and family-oriented values. This is what this study aimed to do with the following methodology.
A qualitative methodological approach was adopted as it provides a better understanding of subjective experiences and complex social contexts (Warren and Karner, 2005). A pilot study was conducted in 2018 involving in-depth interviews with six older Chinese immigrants. This initial study helped the interviewer build social connections with other potential participants and to test the validity of the interview questions. Building on this and as an outcome of the pilot study, the larger scale study included more questions about perceptions and feelings. The six participants in the pilot study were involved in the final research sample. Overall, there were 25 questions (Figure 4-1) which investigated demographic data (i.e. age, marital status, hometown, length of stay in Australia, English proficiency, educational level, living arrangements, visa status and monthly income) and immigration history. Some questions also looked at how the participants perceived their interactions with family members, daily activities at home and wellbeing after immigration in comparison to before in their home country. In-depth, semi-structured interviews were undertaken from February to May in 2019.

<table>
<thead>
<tr>
<th>Questionnaire</th>
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<tr>
<td><strong>Personal information</strong></td>
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<tr>
<td>1. Age</td>
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<td>2. Gender</td>
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<tr>
<td>3. Your marital status</td>
</tr>
<tr>
<td>4. The city you lived before you moved to Australia</td>
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<tr>
<td>5. Length of residence in Australia when you moved to Australia</td>
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<tr>
<td>6. Understanding of English (most of, a little but, not at all)</td>
</tr>
<tr>
<td>7. Level of education</td>
</tr>
<tr>
<td>8. Who do you live with (alone, only with a spouse, only with children)</td>
</tr>
<tr>
<td>9. Do you own or rent a house in Australia</td>
</tr>
<tr>
<td>10. The preference of living arrangement (with someone, alone, with children)</td>
</tr>
<tr>
<td>11. Religious participation (church, temple, services)</td>
</tr>
<tr>
<td>12. Are you a permanent resident or citizen in Australia</td>
</tr>
<tr>
<td>13. Are you able to tell me what your monthly income is? And sources of income</td>
</tr>
<tr>
<td>14. What was your occupation prior to moving to Australia? Are you retired</td>
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<tr>
<td>15. How would you assess your wellbeing (good, fair, poor)</td>
</tr>
<tr>
<td><strong>Immigration history</strong></td>
</tr>
<tr>
<td>16. When did you decide to immigrate to Australia? What were your motivations to immigrate to Australia (prompt: reunion with child, pursuing good environment, the change of lifestyle)</td>
</tr>
<tr>
<td>17. What are your general feelings about your immigration to Australia</td>
</tr>
<tr>
<td>18. Will you live on the Gold Coast forever? Why/Why not? Will you go back to your hometown</td>
</tr>
<tr>
<td>19. Can you talk about how the immigration has influenced your wellbeing (prompt: positive influence and negative influence, family relationship changes, activities at home? Or you think your wellbeing has improved after immigration? Why? (prompt: family members, activities, environments)</td>
</tr>
<tr>
<td>20. What do you do at home before and after immigration (Prompt: doing domestic tasks, cooking, gardening, hobbies, watching TV, having visitors)</td>
</tr>
<tr>
<td>21. Have your daily habits and activities within the home changed compared with your life in China</td>
</tr>
<tr>
<td>22. Is there any difference in the relationship with your adult children and other family members between here and your hometown</td>
</tr>
<tr>
<td>23. In your opinion, what factors will influence your feelings of your home (prompt: daily activities, families, memories)</td>
</tr>
<tr>
<td>24. What's the difference between your feelings about the home on the Gold Coast and your feelings in your hometown (prompt: attachment, identity, interactions with adult children)</td>
</tr>
<tr>
<td>25. Is there any time that you'd like to go 'home' (prompt: lonely, missing family, facing difficulties)</td>
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</tbody>
</table>

Figure 4-1 Interview questions for older Chinese immigrants based on the Gold Coast, Australia.

In this research, purposive sampling was used to recruit older Chinese immigrants who were 55 years old and over. This age limit was informed by China’s statutory retirement policy stipulating that men, regardless of occupation, retire at 60 years of age and women retire at 55 if they are public servants, or 50 if they are blue-collar workers (Zhang, et al., 2018). Another selective criterion was the length of stay. Only participants that had lived
in Australia over six months were selected, to provide reliable information on their living experiences both in their home country and in Australia. The most effective way to recruit participants for this study was through leaders of Chinese organisations on the Gold Coast in combination with the snowballing method and friends’ networks. In addition, through attending a Chinese church and regularly participating in tai chi courses and other social activities organised by Chinese associations, the interviewer gained the trust of potential participants and managed to interview 30 older Chinese immigrants.

Research participants consisted of 11 males and 19 females ranging in age from 61 to 83 years. The length of stay in Australia ranged from 1 to 15 years. At the time of the interviews no participants lived alone. Ten participants lived with their spouses only, 17 lived with their spouse and adult children and three participants lived with their adult children only. The small sample size of this research is a clear limitation which weakens the generalisability of the findings. Nonetheless, this study provides a detailed picture of the interactions between older Chinese immigrants and their adult children within their homes which could offer a deeper understanding of how the ‘home’ is affected by family members.

Table 4-1 Characteristics of Participants

<table>
<thead>
<tr>
<th>Case #. pseudonym</th>
<th>Age</th>
<th>Gender</th>
<th>Marital Status*</th>
<th>Length of residence in AU</th>
<th>Migration Category **</th>
<th>Monthly Income (AU $)</th>
<th>Living arrangement ***</th>
<th>No. of Child</th>
<th>Grand-child</th>
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<td>2. Fu</td>
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<td>M</td>
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<td>Living arrangement ***</td>
<td>No. of Child</td>
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<td>26. Li</td>
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<td>28. Zhang</td>
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</table>

*For marital status, M=Married, W=Windowed  
**For migration category, PR=Parent reunion, VV=Visiting visa  
***For living arrangement, C=Living with children’s families, S=Living with spouse, S&C=Living with spouse and children’s families

The interviews were carried out at convenient locations such as Chinese organisation’s offices, parks or the Chinese church on the Gold Coast. Both a participant information statement and a consent form were signed before the interviews. The interviews were audio recorded with the permission of the participants. The length of the interviews varied from 30 to 100 minutes. All the interviews were conducted in Mandarin and then the transcript was translated into English verbatim for further interpretation. The translation was conducted by the interviewer in order to capture explicit and implicit meanings and avoid losing any contextual or cultural expressions (Suh et al., 2009). Thereafter, a proofreader checked the quotations. Findings were presented using pseudonyms rather than real family names to protect participants’ confidentiality and help researchers portray participants’ stories effectively.
Data analysis was based on the constant comparative method as explained by (Corbin and Strauss, 2014). The first step was to familiarise with the data by reading the transcripts. The following step entailed manual coding the transcripts on the basis of themes derived from previous literature. Codes are tags or labels assigning units of meaning to the descriptive or inferential information compiled during the research (Miles and Huberman, 1994). Through reading the transcript carefully several times, codes were constantly compared to find the consistencies and differences; thus, common themes and categories were developed which were used to provide explanations for the research findings (Corbin and Strauss, 2014). In this research, codes included ‘the reason of immigration’, ‘closeness to families’, ‘conflicts with families’ and ‘wellbeing experiences’. Coding and management processes were accomplished by using Nvivo software. Once finishing coding, researchers constantly compared each code and merged codes with common elements into key themes according to the theoretical significance, such as ‘family relationships and home place’, ‘physical closeness with families’, ‘relationships with families’ and ‘identity formulation and wellbeing’. Finally, overall themes were read jointly and analysed to reach the findings of this study.

4.4 Findings

The focus of this study was to explore the experience of parents immigrating to Australia, their interaction with family members and their understanding of wellbeing. Four main findings emerged from the interview data. The first relates to factors influencing older Chinese immigrants’ decision to immigrate. The second concerns the ways in which domestic family practices promote or undermine wellbeing. The third reveals the interaction with family members. The final finding presents participants’ perceptions of wellbeing during the process of immigration and their interaction with family members.

4.4.1 Immigration: A Story of Family Reunion

There is one very clear result that emerged from the interviews: all the participants expressed that the reason why they moved to the Gold Coast was to reunite with their children. However, there are more nuances regarding the decision itself, including often a mix of duty feeling, personal values and convenience. In fact, 77% of the participants
did not immediately immigrate after retirement but instead enjoyed retirement in their hometown. They engaged in activities with friends, attended colleges for seniors and were satisfied with their lives. Applications for immigration were processed at the children's request for help and even more readily accepted when the participants realised they needed support as explained by Dong (female, 67 years old, living in Australia for four years): “My spouse is also old. If I lived in China and there was any emergency, my daughter cannot help me. We live far away from my children. I want to live with them.”

It was also found that these parenting immigrants rejoiced at reuniting with their children while remaining a realist. As Tian (female, 68 years old, living in Australia for four years) said, “An old Chinese saying goes that although there are a lot of disadvantages, as long as the family can be together, life will be good. Family harmony is important. I can't live without my children.” Living with adult children and other family members in one house provided opportunities for them to enjoy the companionship of their offspring. They often reported how seeing their adult children going in and out of the house and the grandchildren running around and playing, created and reinforced their family relationship and sense of belonging. This was illustrated in comments such as, “I lived alone in China. I felt bored and lonely. But here [in Australia], my son and daughter-in-law and my three grandsons can keep me company. They usually play instruments for me and talk to me. It's always lively and I feel very happy!” (Ting, female, 83 years old, living in Australia for 10 years).

However, nearly two-thirds of the participants expressed that the physical house they live in cannot be a ‘home’ for them as their kin mostly provides the sense of attachment and meaning to their housing. Those feelings are well described in Tian’s (female, 68 years old, living in Australia for four years) interview: “If they [her son, daughter in law and grandchildren] are not at home, I don’t know what to do. I sit on the sofa with my husband and we play with our phones. The house is so big and quiet. I have nothing to do in the house”. As such, it demonstrates the importance of family members in creating both wellbeing and attachments to place, sometimes at the cost of forfeiting previous lifestyles and home environments.

This finding was also confirmed by the answer to the question “do you think that you could live in another Australian city?” Over 90% of the survey participants expressed that, despite praising the climate on the Gold Coast and feeling as though they had adapted to
local lifestyles, they would follow their children to another city if required to. For example, Jie (female, 61 years old, living in Australia for three years) replied concisely and firmly: “I’ll go wherever they go”, showing how proximity to family relationships is a top priority for the older Chinese immigrants.

Lastly, 70% of the participants indicated they moved to the Gold Coast to take care initially of the grandchildren but often find themselves doing household duties as well, as Jie (female, 61 years old, living in Australia for three years) told: “I came here to take care of my daughter when she was pregnant. After the baby was born, I took care of the baby and did some cleaning and cooking for the whole family”. Cleaning (73%), cooking (77%), gardening (67%) and shopping (53%) were the four main tasks described by the participants besides tending to the grandchildren. However, it also quickly became clear that the number of tasks, and the way they were experienced, influenced the participants’ wellbeing. This finding is further explained in the next section.

4.4.2 Domestic Practices: A Burden

Complaints about the burden of housework were clearly expressed and nearly all the participants (93%) mentioned that they felt overwhelmed by the responsibility of caring for the whole family. “Tired” was the most frequent word used by the participants when asked to describe how they felt about their daily lives at home. The interviews revealed that participants undertook excessive housework in specific places, namely the kitchen, dining room and living room. Ping (female, 65 years old, living in Australia for seven years) spoke about her busy work schedule and fatigue:

I don't have any rest time here [in Australia]. I make breakfast for the whole family in the morning and go with my daughter to take her children to school. Then, I go to the supermarket or go home to do cleaning and washing. I eat some simple food at noon, wait for the children to finish school, then I need to prepare dinner. Life here is more tiring than in China. There is no free time all day.

The ignorance toward the sacrifices made by parenting immigrants was also found to be an important factor that negatively influences their wellbeing. A majority of the participants (83%) indicated that their own children did not acknowledge their domestic
work. As Tian (female, 68 years old, living in Australia for four years) described, “we older Chinese immigrants are babysitters who don’t get paid.” She further reported that, “we feel tired and become thin here and we can’t go back to China to have a rest because they need us. Every day, I need to do the cleaning and gardening, take care of children and prepare the meals. Nobody says thanks to me.” Participants who did not live with adult children also reported similar experiences. As Fu (male, 67, living in Australia for four years) stated, “I walk to my daughter’s house everyday to take care of my granddaughter and do some housework and cooking. I volunteer to teach traditional Chinese painting here and I am often invited to many social activities. But my children think taking care of family is a serious business.”

Consequently, the new home on the Gold Coast could become a place of strained family relationships and even oppression, a phenomenon heightened by the fact that parenting immigrants, as seen previously, prioritise family affairs at the expense of leisure activities and their own wellbeing. Many participants discussed long hours of housework and obligations of caring for grandchildren as disclosed by Hu: “Apart from doing housework during the daytime, I need to pick up the kids from school. So, I need to be at home before 2:30 pm every day. I can’t go anywhere” (Hu, female, 70 years old, living in Australia for nine years).

Yet, some participants also conveyed a sense of self-fulfilment when they helped their full-time working children, proud to provide them with enough time to relax at home. Chong explained, “It’s not easy for them to work in a foreign country, so I can help them. I am retired, I have enough time” (Chong, male, 70 years old, living in Australia for three years). In conclusion, the interviews revealed the complexity of family relationships and also how these relationships contribute to both ends of the wellbeing spectrum. Unacceptable behaviours of the children were sometimes described which brings forth the following findings on family relationships.

4.4.3 Interaction With Families: Not Really Heaven

Most of the participants (90%) revealed that the relationships with their children were sometimes far from harmonious, clearly describing intergenerational conflicts. Ping recalled the experience of her son yelling at her. She remembered the tone of her son, “We quarrel a lot. My son’s temper is not good. If I deny him, he often yells at me! I just
said to him, ‘you cannot talk to me like this.’ ...I really, really want to go home. I have no home here” (Ping, female, 65 years old, living in Australia for seven years).

A majority of the participants (60%) also complained about poor communication within their family, discussing how this made the participants feel detached from the place they live. The interviews revealed that there was also miscommunication between the participants and the younger generation (the grandchildren). Jin (female, 75 years old, living in Australia for 10 years) mentioned her experience, “There is a generational gap between us and we can’t talk together. They are not interested in what I say.” Wang (female, 60 years old, living in Australia for one year) also disclosed that “When I encounter something that I don’t understand, I ask my son or my grandson, they ignore me. Sometimes they speak English to each other and I can’t understand. It is not respectful.” These quotes illustrate how these two participants were excluded by their own family and as such felt like spectators in their own home. The experiences noted above generated negative wellbeing.

Another finding that might also explain these perceptions is the fact that parenting immigrants often reported a lack of control over their life. Hu (female, 70 years old, living in Australia for nine years) explained that her life after immigration was “not free” because it was dependent on her children’s daily schedule. Tian (female, 68 years old, living in Australia for four years) also expressed this feeling, “In my own home [in China], if I have time, I will clean the house and wash the dishes. But if I don’t have time or I am not happy, I just leave it there and go out to meet with friends. But in Australia, I need to arrange my life based on my son’s life. I don’t like living here. It feels like there is always something restraining me.”

The lack of knowledge pertaining to their new home country and the lack of English proficiency leads parenting immigrants to rely on their children and therefore older Chinese immigrants accept a lower status within the family unit. Both aspects were reported by 93% of the participants. As Li stated, “I don’t understand English and I don’t understand many things here. I feel that my daughter is like my mother, I need to follow her orders” (Li, 63 years old, living in Australia for three years). This decline of authority also restrains participants’ sense of belonging, as Xin (male, 76 years old, living in Australia for nine years) stated, “I made some decorations during spring festival such as the red lantern and paper cut-outs. But my children said these decorations that I created
looked bad. I feel depressed.” Xin further commented, “I understand that it is not my home.”

4.4.4 Participants Perceptions on Wellbeing

Question 19 addressed the perceptions of the participants regarding their wellbeing and immigration (Can you talk about how immigration has influenced your wellbeing? Do you think your wellbeing has improved since immigrating?). Overall, the data analysis depicts that the participants’ perceptions of wellbeing are closely related to family relationships, social networks and their living environment. Although reuniting with adult children has been deemed the main reason for older Chinese immigrants moving to and remaining in Australia, their wellbeing does not necessarily improve after they begin living close to, or with, their adult children. Actually 23% of participants felt that their wellbeing decreased and only 27% felt it had improved after immigration while the remaining 50% were neutral.

Harmonious family relationships seem to be the cornerstone of perceptions of wellbeing. The interviews demonstrated that all the participants who complained about unsatisfactory family relationships had perceived a decrease in wellbeing. Bei (female, 64 years old, living in Australia for three years) noted that, “I have more conflicts with my son after I started living with him and his family. I am happy to take care of my grandchildren but I don’t like living here. Although the natural environment here is the best, I am really struggling.”

On the other hand, most of the participants who were able to integrate into local society perceived an improvement in their wellbeing and thus, illustrated the relationship between living environments, social networks and wellbeing. As Zheng (female, 76 years old, living in Australia for five years) described, “My wellbeing definitely improved after immigration. I have a good relationship with my children. I made some friends. I participate in social activities once a week. The life here is simple but I enjoy it.”. However, participants who could not go out independently or develop social networks perceived their wellbeing negatively. Yu (male, 70 years old, living in Australia for three years) expressed that, “Although I can live with my children, I don’t like the life here. I cannot go out myself and so I always ask my children to take me out. I don’t have friends
here. I feel lonely. I live here because my children live here. I want to go back to my hometown.”

For those participants whose perceptions of wellbeing did not change, all of them reported that living with their adult children contributed to their wellbeing while difficulties in conducting an independent life and social networks negatively influenced their overall wellbeing. This was aptly pointed out by Wan (male, 70 years old, living in Australia for ten years), “My wellbeing hasn’t changed a lot. I feel good because I can live with my children and enjoy the mild climate. However, I sometimes feel lonely because I don’t have close friends. But I need to live here because I am old. The connection with my adult children is the most important thing in my life.”

In conclusion, older Chinese immigrants’ wellbeing is a complex concept, as they deal with the dilemma of living with their adult children at the expense of enjoying other aspects of their lives.

4.5 Discussion

Overall, the findings reveal that family relationships significantly impact upon the decision to immigrate, household chores undertaken by parenting immigrants and the wellbeing of older Chinese immigrants. Consequently, the participants fail to build an integrated sense of wellbeing as they have to make trade-offs among family-oriented values, acquiring access to adult children’s support and undesired life experiences.

4.5.1 ‘Home’ for Older Chinese Immigrants

First, this research shows reuniting with family is both linked to wellbeing and the key reason for older Chinese immigrants leaving their hometown. However, in the transnational context, family-oriented values and ideas of ‘home’ are challenged by new situations that require the reconstruction of the ‘home’ and oneself. It is generally agreed among scholars in cultural geography that the ‘home’ is a ‘material and affective space’ (Blunt, 2005, p. 506), created through everyday practices, social interactions, lived experiences and emotions (Blunt and Dowling, 2006; Blunt and Varley, 2004; Massey, 2005).
The results show that older Chinese immigrants re-establish their ‘home’ after immigration and their homes are closely attached to adult children. In the Chinese context, older Chinese people’s idea of ‘home’ is informed by ‘family first’ values. Liu (2014) shows that ‘home’ is analogous to ‘family’ which means ‘home’ is the place where a family lives. Although living with older parents is not obligatory for adult children, traditional Chinese cultural norms such as filial piety, guided by Confucianism, still influences living arrangements and aged care (Li et al., 2010) with older people often willing to live with or near their children (Su et al., 2006; Tsang et al., 2004). Therefore, the meaning of ‘home’ for older Chinese immigrants should be further studied as it could provide an in-depth understanding of one’s wellbeing once settled in Australia.

4.5.2 Burden of Housework That Needs to Be Reduced

Parenting immigrants demonstrate a complex blend of practical caregiving activities and family affection. Adult children become an important resource for older Chinese immigrants as both a caregiver and a source of information. However, within the home environment, older Chinese immigrants conduct a high level of housework and are more likely to have high expectations for filial piety. In Chinese traditional values, filial piety suggests that adult children should honour, respect and take care of the older generations (Wang, 2004). Previous research has found that older immigrants heavily rely on aged care from family members and seldom use public services (Lo and Russell, 2007). However, as this research shows, adult children are more likely to, perhaps inadvertently, overlook their parents’ difficult life situation because they are busy with their own ‘full-time work’. Insufficient understanding of, and support for, ageing parents largely shapes how the wellbeing of older Chinese immigrants is negatively perceived. In fact, the Australian government has arranged various health and social services to support older residents (Ageing and Aged Care, 2019). The use of social services could relieve adult children from the burden of providing support for their older Chinese immigrant parents while also shifting their immigrant parents’ high expectations of support from them which will ultimately benefit the wellbeing of these older Chinese immigrant parents (Wang, 2004). For policy makers, an educational initiative that informs and encourages older immigrants to use public services is important.
4.5.3 Elder Abuse Hidden in Immigration Families

Due to mobility restrictions, difficulties in language and unfamiliarity with Western societies, the results of this research imply that the high dependence on adult children generally leads to older Chinese immigrants losing the role of an authority figure, as already observed by Lin et al. (2015). The complaints regarding housework and conflicts with adult children imply that older Chinese immigrants may be a vulnerable group to elder abuse. Being socially isolated from the wider host-society can lead to the home becoming a place where abuse is hidden (King et al., 2017). In Australia, elder abuse is defined as an act occurring within a trusted relationship which results in harm to an older person. Elder abuse may be physical, sexual, financial, psychological, social and/or neglect (Kaspiew et al., 2016). According to a report published by the Australian Institute of Family Studies (Kaspiew et al., 2016), it is likely that between 2% and 14% of older Australians experience some form of elder abuse normally within intra-familial and intergenerational relationships. These figures are even more concerning when considering the high proportion of culturally diverse communities because ethnic minority groups are more socially isolated and lack social resources (Acierno et al., 2010).

In this study, some of the described scenarios of interaction with adult children (e.g. aggressive behaviour or neglect; especially if the adult children refuse to take their parents to see a health specialist) can be regarded as a form of physical abuse. The fact that many participants felt tired and complained about the heavy domestic workload they were required to undertake, demonstrated that the participants were maltreated or exploited. However, some participants and their adult children may be unaware that such high domestic expectations are a sign of abuse, especially when affinities and family values are involved in these processes (Taylor et al., 2014). Values, traditional culture and beliefs stipulate the roles, identities, power and responsibilities of family members as well as their behavioural patterns in family practices (Blundell and Clare, 2012). This means that members from different ethnic groups recognise elder abuse differently and have various levels of tolerance for it (Taylor et al., 1996; Gil et al., 2015). Confucian philosophy, which Chinese values are built on, stresses the importance of family, resulting in a lower likelihood of the victim identifying mistreatments as abusive behaviour. Excessive caregiving, older Chinese immigrants’ difficulties in social networks and dependence on adult children make them vulnerable to abusive situations. A significant implication is that policy makers should provide opportunities to conduct social interactions with others.
beyond the family. Also, educational initiatives, in the forms of courses or counselling, should be provided to better inform both older immigrants and their adult children of the characterisation of elder abuse and ways to cope with it.

4.5.4 Implications on the Wellbeing of Older Chinese Immigrants

Older Chinese immigrants demonstrated heterogeneity in wellbeing within this study. Family commitments, domestic affection and their desired retirement gives rise to unique experiences of wellbeing among older Chinese immigrants. In the context of global immigration, the number of immigration families is rapidly increasing, and the family structure is being transformed (Bai et al., 2016; King et al., 2014). Conflicts within the transnational families have also increased (Lin et al., 2015). This research stresses that dimensions of wellbeing are various among different minority groups (Lu and Gilmour, 2004). Therefore, understanding older immigrants’ perceptions of wellbeing could help policy makers develop efficient programs that maintain the wellbeing of older immigrants. In Chinese culture, older adult’s sense of wellbeing is often tied to their relations with family members (Cheng and Chan, 2016). As such, the development of programs, including leisure and recreational, that help to improve family relationships and develop family support could facilitate intergenerational understanding and respect. Mobility and social networks also play roles in the wellbeing of older immigrants (Ip et al., 2007; Luo and Menec, 2018); therefore, service providers could design and develop appropriate services and programs to facilitate intergenerational understanding and respect and also help older immigrants integrate into society and live an independent life.

4.6 Conclusion

This paper depicts the lived experiences of Chinese immigrant parents residing on the Gold Coast. Interviews were used to collect data and the transcripts were then coded to develop the core concepts and themes. Firstly, older Chinese immigrants’ decision to immigrate can be seen as partly an involuntary decision which is guided by their family commitment, personal values and convenience. The interaction between Chinese immigrant parents and their adult children is fraught with not only affinities but also
tension, conflicts and compromises. Older Chinese immigrants often perceive that they undertake excessive household work. Their customary understanding and traditional practices of retirement life are negatively influenced. Older Chinese immigrants’ wellbeing relates to a more complex situation as they fulfil their values of living with adult children while sacrificing independent life and social networks.

The limitation of this study should be highlighted. The recruitment strategy in this study was to approach older Chinese immigrants with the assistance of Chinese organisations which means that participants interviewed may be healthier and more mobile physically and socially. Thus, the most vulnerable group of people who are socially isolated and disabled may be underestimated. This group of people might provide a different perspective of relationships within immigrant families and need a higher level of health and social services. Therefore, policy makers and scholars should keep focusing on this group of people.

The findings of this study have two implications. First, this research makes a contribution to previous policies, social services and immigration literature by embracing family values as an insightful perspective for understanding the multidimensional aspects of family relationships and wellbeing. Older Chinese immigrants continually negotiate their deeply entrenched family and personal values within their changing home environments to constitute new identities and lifestyles. Practically, by revealing the complicated mechanism underlying family relationships, immigration and wellbeing, this research contributes to current policymaking for older immigrants and neighbourhood governance. First, policymakers should work better to champion initiatives that inform and educate residents, especially those who are socially isolated, about available services and how these can be accessed. Second, to improve older immigrants’ independence in life and build social networks, urban governance and ethnic organisations should focus on providing public services and cultural activities to help older immigrants integrate into society.
Chapter 5: Moving to Another Country: Understanding the Characteristics of the Neighbourhood Environment That Influence the Wellbeing of Older Chinese Immigrants

Chapter 4 explored the relationships between the family relationships and the wellbeing of older Chinese immigrants and identified that the main components of the wellbeing of older Chinese immigrants include family relationships, an independent lifestyle and social networks.

This chapter further investigates the impacts of the neighbourhood environment on the wellbeing of older Chinese immigrants by focusing on older Chinese immigrants’ experiences and perceptions of their neighbourhood environment. The study examines older Chinese immigrants’ main destinations in daily activities including parks, shopping centres and Chinese community centres and their accessibility to the essential elements of the neighbourhood environment, the walkable environment and the use of public transportation.

Methods and results are presented as a co-authored journal article submitted to the journal of *Geoforum* and currently under review.

Gao, S., Dupre, K., & Bosman, C. (under review). Moving to another country: understanding the characteristics of the neighbourhood environment that influence the wellbeing of older Chinese immigrants. *Geoforum*.

The co-authors of this paper are thesis supervisors, Associate Professor Karine Dupre and Professor Caryl Bosman. The writer of this thesis (Siyao Gao) contributed to the manuscript in developing a literature review, conducting fieldwork including interviews, travel diary data, mapping exercises, analysing data, drawing maps and writing the manuscript in collaboration with the editing and feedback from the co-authors.
5.1 Abstract

Urban areas are increasingly affected by population ageing and immigration, raising new questions for urban planning and development. Few studies investigate the impact the neighbourhood environment has on the wellbeing of minority older groups. This study involves older Chinese immigrants who are living on the Gold Coast, Australia, with the aim to examine their experiences and perceptions of the neighbourhood environment and their related wellbeing. Qualitative methods used to understand this relationship include in-depth interviews, travel diaries and mapping exercises. The research results confirm that older Chinese immigrants’ preferred lifestyles influence their daily activities and perceptions of the neighbourhood environment. The key barriers encountered by participants include safety, accessibility of (deemed) essential facilities, quality and provision of walking paths, legibility of road networks and the availability of public transport services to appropriate/desired destinations. The paper concludes with some implications for more inclusive urban development and outlines opportunities for future research.

Keywords: neighborhood environment; wellbeing; accessibility; transportation; older Chinese immigrants
5.2 Introduction

Recent years have witnessed an increased interest in the correlation between the neighbourhood environment and the wellbeing of older people as an important theme for scholars as well as in urban planning policies (Andrews & Phillips, 2005; Chaudhury et al., 2016; Finlay et al., 2015; Sugiyama & Thompson, 2007; Wiles, 2005). For example, the World Health Organisation (WHO) launched *Global Age-Friendly Cities: A Guide* (WHO, 2007) aiming to facilitate the construction of age-friendly environments to maintain the wellbeing of older people. One reason for this increased interest is the rise of an ageing population in the urban context and their desire for active ageing (Wiles et al., 2012). Another reason is that ‘ageing in place’, as an adaptive ageing policy, is employed by an increasing number of countries worldwide, including the United States, Canada and Australia (WHO, 2007). Facilitating ‘ageing in place’ refers to helping older people to remain in their neighbourhoods and stay engaged, active and independent (Wiles et al., 2012). With the deterioration of cognition and physical health, older people often require a higher level of environmental facility (Buffel, et al., 2012a; Burton et al., 2011; Cutchin, 2003).

Currently, cultural diversity in many Western countries, including Australia, has reinforced the population ageing challenge regarding elder care service provision and social inclusion (Buffel, et al., 2012b; United Nations, 2019). In 2016, over one third (37%) of older people in Australia were born outside Australia (Australian Bureau of Statistics, 2018). The Federation of Ethnic Communities’ Councils of Australia (FECCA) also estimated that older people from Culturally and Linguistically Diverse (CALD) backgrounds were projected to increase more than threefold from 2010 to 2050 from approximately 35,000 to 120,000 (FECCA, 2015). In 2016, older Chinese immigrants comprised the third largest ethnic group and the largest (CALD) group in Australia (around 80,000 people) with one of the highest average ages (Australian Bureau of Statistics, 2016a).

The process of immigration generally involves the adjusting and reconstructing of physical, social and emotional connections with the new place of residence (Wen & Chong, 2012). Culture and language differences frequently have a negative influence on the utilisation of social services and integration into the host society (Lai & Surood, 2009; Liu et al., 2014). This potentially places them at high risk of social isolation (Luo &
Menec, 2018) and mental health issues such as depression and anxiety (Hei & Dong, 2017; Lin et al., 2016), although, research also finds that older Chinese immigrants tend to actively connect with neighbours, integrate into society and develop social networks (Li & Chong, 2012; Li et al., 2014). However, the majority of existing research on older Chinese immigrants is in the fields of sociology and medical science (Tieu & Konnert, 2014) indicating the priority areas but also underlining the gaps. Although there is abundant scholarship on the relationships between the wellbeing of older people and the neighbourhood environment, few studies investigate the effects of the neighbourhood environment on the wellbeing of older immigrants (Cerin et al., 2019; Gao et al., 2019). Urban planning and design need to adapt to the changing needs of residents. Therefore, it is important to examine neighbourhood characteristics that influence older Chinese immigrants’ wellbeing to better understand this phenomenon and manage it in a more efficient way.

In ageing studies, wellbeing has been a widely discussed issue because improving wellbeing is seen as the ultimate goal of urban planning and policies. Wellbeing has been regarded as both an objective concept related to an individuals’ living conditions (e.g. housing conditions and neighbourhood socio-economic situations) and a subjective concept that concerns an individual’s perceptions of their lives (Bowling & Stafford, 2007; Fleuret & Atkinson, 2007; Gilroy, 2008; Kearns & Andrews, 2010; Wang & Wang, 2016). In this research, wellbeing is understood as a subjective concept and represents one’s cognitive evaluation of their surrounding environment (Kearns & Andrews, 2005).

The current literature splits the abstract nature of wellbeing of older people into constitutive dimensions that characterise the concept (Atkinson et al., 2012) including physical and mental health, social networks, a secure home and the capacity to access preferred activities (Gilory, 2008; Ziegler & Schwanen, 2011). Importantly, the wellbeing of immigrants is also a layered concept which is closely related to cultural identity (Dyck & Dossa, 2007; Wood & Martin, 2020). Within this context, there is one gap that emerges: most previous studies on the wellbeing of older people have focused on the local residents while neglecting older immigrants (Liu et al., 2017; Lager et al., 2012).

Therefore, within this context, this study aims to examine how the neighbourhood environment affects the wellbeing of older Chinese immigrants so as to propose appropriate implications for future urban planning studies. This research seeks to 1)
identify the features of older Chinese immigrants’ daily activity patterns related to lifestyle, including destinations and trip modes; and 2) pinpoint barriers to and facilitators of the utilisation of facilities for older Chinese immigrants and the related effects on the wellbeing of this group.

To answer these research questions, this paper examines the perspectives of older Chinese immigrants. Data was collected through interviews and by recording daily activities of participants to determine the neighbourhood environment characteristics that matter to them. The first section of this paper reviews literature related to the neighbourhood environment and older people. The methodology outlines the data collection and analysis processes. Section four presents the results of this study. This is followed by presenting the discussion. The final section incorporates the conclusion and the implications.

5.3 Older Chinese Immigrants and the Neighbourhood Environment

The relationships between older people and the environment have been theorised by various geography/urban planning studies (Andrews & Phillips, 2005; Cutchin, 2003; Fleuret & Atkinson, 2007; Wiles, 2005). Lawton’s ecological theory of ageing focuses on how individuals respond to the environment and recognises that wellbeing status is the result of congruence between personal competence and environment characteristics (Lawton, 1989). Therefore, wellbeing can be seen as the degree to which people perceive their surrounding environments as able to meet their needs and fulfil their goals (Schwartz and Sortheix, 2018).

A plethora of literature explores the link between the neighbourhood environment and the wellbeing of older people (Chaudhury et al., 2016; Franke et al., 2013; O’Brien, 2014; Wiles et al., 2012). The neighbourhood environment includes physical and social dimensions. Previous research demonstrates that neighbourhood physical environments (e.g. transportation facilities, accessibility to essential facilities, urban design and safety) significantly influence the wellbeing of older people (Moran et al., 2014) by supporting the elderly’s physical activities and social engagement (Cheng et al., 2019; Franke et al., 2013; Schwanen & Páez, 2010; Sugiyama & Thompson, 2007; Timmermans et al., 2016; Van Holle et al., 2016). Regarding the social environment, previous studies find that the neighbourhood social environment such as deprivation, ethnic minority population,
interpersonal relationships and community characteristics relates to older people’s interactions with others which could impact on social networks and wellbeing (Liu et al., 2020; Mouratidis, 2018).

However, older immigrants have received relatively little attention in the field of urban planning and geography (Kendig et al., 2014). One group of studies identifies that social networks, social support, social cohesion, family relationships and social participation have significant impacts on the sense of home of older Chinese immigrants (Liu et al., 2020; Luo, 2016; Tang et al., 2018) and their health and wellbeing (Dow et al., 2018; Ip et al., 2007; Li & Chong, 2012; Li et al., 2018). However, few studies focus on the effects of the neighbourhood physical environment on the wellbeing of older immigrants. As previous research finds, immigrants normally have a lower level of wellbeing than local residents because of the difficulties in adapting to the new place (Phillips et al., 2011). As Du et al., (2019) comment that older Chinese immigrants desire to independently access necessary services and develop connections with new places. The physical environment can support older people’s travel and physical activities which help them to access their destinations (Cerin et al., 2017). Cerin et al. (2019) have investigated the impact of the built environment on health-enhancing behaviours and find that accessibility to destinations and activities as well as public transportation are important factors. However, this study only identifies the important determinants. More examinations related to older Chinese immigrants’ experiences and interactions with the neighbourhood environment should be undertaken.

In this research, values are used to understand the impacts of the environment on the wellbeing of older Chinese immigrants as the older Chinese immigrants try to retain their unique perceptions and lifestyles after immigration (Li & Chong, 2012). As Schwartz et al. (2012) conclude, when a person’s value is threatened, he or she will activate a negative mood. Therefore, the fit between individuals’ values and the opportunities or constraints in the environment may promote or undermine wellbeing. Socio-cultural norms influence perceptions, attitudes and values leading to a preference towards daily activity choice and have an impact on individual-environmental relationships (Alves, 2011; Scheiner, 2010). Chinese traditional cultures, as well as previous life experiences, generally influence the behaviours of the daily activity of older Chinese people, resulting in their differences in activity patterns from their Western counterparts (Ito et al., 2014; Liu et al., 2008). For example, older Chinese people are more likely to undertake passive leisure activities such
as playing mah-jong¹ and cards, collective activities (e.g. chorus and square dancing) and cultural activities (e.g. calligraphy) instead of competitive sports which Westerners appreciate (Cheng et al., 2019). Another strand of literature emphasises the importance of family members that play vital roles in supporting older Chinese immigrants’ mobility, social networks and the use of public services (Caidi et al., 2020; Lin et al., 2016). As such, in order to understand relationships between the neighbourhood environment and the wellbeing of older Chinese immigrants, their particular daily activities driven by lifestyle and values have to be considered in such a complex social context (Van Acker et al., 2010; Zhang & Van Acker, 2017).

An understanding of the relationship between neighbourhood environments and wellbeing seems formed in the multicultural context and bound by traditional Chinese values and beliefs (Tiberius, 2014). Their adaptation experiences are determined by immigrants’ preferred activities, culture and lifestyles (Li et al., 2018). However, what is missing in the extant literature is a clear conceptual knowledge of how to understand older immigrants’ lifestyles and its effect on their interactions with the neighbourhood environment and their wellbeing (Cerin et al., 2019).

Overall, immigration of older people is changing the ethnic composition of most societies (Torres, 2012) which has raised challenges in urban planning (Schmitz & Kitzmann, 2017; Schwanen & Páez, 2010). Urban design and infrastructure should be more inclusive to mitigate the physical and social disadvantages experienced by older immigrants (Keating et al., 2013; Neville et al., 2018). Yet limited research focuses on older immigrants’ experiences of interactions with the neighbourhood environment and few immigration studies examine the local scale despite the fact that local environments are the sites where residents encounter and experience relations to place (Schiller & Çağlar, 2009; Valentine, 2008). Therefore, more research is needed on the association between neighbourhood environments and wellbeing of older Chinese immigrants. This research attempts to fill this gap and to contribute to the current urban planning principle of accommodating ethnocultural diversity.

¹Mah-jong is a four-player gambling game which originated in China which is particularly popular among older generations (Zheng et al., 2010).
5.4 Methodology

This study used the qualitative methodology to understand how the neighbourhood environment influenced the wellbeing of older Chinese immigrants. In order to understand the barriers to and facilitators of the environment, the research investigated older Chinese immigrants’ experiences and perceptions of their interactions with the neighbourhood environment (Silverman, 2013; Yin, 2015). This study ensured the validity and reliability of results by utilising multiple methods to understand the multidimensional aspects of older Chinese immigrants’ interaction with the neighbourhood environment. Older Chinese immigrants’ experiences were examined by travel diary data and mapping exercises which provided quantitative data. Their perceptions of interaction with the neighbourhood environment were understood by semi-structured and in-depth interviews.

The fieldwork of this research was conducted in the City of Gold Coast. The Gold Coast is located on the eastern coast of Australia which is one of Australia’s fastest-growing areas with increasing multicultural demographic changes (Dedekorkut-Howes & Bosman, 2015). The mild climate and relaxed lifestyle on the Gold Coast were two incentives that attract migrants, especially older migrants (Bosman, 2016). The proportion of older people aged 60 years and over was 22% (Australian Bureau of Statistics, 2016b). Previous research on older Chinese immigrants was mostly conducted in large metropolitan areas (Cerin et al., 2019; Liu et al., 2020) and few studies focused on the older Chinese immigrants in other cities. On the Gold Coast, Chinese immigrants were the largest non-English-speaking population group (Australian Bureau of Statistics, 2016b). Along with Chinese people continually moving to this region, the number of older Chinese population more than tripled from 2006 to 2016 (from around 450 to 1,700) in the City of Gold Coast (Australian Bureau of Statistics, 2016b). Lived experiences had significant impacts on the wellbeing of older people (Schwanen & Wang, 2014). However, previous studies mostly focused on the statistical associations between neighbourhood environments and wellbeing (Barnett et al., 2017; Zhou et al., 2017). They ignored the dynamic daily activities and older Chinese immigrants’ perceptions derived from the interactions with different neighbourhood environments (Zhao et al., 2018). Therefore, this research employed qualitative methods to provide better understandings of subjective experiences. The geospatial behaviour potentially helped to better assess activity spaces in relation to daily experience and thus better inform service distribution (Milton et al., 2015;
Schwanen & Páez, 2010). As such, participants’ geospatial behaviours were collected to inform how the characteristics and placement of essential services influenced older Chinese immigrants (Hand et al., 2017; Tong et al., 2016). In order to understand the everyday life experience and its influence on participants’ wellbeing, attention must be given to activity and time-use patterns (Winters et al., 2015). To this end, a travel diary and mapping exercise were used to provide complementary insights into the ways in which older Chinese immigrants interacted with the neighbourhood environment.

Fieldwork was implemented from February to May 2019. Prior to the interviews, the interviewer participated in social activities organised by the local Chinese organisations several times to approach potential participants, gain their trust and invit them to participate in the research. All participants were recruited through snowballing, personal networks and assistance from the leader of the Gold Coast Chinese Association. Prior to each interview, participants were given an information statement. Oral or written consent forms were completed and obtained from participants. According to the Chinese retirement policy, the statutory retirement age is 55 for female staff, or 50 for female blue-collar workers and 60 for their male counterparts (Che & Li, 2018). Therefore, older Chinese immigrants who were eligible to be included in this research were aged 55 years old and over. The minimum length that participants had stayed on the Gold Coast was required to be over six months which enabled them to provide reliable information on their experiences living there.

The interview was conducted at a place of their choice such as the local community centre, church or park. Due to this small sample size, specific ethnicity group and study area, this study was limited in generalisation which may not be able to represent other ethnicities in other cities. However, this study provided a detailed picture of the activity patterns of older immigrants, specifically the Chinese and their nuanced experiences in relation to the neighbourhood environment. This could help to obtain a deeper understanding of how various neighbourhood environment elements interacted with participants’ wellbeing.

In total, 30 older Chinese immigrants participated in this study. Participant ages ranged from 61 to 83 years of age with 70% aged between 65 and 80; the research sample consisted of 11 males and 19 females. At the time of interviews they had resided in Australia from 1 to 15 years. Regarding living arrangements, ten participants lived alone
with their spouse, 17 lived with both their spouse and adult children and three participants lived without a spouse but with adult children.

Conducting interviews combined with the travel diary method appeared more powerful in exploring how people interacted with the place (Hand et al., 2017; Tong et al., 2016). Before conducting interviews, the interviewer asked participants to record their travels and activities in travel diaries for seven days. The travel diaries included departure place and time, arrival place and time, travel mode, destinations, activities, travel companion, the reason for route choice and trip purpose (e.g. household responsibilities, recreational or social purposes.). The out-of-home trips were defined as trips within the Gold Coast; trips to other cities or countries outside the study area were excluded. If any activities took place in their residence, the activities would be included (e.g. hosting friends at their residence).

Participants were also asked to locate the places they visit and draw related travel routes according to their travel diaries. Only 18 of the 30 participants finished the mapping exercise with the help of the interviewer (the mapping exercises included two couples, so the maps only presented 16 houses). The main reasons for not completing the mapping exercises were confidentiality considerations (for two participants) and difficulties in recognising the routes and places on local English maps for the 10 other participants. This data was then digitised using Google Earth and ArcMap 10.3.

Travel diaries and mappings were a basis for starting the interviews which enabled the interviewer to gain more accurate information about motivators and barriers, as well as perceptions in conducting these travels. In the interview, participants were initially asked to provide their basic socio-demographic information (e.g. age, gender, educational level, length of stay in Australia). Secondly, according to the answers from travel diaries and their mapping exercises, the participants were asked about their perceptions of daily activities, the natural environment, infrastructures, public transportation, social networks and social services. The questions were always adapted to the result of participants’ travel diaries and maps utilising the process of interviews. For instance, the questions included “Why do you mostly go to the school (where your grandchildren attend), that park or shopping centres?”, “Are there any difficulties that impede you to access these places?”, “Why not take buses?” and “According to your mapping exercises, why did you choose these travel routes?”. The interviewer also asked participants to compare their daily
activities with those in their hometowns. Interviews of approximately 30 to 90 minutes were conducted. Mandarin was the first language of both the interviewer and interviewees and was used during the interviews. The interviews were audio-recorded and were fully transcribed. In order to present the results, the transcripts were translated into English by the interviewer and a proof-reader. This can be able to ensure the credibility of the transcripts and to avoid missing any cultural meanings (Suh et al., 2009). The pseudonyms were adopted to protect the information of participants (Allen & Wiles, 2016).

The comparative method was used to analyse the collected material (Corbin & Strauss, 2014). Manual coding was conducted in an iterative way to organise the raw data content into conceptual categories. Codes are the means to transform raw data into conceptual categories. Codes are labels which are used to assign tags to each segment of meaningful data (Miles & Huberman, 1994). In the process of the data analysis, codes can be pre-set and emergent codes. Pre-set codes are created prior to data analysis according to the research questions and literature. In this study, pre-set codes included ‘neighbourhood environment segments’, ‘wellbeing experiences’ and ‘relations between neighbourhood environments and wellbeing’. Emergent codes included ‘landscape’, ‘accessibility’, ‘safety in transportation’, ‘interaction with friends’ and ‘preferred activities’ which were developed during the process of coding. These codes were constantly compared to develop themes according to similarities and discrepancies. Finally, these themes were used to answer the research questions. The transcripts were analysed with the aid of the qualitative software NVivo 12.

5.5 Results

The effects on wellbeing due to physical interactions between place and older Chinese immigrants have two main dimensions. The first theme is connected to how older Chinese immigrants perceive the neighbourhood environment. The second theme relates to how they undertake their daily activities and travel behaviours and how the neighbourhood environment facilitates or impedes their activities.

In total, the travel diary data of these 30 participants reported 380 valid destinations within seven days. Table 5-1 presents the descriptive statistical results of the destinations they visit and the related travel modes for these trips. According to the diary data, nine
destination categories and three types of travel were generated. The activities of older Chinese immigrants could be classified into two categories: subsistence activity (e.g. shopping and picking up grandchildren) and recreation activity (e.g. exercise, cultural activities, having meals outside and visiting friends). More specifically, two main activity patterns can be observed. Among these participants, twenty-two participants (73%) reported that their major destinations were parks/nature/gardens, then malls/large marketplaces and community centres which showed that these participants mostly conducted recreational activities. Five participants (17%) mostly undertook the responsibility of caring for the family. They mostly went to the schools where grandchildren attended, and the next frequent destinations were malls/large marketplaces and parks/nature/gardens.

In terms of the trip modes, these participants were more likely to travel by foot and by private car than by public transport. If the destination excluded ‘parks near home’, travel by private car was the main trip mode for older Chinese immigrants. This result was congruent with their local non-Chinese immigrant counterparts whose travel is car-dependent (Zeitler and Buys, 2015). Participants took public transport to the places where they could conduct preferred activities which accounted for only 13.4 percent of the travel.

Table 5-1 Destination type and related travel mode across one week among participants (n=30).

<table>
<thead>
<tr>
<th>Destination</th>
<th>n (%)</th>
<th>Trip Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Walk</td>
</tr>
<tr>
<td>Parks/nature/gardens</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parks near home</td>
<td>101 (26.6)</td>
<td>101</td>
</tr>
<tr>
<td>Other parks</td>
<td>45 (11.8)</td>
<td></td>
</tr>
<tr>
<td>Malls/large marketplaces</td>
<td>81 (21.3)</td>
<td>28</td>
</tr>
<tr>
<td>Schools where grandchildren attend</td>
<td>56 (14.7)</td>
<td>10</td>
</tr>
<tr>
<td>Chinese community centres</td>
<td>35 (9.2)</td>
<td>5</td>
</tr>
<tr>
<td>Churches</td>
<td>29 (7.6)</td>
<td>2</td>
</tr>
<tr>
<td>Children's workplaces</td>
<td>12 (3.2)</td>
<td>5</td>
</tr>
<tr>
<td>Friends' houses</td>
<td>11 (2.9)</td>
<td>1</td>
</tr>
<tr>
<td>Beaches</td>
<td>7 (2.1)</td>
<td>5</td>
</tr>
<tr>
<td>Clinics</td>
<td>2 (0.5)</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>380 (100)</td>
<td>169</td>
</tr>
</tbody>
</table>
5.5.1 The Perceptions of Neighbourhood Environments and Related Wellbeing Experience

‘I can be close to nature when I live here. I can hear bird songs and see a big lake near my house. Every time I see these scenes, I feel peaceful and comfortable (Li, female, 63 years old, living in Australia for three years).’

Based on the travel diary data, parks/nature/gardens were the most favoured destinations. Qualitative analysis of the responses of participants indicated that exposure to a better-quality neighbourhood environment, such as parks, aesthetic build environments and clean and tidy residential areas improved physical and mental health. For many, as per Li’s quote above, these neighbourhood elements generated a healthy public space to provide feelings of renewal and spiritual healing which contributed to their mental wellbeing. Nearly 70% of participants also confirmed that high quality parks and mild climates provided more opportunities to interact with the natural environment which contributed to active ageing and wellbeing.

However, a majority of participants (67%) also acknowledged that they had difficulties in adapting to new places. An unfamiliar urban environment generated safety concerns, resulting in increased feelings of nervousness which can negatively impact wellbeing as Ding stated:

‘I feel nervous when I walk outside. I am afraid of someone bullying me because I am a foreigner here. I have some chronic diseases. If there is some sort of emergency, I can’t ask for help because I don’t know English. I feel uncomfortable about this and I have to stay at home or go out with my son (Ding, female, 65 years old, living in Australia for five years).’

5.5.2 Access to Neighbourhood Environments and Preferred Daily Activities

The second theme is related to how older Chinese immigrants undertake daily activities. Two factors regarding neighbourhood environments that influenced physical and social activities include: (1) accessibility to public facilities and (2) transport conditions.

First, regarding the accessibility to public facilities, according to the data collected from the participants’ travel diaries, nearly one third of destinations are ‘parks near home’. All
of the participants (100%) were generally satisfied with the neighbourhood parks and kept their exercise habits such as walking to green spaces or parks to conduct physical activities on a daily basis.

‘I go to the small park to walk and do some exercise nearly twice a day. It’s convenient for me to go there. If I have nothing to do, I like walking in that park. It’s good for me because I can maintain an active lifestyle and keep healthy (Fu, male, 67 years old, living in Australia for four years).’

Few participants (17%) went to the beach despite having easy access to the beach on the Gold Coast. This finding may thus have further proved that the participants’ activity pattern was largely shaped by culture as explained by Li:

‘I just go to some parks… I seldom go to the beach although I live near the beach. The sunshine, sands or sea scenery aren’t attractive for me; It’s boring; I am used to going to the park to do some activities and connect with nature (Li, female, 63 years old, living in Australia for three years).’

‘Malls/large marketplaces’ was the second most frequent destination they visited. However, as revealed by participants, being unable to drive negatively influenced them accessing shopping centres.

‘The nearest shopping centre is far from our home here; it’s really inconvenient. I can’t drive. I can’t walk to the shopping centre myself and buy what I want. There is nothing around my house. I have to ask my children to take me to the shopping centre on the weekend but during weekdays, I can’t go shopping myself (Hai, male, 63, living in Australia for five years).’

Hai’s quote showed that the geographic accessibility of shopping centres emerged as the central concern for his daily life. Over four-fifths of participants (83%) complained about the difficulties in assessing grocery stores. Being close to marketplaces enabled participants to do shopping and buy fresh fruits or vegetables independently and more often which was in keeping with their life experience; however, as Hai indicated, on the Gold Coast, accessibility of these marketplaces cannot meet participants’ needs which undermined wellbeing.

In addition, interview data revealed that all participants (100%) maintained their dietary habits after immigration.
'There is a small supermarket near my home. It’s good. If I need something, I can buy it. But it’s inconvenient to buy some Chinese food, I have to go to the Chinese grocery store with my daughter on weekends... I need to buy some Chinese seasonings and vegetables (Chong, male, 70 years old, living in Australia for three years).’

This statement indicated that although a local grocery store could somehow meet Chong’s demands, he also required high accessibility to a Chinese grocery store. The distribution of markets with Chinese groceries had a significant impact on participants’ capacity to access essential facilities.

The third most common destinations were ‘other parks’, ‘churches’ and ‘community centres’. According to the interview, these destinations are the places that older Chinese immigrants meet with other Chinese people and organise leisure activities.

‘I once belonged to an Asian association. There were English courses and dancing courses. Attending those courses was the only leisure activity for me and I could chat with some of my friends. But it has moved to another place which is far away from my home and I can’t visit it anymore. I seldom go out now. I feel very bored (Wang, female, 70 years old, living in Australia for 10 years).’

The interview revealed that all the participants (100%) engaged with at least one Chinese organisation to participate in Chinese cultural activities such as tai chi, tea parties and square dancing. It was observed that Chinese community centres predominantly support participants to take part in physical, social and recreational activities thus maintaining their physical, social and mental wellbeing. However, Wang’s experience demonstrated that participants with poor access to these places were less likely to conduct these physical and social activities which potentially results in inactivity, related health risks and social isolation.

‘Going to the Chinese community centre is a little bit difficult for me but there is no place to do these activities. I searched for information about community centres near my home but they don’t suit me. I don’t understand the local activities (Fu, male, 67 years old, living in Australia for four years).’
Interviews revealed that all participants only went to community centres that offered Chinese cultural activities. Fu’s quotation showed that being close to a local community centre had no significant impact on his recreational activity because they cannot join local activities due to language barriers and reactional differences.

5.5.3 Difficulties in Travel Activities

The second major result of this research is that travel, including driving, public transport and walking environments significantly influenced participants’ capacity to access essential facilities and daily activities.

The majority of participants (83%) could not drive. Their travels in the City of Gold Coast relied heavily on private vehicles driven by others, walking or public transportation. The travel diaries indicated that 85 travels were made by participants as passengers. According to the mapping exercises, most of their destinations that were far away from home were reached with the assistance of others. Although the travel can meet participants’ needs, participants’ independence was negatively influenced.

‘My son drives me to the community centre and then he needs to take me home. But sometimes he doesn’t have time. I can’t go to this centre every time (Wang, female, 60 years old, living in Australia for one years).’

The data shows that walking environments were important because the highest proportion of participants (70%) could only walk to destinations and as such had the most restricted lifestyle. Their scope of activities was mainly home based.

‘The sun is drying and I can’t go out all day long. There’s no tree shade along the road. It makes me feel dizzy (Jie, female, 61 years old, living in Australia for three years).’

The first characteristic of urban road conditions that affected the participants was tree shade which was perceived as supporting older Chinese immigrants to walk outside during the hot weather. During the interview, over one-half of participants (63%) complained of the difficulties of walking on the street during summer on the Gold Coast.

The second emerging factor that influenced the walking environment for older Chinese immigrants was the legibility of road signs. More than one fourth of participants (27%)
reported their experiences of becoming lost and 70% of participants had the fear of becoming lost. Their experiences impeded participants starting to orient themselves in the new place. The quotation of Hu showed that the legibility of road signs could make places more identifiable, promote willingness to walk outdoors and increase participants’ capacity to access destinations far away from their homes.

‘I don’t dare to walk far away from my home. I am afraid of getting lost. The residential areas look the same. I can’t remember the road signs and if I turn at the wrong corner, I may have some trouble (Hu, female, 70 years old, living in Australia for nine years).’

Another determinant that influenced walking activity among the older Chinese immigrants was the land use mix of the neighbourhood environment. Almost all of participants (90%) perceived that the location of essential services related to their daily activities.

‘I bought a small apartment nearby. I can walk to the shopping centre, Chinese community centre and the park. I can walk to where I want, so I can participate in many activities and walk a lot. I am satisfied with this place (Fu, male, 67 years old, living in Australia for four years).’

Evidently, Fu’s comment illustrated that living in an area where most errands could be accomplished on foot meant higher accessibility to essential facilities and encouraged walking activities. The distribution of services was thus a major factor influencing walkability. Figure 5-1 shows weekly travel maps for two participants: Fu (Fu, male, 67 years old, living in Australia for four years) and Chong (male, 70 years old, living in Australia for three years). The results from interviews found that Fu lived in a high amenity neighbourhood and Chong was from a neighbourhood with few available facilities. Fu and Chong’s levels of walking activities were grounded in the accessibility to facilities and partly explained why Fu’s activity scope was larger than that of Chong. The essential facilities for Fu were located within his walking distance. Fu conducted diversified daily activities and his walking routes covered a large spatial area. By comparison, Chong lived in his daughter’s house, as shown in Figure 5-1b, where the area did not have many facilities resulting in fewer walking events. Within a walking range of one kilometre, the availability of amenities and facilitates significantly impacted the
number of walking activities which in turn potentially resulted in a less active lifestyle and negative wellbeing.

Figure 5-1 Seven-day activity path map of two participants.

a. Participant Fu

b. Participant Chong
In regard to public transport, all the participants (100%) agreed that public transport was an important type of trip mode.

‘Public transport can meet some of my demands. I can go to the shopping centre or community centre myself twice a week. Although I don’t know how to go to other places, going to those two places is enough for me (Hu, female, 70 years old, living in Australia for nine years).’

The data demonstrated that the participants who cannot drive had attempted to take public transport which is significantly related to the development of daily activities and social relations. The interview data showed that public transport helped participants to enjoy a more active and independent lifestyle which helped them maintain physical health and social networks. However, as Hu presented, their choice of destinations was limited. The travel diary data showed that participants could only take buses to places they usually went to, such as other parks, shopping malls, the Chinese community centre and churches but not beyond that. The related interview data found that all participants (100%) attempted to learn how to utilise public transportation. Participants expressed that unfamiliar bus services, difficulties in communicating with bus drivers and navigating themselves in the unfamiliar environment were essential barriers that impeded them to take public transportation. This is noted by Yang,

‘I learned how to read the bus schedule and my children help me to check the bus routes. But I think it doesn’t help...I don’t understand English, so I can’t talk to the bus driver, I don’t know when I need to get off. If I get off at a wrong stop, that would be a big problem (Yang, female, 75 years old, living in Australia for four years).’

5.6 Discussion

This case study explored the daily activity pattern of older Chinese immigrants on the Gold Coast and how certain characteristics of the neighbourhood environment maintained and undermined the wellbeing of this group. This research analyses spatial details of daily activities of older Chinese immigrants and highlights that the quality of natural environments, accessible essential facilities, high quality walking paths, legible signs along the road, safety and available public transport services positively affect wellbeing.
Older Chinese immigrants’ preferences in daily life such as being more likely to go to green spaces rather than beaches, participating in Chinese activities and going to Chinese grocery stores influence their access to facilities and thus their wellbeing.

The residential location plays a crucial role in shaping older Chinese immigrants’ relations with neighbourhood environments and wellbeing. The interviews found that only 27% of participants were able to choose their places of residence while the remaining participants (73%) lived with adult children in the latter’s choice of location. According to the analysis of spatial data, Fu, who could independently choose an area to live, had a higher level of walking activities, leading to a more active lifestyle (see Figure 5-1). However, in line with the previous study of Mao et al. (2018), older Chinese immigrants cannot choose their area often and live in suburban areas with their adult children. Therefore, older Chinese immigrants often have access issues to facilities and encounter more barriers to engaging in an active lifestyle. The barriers jeopardise their ability to utilise public services and to successfully “age in place”.

Apart from the lived arrangement noted above, the results can be further inferred that although older Chinese immigrants can receive support from family members regarding transportation and other services, adult children cannot fully meet the needs of older Chinese immigrants. Previous studies find that adult children provide instrumental support to older Chinese immigrants (Guo et al., 2016; Mao et al., 2018). In line with previous research (Ip et al., 2007), adult children’s assistance in providing vehicle transportation could be seen as a supplement to mobility for older Chinese immigrants. However, this research demonstrates that older Chinese immigrants often prefer to go out independently. Depending on adult children negatively influences older Chinese immigrants’ autonomy and generates feelings of powerlessness. Therefore, more social services such as shuttle buses of the community centre should help older Chinese immigrants maintain the capacity to access the destinations.

This research demonstrates that the Gold Coast neighbourhood environment seems to play a crucial role in travel behaviours of older Chinese immigrants. The spatial data show that daily activities are embedded and perpetuated within the context of their life. Compared with high-density urban planning in China, suburban environments on the Gold Coast encourage car-dependent transportation (Zeitler & Buys, 2015). Therefore, participants living in the suburbs and who cannot drive are unable to participate in social
activities independently, thus being restrained in their neighbourhood. Overall, the daily activities and wellbeing are influenced by the interrelationship between older Chinese immigrants’ travel abilities, preferred daily activities and their neighbourhood types where they live. The transportation planning might need to change to accommodate older immigrants’ travel experiences, not only by providing more travel routes but also by incorporating appropriate language services to help older immigrants navigate their trips.

In regard to daily activities, the travel diary data presents that the daily activities and lifestyle preferences of older Chinese immigrants did not change after immigration. Older Chinese immigrants actively rebuilt their life in the host country while some level of continuity was maintained. Participants gradually grow familiar with and adapt to new places to develop their daily routine patterns. They developed several strategies to do so such as continuing the habit of walking in parks to maintain physical health, participating in Chinese organisations to build social networks and learning how to read bus schedules. This is congruent with the research of Montayre et al. (2019), showing that older Asian immigrants make an effort to adjust to the unfamiliar environment by participating in community activities and meaningful leisure activities. More importantly, this research further emphasises that adaptation strategies are based on the neighbourhood environment. Participants have limited capabilities to reconstruct previous lifestyles due to mobility limitations and less Chinese community centres. Therefore, in confronting the unfamiliar environment, some daily activities were active choices while some daily routines were constrained decisions.

This research also indicates that cultural accessibility would also need to be taken into consideration. The findings are also consistent with the work of Cerin et al. (2019) which reports that accessibility to key essential facilities is positively associated with the physical activities and wellbeing of older Chinese immigrants. As our study showed that mobility limitations impede participants from going out and using these essential services independently. These immigrants retain their lifestyles and contribute to a multicultural city (Da & Garcia, 2014; Li & Chong, 2012). For example, the City of Gold Coast is famous for its splendid beaches, few participants (17%) visited the beach to exercise, demonstrating again that participants related more intensively with already-known urban elements (e.g. parks) and favoured continuity with their previous life. The spatial data finds that older Chinese immigrants’ preferred destinations and activities are clusters in the centre of the city. As a result, older Chinese immigrants are being cut from the
activities they preferred such as tai chi, choirs and maintaining their eating habits. Therefore, they experienced less diversified leisure activities and constrained social networks which subsequently contribute to their isolation on a daily basis.

The difficulties met within the neighbourhood environment may impact social and emotional dimensions as well. Older Chinese immigrants experienced multiple levels of geographical and social marginalisation. Socially inclusive communities maintain the wellbeing of older immigrants (Neville et al., 2018). However, difficulties in accessing essential facilities, using public transportation as well as reading signs and recognising unfamiliar environments may undermine their attempt to reconstruct social networks and impede them from accessing preferred destinations and activities. For these older immigrants, their mobility was significantly determined by the supply of facilities which is influenced by urban planning. As such, it is imperative for urban planning to facilitate an inclusive urban space and help this group to integrate into society. Several strategies could be suggested to increase their ability and confidence to go out. First, optimising bus services by always stopping at the main destination, signing the next stop name and providing shuttle buses to and from shopping and community centres would increase the accessibility of these essential facilities. Second, legible and readable road signs with rationalised incorporation of colour would improve the legibility of walking environments for older people who cannot read English or suffer cognitive disorders such as dementia.

This study provides a snapshot of the current living experiences of older Chinese immigrants in Australia in the early decades of the 21st century. Through the process of the interviews and mapping, this study found that although all the participants had smartphones, few of them can understand the maps in English and none of them used the apps to navigate their trips which is a crucial factor that undermines the mobility of older Chinese immigrants. Therefore, the limitation of mobility derived from unfamiliar environments and the inability to drive negatively influences participants’ independence and wellbeing. Mobile navigation apps may help to increase older people’s confidence to go out and their travel safety by providing readable maps. Blok et al. (2020) emphasis that older people, especially those with cognitive impairments, could benefit from the development of information and communication technology. The potential of information and communication technology has drawn increasing attention from the geographers and urban planners (Dadashpoor & Yousefi, 2018; González-González et al., 2019). Urban
planners could cooperate with scholars in computer science to develop new technologies to meet older people’s specific demands and encourage active ageing.

5.7 Conclusion

The interviews with the participants in this study depict a nuanced picture of their experiences when interacting with the neighbourhood environment. Older Chinese immigrants are exposed to the urban environment with an unfamiliar culture and they encounter various restrictions and obstacles in mobility and utility of public facilities. This prevents them from undertaking diverse physical activities and reinforces a lack of social relations and peer support.

Several limitations should be considered in this study. First, the older Chinese immigrants were considered as one group when analysing the travel diary data. It should be noted that previous lived experiences would influence this group in personality and values. As such, further research could be developed to understand each individual’s travel pattern by combining older Chinese immigrants’ demographic characteristics and lived experiences. Secondly, the walkability of the built environment only considers the accessibility to essential facilities. This research ignores the impact of participants’ demographic backgrounds such as health conditions and the perceived walkability in their hometown. Future studies that compare the lifestyles of older Chinese immigrants and Australian elderly or other older minorities could address the third limitation of this study. The participants were approached through the Chinese community centre which means that these participants were active and able to participate in social activities. Therefore, the most vulnerable older Chinese immigrants who cannot participate in these activities were underestimated. Future studies need to include these groups of people. Further, it should be acknowledged that these suggestions are temporal and specific. With the development of urban areas and the change of Chinese immigrants’ characteristics, urban planners would need to change these interventions to formulate a long-term urban planning strategy.

Despite these limitations, this study is a primary attempt to understand how older Chinese immigrants adapt to the neighbourhood environment and their related wellbeing. The contribution of this article to the existing literature is threefold. Firstly, this research focuses on lifestyles and values to enhance understanding of the influence of
neighbourhood environments on older Chinese immigrants. The main finding observes a more complex situation, that the facilities related to the preferred activities of older Chinese immigrants are more important than others. For exercise purposes, nearby parks and places holding tai chi or Chinese style square dancing are more important than centres for other types of local activities. For leisure and social purposes, the distance to Chinese organisations is also found to be more influential than that of coffee shops and local community centres. The findings could inform further research on investigating the immigrants’ lifestyles and their experiences of the neighbourhood environment.

Secondly, this study fills an important knowledge gap regarding older Chinese immigrants’ experiences of reconstructing their daily routines through investigating spatial behaviour in the context of the Gold Coast, Australia. This research reveals the relationships between the neighbourhood environment and the wellbeing of older Chinese immigrants. The results demonstrate that the characteristics of the neighbourhood environment significantly influence daily activities and wellbeing. Therefore, this paper contributes to the future urban planning process and individuals embedding and interacting with the constructed place at various scales. In future studies in the field of urban planning, especially for ethnic minority or vulnerable groups, context-sensitive and place-based qualitative studies are required to understand the complex and dynamic nature of people, places and daily activities.

Thirdly, this research enhances the understanding of older Chinese immigrants’ experiences of interaction with and adaptation to the new neighbourhood environment. Within the transnational context, this study deepens the understanding of wellbeing based on the environmental perspectives provided. This study observes a more complicated picture: the culture and values of older Chinese immigrants strongly influence how they negotiate the neighbourhood environment and how they make trade-offs among the preferred activities and mobility barriers.

Practically, the findings of this research will serve as valuable references for urban planners and policymakers to formulate effective measures that actively promote physical activities and social interaction which then maintains the wellbeing of older immigrants. A United Nations report in 2002 called for investment in local environments to support multicultural communities to better integrate into society (United Nations, 2002). However, this study shows that two decades later, few culturally sensitive urban planning
strategies have been adopted and older immigrants are encountering various barriers in urban areas. Reflection on current practice indicates that urban planners and policymakers prepare insufficiently for rapidly ageing and ethnically changing societies. This investigation of older immigrants’ residence in the place of destination provides practical evidence and a useful perspective from which to consider spatial planning for multicultural urban areas in the contemporary world.
Chapter 6: Understanding the Well-Being of Older Chinese Immigrants in Relation to Green Spaces: A Gold Coast Study (Australia)

The previous chapter focused on the relationships between the neighbourhood environment and the wellbeing of older Chinese immigrants and identified the main destinations of the older Chinese immigrants on a daily basis. It showed that accessibility to these places (e.g. the location of essential facilities, walkability of the environment and public transportation) significantly influences the wellbeing of older Chinese immigrants. Older Chinese immigrants’ specific requirements such as conducting collective and meaningful (i.e. Chinese) activities influence their destinations.

Chapter 6 focuses on the participants’ interaction experiences of green spaces. Green spaces emerged throughout the interviews and travel diaries as the most popular destinations for older Chinese immigrants, hence the current focus. Patterns of everyday contact with public green spaces are explored, including activities and accessibilities. Finally, by analysing the interview data, the research focuses on the values embodied in green spaces visitation which reveals the links between the green spaces and wellbeing.

The chapter is a co-authored journal article, published in the journal *Frontiers in Psychology (Environmental Psychology)*, impact factor = 2.323.


The co-authors of this paper are thesis supervisors, Professor Caryl Bosman and Associate Professor Karine Dupre. The writer of this thesis (Siyao Gao) produced the literature review, collected and analysed the interview and spatial data, drew maps, drafted and revised the manuscript, in collaboration with the co-authors.
6.1 Abstract

In recognition of the aging population and the importance of health-supporting urban environments, including urban green spaces, to maintain well-being, scholars and policymakers have increasingly investigated the associations between urban green spaces and the well-being of older people. However, few studies specifically investigate minority older groups such as those with diverse cultural backgrounds, and many studies often ignore the design attributes of green spaces which may contribute to the well-being of those in such groups. In order to address these gaps, this paper explores how green spaces influence the well-being of older Chinese immigrants. This case study analyses how older Chinese immigrants interact with green spaces on the Gold Coast, Australia, and adopts the value of place as a conceptual framework to understand the relationship. Two qualitative methods, namely, in-depth interviews and travel diaries, were used to collect data. The results show that parks, as a place, play a crucial role in older Chinese immigrants’ ability to undertake outdoor activities. The relationship between green spaces and well-being can be classified into two themes. The first theme is concerned with how older Chinese immigrants perceive and experience green spaces. This finding indicates that green spaces can fulfill their values of keeping healthy, maintaining active lifestyles, and being social, all of which benefit well-being. The second theme relates to daily activities undertaken within green spaces. Issues of accessibility and personal preferences regarding activities complicate the relationship between green spaces and well-being. Good accessibility to green spaces is congruent with older Chinese immigrants’ values of being physically active, while difficulties in conducting preferred activities counteract these values which then generate negative perceptions of green spaces. Overall, there is great potential for understanding how personal values can inform the design of inclusive green spaces for minority or less mobile groups.

Keywords: green space, values, accessibility, older Chinese immigrants, well-being
6.2 Introduction

The number of urban inhabitants worldwide is expected to reach 6.6 billion by 2050, an increase of 52% from 2020, and of this 16% will be above 65 years old (United Nations, 2019). Human health and well-being are becoming priority goals for urban planners and city governors (United Nations, 2016), and urban green spaces are being regarded as an important urban environmental element that provides social, medical, and economic benefits (Bell et al., 2014; Douglas et al., 2017). For example, Lee and Maheswaran (2010) have indicated that urban green spaces promote well-being through reducing exposure to air pollution, noise, and heat. Neuvonen et al. (2007) and van den Berg et al. (2010) have shown how green spaces provide functions of psychological restoration and others, such as Hunter and Luck (2015), Sandifer et al. (2015), and Liu et al. (2019a), have demonstrated how green spaces facilitate physical activities and social engagement for residents. However, existing studies are often based on a premise that is centered around a general population. In other words, previous studies understand residents as a single and homogeneous group when investigating the relationships between green spaces and well-being (Hitchings, 2013). Obvious disadvantages of this approach include the lack of representativeness, as diverse minority populations (e.g., ethnic, age, or gender-based) are back-grounded and the influence cultural factors can have on the relationship between green spaces and well-being is ignored (Rishbeth et al., 2018). These gaps in research highlight the need for a further detailed investigation of the different benefits green spaces can offer to minority group members, as this may help urban planners and policymakers efficiently construct urban green spaces in the future (Douglas et al., 2017).

In this study, public green spaces describe natural areas in urban settings such as parks, gardens, woodlands, rivers, and beaches, which may incorporate natural, semi-natural, and artificial areas (Tzoulas et al., 2007; Bell et al., 2014). Public green spaces are an essential component of the urban green framework that can be accessed freely by the city population. These public green spaces are particularly important for minority and vulnerable residents who rely heavily on public spaces for leisure and recreation (Berney, 2010). However, in many cases, the public green spaces are distributed unevenly in urban areas, leading to urban residents not having equal opportunities to use public green spaces (You, 2016). Public green spaces have broader social significance in urban places (Barbosa et al., 2007) and, as a result, is a main concern within this research.
This research specifically investigates older people (in this research, older people are regarded as people who are aged 55 years old and above, based on Chinese statutory retirement age), as they are the fastest-growing age group worldwide (Wiles et al., 2012). Some institutions have published planning recommendations to help maintain the well-being of older people, including the milestone framework Global Age-Friendly Cities: A Guide published in 2007 by the WHO, which identified green spaces as a vital component of age-friendly cities (WHO, 2007). Interacting with green spaces on a daily basis can promote physical activity, decrease sedentary behaviour, and reduce stress experienced by older people, positively impacting on their well-being (Wen et al., 2018). Another focus of this study is ethnicity, as the emergence of international immigration has resulted in an important demographic change globally that has seen the older population become more diverse racially and ethnically as a group (United Nations, 2019). As of 2016, in Australia specifically, over one third (37%) of older people were born overseas (Australian Bureau of Statistics, 2018a), with this number projected to increase rapidly until 2050 (FECCA, 2015). Among this minority-diverse group of older people, the older Chinese is one of the fastest growing groups, ranking as the third largest minority population nationally (Australian Bureau of Statistics, 2016a). Older Chinese immigrants who move to Australia later in life often aim to reunite with and support their adult children. They usually are not sure how long they will live in Australia. Immigration is the transnational movement with the intent of becoming a permanent resident of the destination country, while migration is the temporary movement. Their status of movement is in between and suspended, and thus they can be known as “parenting immigrants.”

Aging and living in a foreign country can lead to multiple vulnerabilities, including a decrease in mobility, weak mental health, high risk of social exclusion, and an increased need for recreational activities in green space (Byrne & Wolch, 2009). Language barriers and the inability to drive and/or take public transport can result in unfamiliar and stressful environments, which tend to increase the physical vulnerability of older Chinese immigrants (Tieu & Konnert, 2014; Lin et al., 2016; Luo & Menec, 2018). Considering the vulnerability of older immigrants, healthy aging of older immigrants is increasingly important. Healthy aging is defined as “the process of developing and maintaining the functional ability that enables well-being in older age” (WHO, 2015, p. 28). Green spaces that maintain older immigrants’ active lifestyles and independence could positively
contribute to their healthy aging and overall well-being (de Keijzer et al., 2020). The multidimensional relationship that community members have with green spaces contributes to the unified understanding of well-being that integrates physical, social, and mental well-being into one concept (Ziegler & Schwanen, 2011). In this research, well-being is defined as a subjective phenomenon that describes people’s experiences of how well they are or how well they live (Fleuret & Atkinson, 2007; Ziegler & Schwanen, 2011).

Some scholarly work already exists on how minority groups use green spaces (Golledge, 1997; Byrne & Wolch, 2009). These studies demonstrate that people with different cultural backgrounds exhibit varying preferences for and engagement with different green spaces (Özgüner, 2011; Jay et al., 2012). For example, Byrne and Wolch (2009) showed that the White Americans may seek opportunities to exercise in green spaces, while Latinos sought to socialize. Green spaces express different meanings of place to people with diverse cultural and ethno-racial backgrounds (Egerer et al., 2019). Thus, it could be inferred that the benefit of green spaces may vary depending on the culture and the values of visitors. However, globally to date, little empirical research, including in Australia, has explored how cultural values influence the perceptions that minority group members have of green spaces and how their sense of well-being is gained. This study is focused on understanding green spaces and how they influence the well-being of older Chinese immigrants, within an Australian multicultural context through a lens situated in Chinese values and beliefs. The aim is to provide insights into why and how designing green spaces can better maintain the well-being of elderly immigrants in Australia.

Finally, the values of older Chinese immigrants are used to link the relationship between well-being and urban green spaces. Values are abstract concepts that are indicated by goals and accomplishments in daily activities (Tiberius, 2014). With this in mind, the specific values and the activities related to green spaces which are considered vital by older Chinese immigrants may have a role to play in their perceptions of green spaces and their well-being. This research stems from the hypothesis that people’s well-being and positive perceptions and attitude depend on what extent their values had been fulfilled (Sagiv & Schwartz, 2000; Schwartz, 2012). For older Chinese immigrants, the disjunction between current urban green places and their entrenched daily practices can impede their ability to fulfill their values, which can lead to negative perceptions of green spaces and thus also their well-being (Hodgetts et al., 2010). Therefore, investigating activities
undertaken by older Chinese immigrants in green spaces assists in the understanding of the values, then perceptions, and well-being of members of this group.

The participants in the study are Chinese immigrants residing on the Gold Coast, Australia. Although Chinese immigrants usually settle in two major cities – Sydney and Melbourne, an increasing number have chosen to live in other cities since 2000 (Wang et al., 2018). On the Gold Coast, between 2006 and 2016, the number of Chinese immigrants rapidly increased from 2,945 to 8,408 (Gold Coast City Council, 2016). Chinese immigrants who were over 55 years old more than tripled and reached 1,694 in 2016, accounting for 20.1% of total Chinese immigrants on the Gold Coast (Australian Bureau of Statistics, 2016b). More specifically, Chinese immigrants have become Gold Coast’s top non-English speaking population in 2016, ranking up from a fifth position in 2006 (Wang et al., 2018). With the Gold Coast having an increasingly multicultural profile and rapid urbanization, it seems important to understand the immigrants’ interactions with the urban environment in order to meet diverse environmental needs.

As such, this research aims to examine important values held by older Chinese immigrants while exploring pathways that link public green spaces to their values and, therefore, well-being. The research questions are (1) to what extent do public green spaces influence the daily activities and well-being of older Chinese immigrants? and (2) how do older Chinese immigrants’ values influence their perceptions of public green spaces on the Gold Coast, Australia? Understanding these values may contribute to the development of future policies that work to design more inclusive urban green spaces.

6.3 Methodology

Older Chinese immigrants living in the City of Gold Coast were involved in this study to explore how members of cultural and ethnic minority groups interact with urban green spaces. The Gold Coast is located on the eastern coast of Australia. Its 57-km coastline, spreading canals, and vast natural environments with a subtropical climate create a special urban form and park landscape (see Figure 6-1). The average temperature ranges from 16 to 29°C, with approximately 300 days of sunshine per year, and the mean annual rainfall depth is around 1,300 mm (Bureau of Meteorology, 2020). The parks on the Gold Coast accumulate to 19 million sq. m of land with various facilities for cycling, barbecuing, walking pets, and fishing (Gold Coast City Council, 2020). Residents on the Gold Coast
have an abundance of green spaces, with 47.8 sq. m per capita. Among these public green spaces, the proportion of local parks, metropolitan parks, and regional parks are 57, 14, and 29%, respectively (Byrne et al., 2010). However, less than half of parks on the Gold Coast are accessible by public transport (Byrne et al., 2010). The mild climate, good air quality, copious amount of sunshine, and lifestyle continuously attracts an increasing number of immigrants to move to the Gold Coast, resulting in this city being one of the fastest-growing regions in Australia (Dedekorkut-Howes and Bosman, 2015; Bosman, 2016).

Figure 6-1 Aerial photo of Surfers Paradise on the Gold Coast facing west (photo by Siyao Gao).

It is hypothesized that increased cultural and ethnic diversity will require a new strategy for urban green spaces. Therefore, this research examines the perspectives of older Chinese immigrants to determine features of urban green spaces that are relevant to their well-being. We draw from a mixed method combining travel diaries, mapping, and interviews to provide an in-depth exploration of green space visitation among older Chinese immigrants on the Gold Coast. First, travel diaries, as developed by Winters et al. (2015), were completed by participants to understand their activities, time-use patterns, and spatial travel behaviours within a single week. Then, with the help of an interviewer, the participants drew the travel routes to green spaces. Interviews were finally conducted,
guided by the data of travel diaries and spatial patterns of activities. The interviews informed the quantitative data in greater depth. The quantitative data were used to understand the visitation patterns of older Chinese immigrants and also analyse and explore the participants’ experiences.

The participants completed travel diaries with the assistance of the interviewer. The interviewer sent reminder messages to the participants every 2 days to decrease the likelihood that the participants might miss any activities. The participants recorded details of each trip to green spaces, including the origins and destinations of the trip as well as other related temporal information, such as how they get to the destinations, their travel companion, and why they visit green spaces (e.g., exercise, recreational, or social purposes, etc.). The data from travel diaries were cleaned and entered into a SPSS database and used to describe the activity patterns of older Chinese immigrants. The participants were also asked to locate the green spaces they went to and the related travel tracks to these green spaces within their travel diaries. A total of 18 participants completed the maps (two couples participated, so the travel maps only show 16 houses). These mapping data were descriptively analysed using ArcGIS software 10.3.

After the travel diaries and mapping exercises were completed, the first author conducted the interviews. Informed by the research objectives of this study, the research focused on the relationship between green spaces and well-being. Hitchings (2013) showed how qualitative approaches unveil subtle appreciations of the lifestyle and generate effective means of improving green space experiences; hence, this study adopted qualitative methods in the data collection and analytical process. The interviewees were prompted to provide details of their activities, movements, and experiences of visiting green spaces. Interview questions like “What did you do in green spaces before and after you immigrated to Australia?,” “What are the contributors and facilitators of conducting activities in green spaces?,” and “How do you perceive green spaces on the Gold Coast and in your hometown?” were raised. The well-being of older Chinese immigrants was self-rated in the process of the interviews. During the analysis of qualitative data, the proportion of participants with similar answers was calculated to show the overall situation.

Thirty participants completed the research at various places that they preferred, such as public parks, churches, and Chinese community centres. The interviews varied from 30
to 90 min. Mandarin, as the first language for both the interviewer and the interviewees, was the language used to conduct the interviews to minimize miscommunication in the research. During the analysis, the transcripts were translated into English by the interviewer and a proof-reader to ensure the accuracy of the translation and to avoid missing any cultural meanings as described by Suh et al. (2009). The participants were given pseudonyms to protect their identities while still denoting them as active and engaged subjects (Allen and Wiles, 2016).

This study used a purposive sampling strategy to collect the data (Liampittong and Ezzy, 2005). In 2018, a preliminary study with six participants was conducted. By regularly attending Tai Chi classes and other social activities organized by Chinese organizations, the first author was able to establish a network of potential participants, with the assistance of local Chinese organizations. From February to May 2019, large-scale fieldwork was carried out. After gaining trust from potential participants, the first author recruited the participants by asking the participants’ willingness to join the research. Before commencing the interviews, all participants were given information statements and required to complete oral or written consent forms. In terms of the criteria used to recruit the participants, the Chinese retirement policy states that the statutory retirement age is 55 years old for female staff or 50 for female blue-collar workers and 60 years for males (Feng et al., 2020). Therefore, in this study, older Chinese immigrants who were 55 years old and above were deemed eligible to participate in the study. To ensure that the participants were able to provide reliable information about both their hometown and the Gold Coast, a minimum length of 6 months of stay on the Gold Coast was also a requirement of participant eligibility.

The analysis of the qualitative data was based on comparative methods (Corbin and Strauss, 2014) to develop the themes. The transcripts were read verbatim by the first author to mark each segment of meaningful data with a series of codes (Miles and Huberman, 1994). These codes were carefully scrutinized and constantly compared to identify and construct themes according to their similarities and discrepancies. Codes with similarities were grouped into a theme, which organized the raw data into conceptual groups. The initial coding list was created prior to collecting qualitative data based on the research question and literature, including key language such as “green spaces,” “physical activities,” “social activities,” “relationship between green spaces, activities” and “well-being,” and “relationship between green spaces and well-being.” In the process of coding,
according to the concept of values that were embodied in the goals of visiting green spaces, “keeping healthy,” “active lifestyle,” and “community inclusion” were included as emergent codes. Finally, these codes formed core themes that offered some insight into the relationship between green spaces and well-being. The transcripts were analysed with the aid of the qualitative software NVivo 12.

6.4 Results

Overall, the sample included 11 males and 19 females. Their ages ranged from 61 to 83 years old (the average age was 69.4 years old), with 70% aging between 65 and 80; at the time of the interviews, their length of stay in Australia ranged from 1 to 15 years (the average length was 5.5 years). Among these participants, 17 participants lived with both their spouse and children’s families, 10 participants lived with their spouses only, and three lived with their adult children only, without a spouse. These participants lived in various types of neighbourhoods with different levels of accessibility to green spaces. The neighbourhood types where the participants resided were characterized as low, medium, and high advantage using the Socio-Economic Indexes for Areas. This index was determined by income, education, employment, occupation, and housing characteristics of the neighbourhood (Australian Bureau of Statistics, 2018b). In this research, out of the 18 participants who provided their residential addresses, seven of them lived in high-advantage neighbourhood environments, and the remaining 11 participants lived in medium-advantage neighbourhood environments. Regarding the participants’ neighbourhood environment, according to the standards proposed by the Gold Coast City Council (2019), six participants lived in high-density zones with high accessibility to public transport, community facilities, and green spaces, while the remaining 12 participants lived in suburban areas far away from public infrastructures.

Three themes were established from the research. The first theme cantered around older Chinese immigrants’ daily patterns of visiting green spaces. The second focused on contradictions between preferences of activities and barriers associated with green space visitation. Finally, values embodied in visiting green spaces, including values of keeping healthy, maintaining an active lifestyle, and being social, are analysed.
6.4.1 Patterns of Everyday Contact with Public Green Spaces

Descriptive statistics were used to depict the general pattern of green space visits undertaken by the participants. The travel diary was completed by 30 participants who documented 380 trips within 7 days. The result indicates that public green spaces are the main destinations for older Chinese immigrants. Among these trips, nearly one-third of trip destinations (101) were to parks near their homes, and all of these trips were made on foot. A total of 45 trips were to other parks, which accounted for 11.8% of all trips. The participants went to other parks by various means of transportation, including private cars, walking, and public transport.

The patterns highlighted, based on the time of visits to the green spaces within a day, indicated two clear waves of visiting hours (Figure 6-2). Mornings (6:00–9:00) were the most preferred time, according to these participants, to visit both parks near home and other parks, while late afternoons (16:30–18:00) were popular for visiting parks near homes only. Visiting green spaces in the morning may be attributed to activities such as Tai Chi or social activities often being considered and therefore organized as morning activities. Additionally, 66.7% of participants expressed their willingness to visit the spaces in the evening.

![Figure 6-2 Timing of visits to urban green spaces.](image)

As for the type of companions that made these visits with the participants, the participants mostly favoured visiting public green spaces with their spouses (47.6%), alone (21.9%), or with friends (19.8%). Visiting with pets or family was less favourable, with these companions only preferred by 7.5 and 3.2%, respectively. The result indicates that green
spaces offered a place for them to conduct activities independently. As Bei (female, 64 years old, living in Australia for 3 years) pointed out:

“I can’t drive or take buses here. The small park near my house is a place for me to visit independently. I can go to that small park at any time without asking my son to drive me there. I can enjoy time by myself.”

The individual activity patterns of the 30 studied participants in urban green spaces are shown in Figure 6-3. Walking was by far the most popular activity undertaken in public green spaces (66.5%), while social activities were the second most frequent (14.2%). Social activities included having conversations, exercising, and having recreational activities together. The proportions of those who walked pets and played Tai Chi were 6.4 and 6.0%, respectively.

Figure 6-3 Individual activity patterns of participants.

(“v” indicates that the participants have the ability to drive or take public transport on the Gold Coast or live near the city park – these groups of people are regarded as having high mobility; participants without a “v” have limited mobility).

6.4.2 The Influence of Preferred Activities and Accessibility

The high accessibility of green spaces encouraged the participants to visit these spaces and conduct more physical activities. Yi (male, 71 years old, living in Australia for 1 year) noted:
“The park is near my home, only 2 minutes’ walk. It’s really convenient. If I have time, I will go to that park and sit for a while.”

The participants who were able to drive or take public transportation on the Gold Coast or lived near city parks that hold Chinese activities are classified as having high mobility. Others are seen as having low mobility. Differences between low and high mobility were examined using t-tests. The comparative analysis between the high- and low-mobility groups resulted in significant differences (Figure 6-4). Compared to participants who were considered “less mobile,” those who were “more mobile” (n = 13) had a higher frequency of visiting green spaces (p = 0.019) and conducted more types of activities in green spaces (p = 0.003). Yue was an exceptional case. Yue had low mobility but had to walk the dog twice a day, which significantly increased her frequency of visiting green spaces.

Figure 6-4 Box plot illustrating the frequency of visits to green spaces and the types of activities undertaken with reference to the participants mobility level.

(A) Comparing frequency of visiting green spaces between high and low mobile groups.
(B) Comparing the number of activities undertaken in public green spaces by high- and low-mobility groups.
Issues of accessibility and personal preferences regarding activities complicated the relationship between green spaces and well-being. For instance, older Chinese immigrants preferred green spaces that supported their ability to partake in Chinese activities. On the Gold Coast, all (100%) participants reported that they still retained a willingness to continue their previous lifestyle and physical activities in green spaces, such as performing Tai Chi, square dancing, and singing. Gu (male, 63 years old, living in Australia for 2 years) stated his experience:

“I like performing Tai Chi. I practiced Tai Chi for nearly 10 years before I moved to Australia. Now, I’ve joined a Tai Chi club, and I can continue to practice it.”

As indicated in Figure 6-3, one-fifth of the participants performed Tai Chi within 7 days before the interview. Two participants, Dong and Han, a couple, played traditional Chinese instruments in the park near their homes. The participants revealed that the activities that they preferred, such as Tai Chi and square dancing, were mostly clustered in the city parks on the Gold Coast. The participants’ residences were scattered across the Gold Coast, which meant that few of the participants were able to visit their preferred parks. Figure 6-5 shows the travel maps of the 18 participants within a 1,000-m zone highlighted on each map. It showed that the participants’ behaviour in visiting parks and their travel tracks depend on the distribution of parks within a 1,000-m zone (see Figures 6-5 A–C, E, F). They could walk to the parks near their home, which indicated that the accessibility of parks could partly meet the participants’ needs. However, they had lower accessibility to their preferred park. As shown in Figure 6-5D, people who were able to drive or take public transportation could go beyond the 1,000-m zones, visit the city park, and participate in dancing, Tai Chi, and other preferred activities, while others were limited in their ability to do this, as they could only visit neighbourhood green spaces within their 1,000-m zone. More than one-half (57%) of the study participants reported that they could barely conduct the physical activities they preferred. For example, as Yue (female, 61 years old, living in Australia for 2 years) complained:
Figure 6-5 The participants’ location and their travel maps to green spaces on the Gold Coast. (A-F) show detailed participants’ location and travel maps. (source: image produced by the author with spatial information obtained from the Australian Bureau of Statist)

“Actually, there is a park that has activities such as square dancing and Tai Chi. Many older Chinese people do these activities there. But I can’t go there by myself. So, I can’t join them.”

Older Chinese immigrants had accessibility to visit green spaces near their homes. The fact that they were unable to visit the parks that they preferred negatively influenced their perceptions on green spaces on the Gold Coast.

6.4.3 Values Embodied in Green Space Visitation

Three main types of values pertaining to green spaces emerged through the analysis of the interviews, namely, keeping healthy, maintaining active lifestyles, and being social.
The Value of Keeping Healthy

The participants expressed at length that their most essential purpose of visiting public green spaces was to remain healthy, which embodied the participants’ values of keeping healthy. The participants perceived that green spaces provided a healthy landscape and place to undertake exercise. First, all (100%) participants noted that exposure to green spaces provided pleasure and positive feelings. They pointed out the positive elements that formed a healing landscape for them, including what they saw, heard, and felt, such as the quiet and peaceful scenery, lawn, tree-shade, birdsongs, temperature, and winds. They showed sensitivity to the landscape and awareness of its health benefits. The participants developed a sense of improved health when they visited green spaces, congruent with their values of maintaining health, and thus this also generated positive perceptions of green spaces. As Hu (female, 70 years old, living in Australia for 9 years) pointed out:

“I am happy to live here. The parks here make me feel close to nature. They provide an open space where I can sit and gaze into this landscape. I can feel the warm sunshine, see the beautiful scenery, and hear the birdsong, which helps me escape from annoyances. It is definitely good for my health!”

The participants also perceived green spaces as providing opportunities to conduct physical activities based on their values of keeping healthy. According to the data drawn from the travel diaries, nearly all (93%) the physical activities or exercises undertaken by this group were conducted in urban green spaces, while the remaining 7% of physical activities were conducted in community centres or churches. This result alludes to the essential role of green spaces, as these participants heavily rely on these spaces for their physical activities. Fu reported:

“I only do some simple exercises in the park near my home, such as walking or doing some stretching. Green spaces enable me to walk more. It’s easy for me to walk 1 to 2 kilometres in the parks. It’s good for our health. If I stay at home, I think I won’t be able to go out anymore. That means my health may collapse. So, I go to the park every day.”

However, older Chinese immigrants pointed out that green spaces on the Gold Coast cannot completely meet their needs of keeping healthy as they cannot always undertake particular Chinese activities that act as a means to fulfill their values of keeping healthy,
such as performing Tai Chi, square dancing, and singing. It was discovered that few parks on the Gold Coast could meet such needs. The participants (57%) who could not undertake their preferred activities made modifications to compensate for these barriers in order to continue their ability to participate in physical activities. To some extent, walking was seen as a complement to their physical activity needs. Because of the differences between the green spaces in China and in Australia, the participants fulfill their values of being active and healthy on the Gold Coast to a lesser degree, which has generated negative perceptions of green spaces as older Chinese immigrants are unable to continue the lifestyle that they had in China. Ping (female, 65 years old, living in Australia for 7 years) made the following comparison:

“In my hometown, there are always various activities, such as square dancing and choir singing. I can participate in these activities. I always want to find similar activities here, but it’s difficult. I only walk here, nothing else.”

The Value of Active Aging

Another reason for which the participants visited a green space was to fulfill their values of maintaining an active lifestyle. Due to their reduced social network and limited mobility, 77% of the participants pointed out that they had fewer formal or informal activities after migration. However, all (100%) the participants visited green spaces at least once a week. The fact that all the participants visited green spaces reinforced their desire to have an active lifestyle in later life. They prioritized going to green spaces as a regular daily activity to spend leisure time and escape boredom. They perceived experiences with green spaces to be integral in experiencing a fulfilling day. As Fu noted:

“I go to the small park to walk and do some exercise twice a day. Once is in the morning and the other is after my dinner. In China, I have lots of physical or social activities, but in Australia I have no place to go. So, going to the nearby park has become a thing for me; otherwise, I have nothing to do and I am always at home.”

During the interviews, 70% of the participants compared the activities that they could undertake between their hometowns and the Gold Coast, indicating that they preferred the lively atmosphere in green spaces, mostly in China. Parks there were seen as public
places which held various activities and created a vibrant place, as expressed by Ding (female, 65 years old, living in Australia for 5 years):

“The parks in my hometown are lively; there are many people walking and chatting with each other. There are also many activities, such as singing, dancing, and Tai Chi. It’s a little bit crowded but lively. When I saw other older people doing these activities, I felt that I also had an active lifestyle.”

More than half of the participants (60%) were unsatisfied with the green spaces on the Gold Coast during their green space visitation. They perceived that the monotonous landscape of green space could not fully meet their values of being involved in an active environment as Tian (female, 68 years old, living in Australia for 4 years) noted:

“Although the environment is good, it is boring. There is no other scenery I can see. The trees, flowers, and large lawn are always the same. You can see a few people walking or running. I feel bored.”

The Value of Being Social

The third important function of green spaces as described by the participants is how they enable the construction of social connections with people and communities. A majority of participants (67%) agreed that going to public green spaces was a useful way to develop social connections with friends and neighbours. The desire to build social networks reflected the participants’ values of being social. The participants were more likely to cluster in green spaces which were visited by other Chinese people. Two popular green spaces are shown in Figures 6-5D, E. Figure 6-5D and the interview responses indicated that older Chinese immigrants met their friends in the city parks on the Gold Coast, initially spontaneously and, thereafter, intentionally and regularly. They organized Chinese social groups in public green spaces and managed to participate in these social activities. The participants indicated how the social activities increased their positive feelings of well-being. With the increased number of Chinese immigrants interacting together in these spaces, the activities have increasingly gone beyond social function as the development of other group activities, such as Tai Chi, choir singing, and formed bands have also emerged. Figure 6-5E depicted a fishing spot favoured by older Chinese immigrants. As stated by the participants, fishing, as an activity, encouraged them to meet
and chat with each other as they exchanged fish and fish dish recipes and thus also enabled the participants to build social networks.

However, the participants perceived Gold Coast green spaces as places where certain barriers prevent their ability to conduct their preferred social activities. All (100%) the participants expressed the difficulties of interacting with their neighbours because of the language issue. They seldom start a conversation with their neighbours and often do not establish stable and deep relationships, as expressed by Xin (male, 76 years old, living in Australia for 9 years):

“I sometimes see some neighbours in the park. But we don’t communicate much. It’s annoying because I have many words to say but I can’t express myself. I have learnt some simple sentences to communicate with them, but that’s not enough. It’s a pity that we don’t have any in-depth communication.”

Although they struggled to develop strong social networks, the interview confirmed that constantly visiting public green spaces helped these participants generate a sense of belonging to their place of residence. Within these green spaces, older Chinese immigrants have the opportunity to contact neighbours regularly, such as by greeting, smiling, or recognizing faces. Close to three-quarters of the participants (77%) expressed that, through this regular contact with their neighbours, they gradually developed an attachment to the neighbourhoods, which positively influenced their well-being, as denoted by Dong (male, 67 years old, living in Australia for 4 years):

“I go to the nearby park every day, and I can see some familiar faces. They look very friendly and warm-hearted. They show me how to use fitness equipment; our dogs can play together. I feel very happy that I can live in that neighbourhood. I feel I am a member of that place now.”

Overall, values of older Chinese immigrants have been extracted from the interviews. Their perceptions of green spaces are informed by their values and therefore can have effects on their well-being.
6.5 Discussion

With the aging population in urban areas becoming more diverse, a key issue in research, for urban planners, is how services and activities can be provided to residents with various needs in public green spaces. This study explores the diverse and complex interrelationship between green spaces, perception, well-being, and values among older Chinese immigrants in Australia. This paper utilizes a mixed method as it combines the use of travel diaries, mapping exercises, and interviews to draw data. This method identified patterns in the participants’ interactions with green spaces and revealed their preferences in green spaces. As their preferred green spaces are clustered on the Gold Coast, poor accessibility was a barrier for older Chinese immigrants trying to engage with public green spaces. Their interaction with green spaces embodied their values of keeping healthy, having an active lifestyle, and fostering social connections. The concept and the design of urban green spaces on the Gold Coast impede older Chinese immigrants’ ability to fully express their values, which then negatively influences their perceptions on green spaces.

First, the results from the travel diaries highlight the spatio-temporal patterns apparent in older Chinese immigrants’ behaviour and interaction with green spaces and physical activity. Older Chinese immigrants’ willingness to visit green spaces at dusk may be attributed to a traditional belief in China, which suggests that taking a stroll after dinner is good for health (Cerin et al., 2013). These findings indicate the importance of managing green spaces to accommodate for use of the space during the night. The poor lighting in residential areas creates insecure environments that impeded upon the participants’ ability to walk in green spaces at night. Therefore, developing high-quality paved trails that are clearly lit would likely encourage older Chinese immigrants to maintain their active lifestyle, as this would enable them to feel secure and visit green spaces in the evening. For older Chinese immigrants who cannot walk independently and/or are unable to take public transport or drive, green spaces near their homes play a significant role in their ability to achieve their physical activity goals. This finding is also congruent with a previous study which found that urban green spaces can be especially significant for vulnerable groups (Maas et al., 2006). For people with mobility issues such as other immigrants, disabled residents, or people who suffer from mental health issues, public green parks, especially within their neighbourhood, are key places that help to promote social networks and community engagement. Staff related to green spaces management
therefore can play a positive role by helping minority groups access the major city parks where various activities are held. Improving the quality of walking tracks and illuminating the road could also help promote a sense of security when visiting green spaces. Public green spaces are important features for these vulnerable groups as these enable them to engage with their society. Therefore, when creating neighbourhood governance policies, urban green spaces should be taken into consideration.

Second, older Chinese immigrants are more likely to visit urban green spaces either with their spouse or alone, but seldom with family. Older Chinese immigrants usually depend on the assistance of their adult children for transportation, shopping, and medical care (Guo et al., 2016). As a result, visiting green spaces can be seen as a means to fulfill their desire to conduct activities independently. Older Chinese immigrants often visit green spaces independently and enjoy their own leisure time, which requires green spaces to have high security. Limited mobility and safety concerns, such as worries about getting lost, can negatively influence their interaction with green spaces. Based on this finding, urban planners and green space managers should support residents who are frail or who have mobility limitations to enable them to visit green spaces more freely. Several strategies can be applied. One of these is to organize activities, with the help of public service organizations or immigrants’ associations, to enhance the accessibility to the preferred activities of members of this group in these green spaces, and to help encourage older Chinese immigrants to feel positive about visiting green spaces. Another is to improve the sense of security in green spaces to encourage vulnerable residents to visit. This could be done through methods such as designing disability access and monitoring green spaces with formal or informal surveillance. For those people who have mental health issues or language barriers, a sufficient sense of security encourages them to visit green spaces and ultimately benefit their health and well-being.

Green spaces were also important places for older Chinese immigrants as they helped to develop social networks, which then provided opportunities for them to perform traditional collective Chinese activities. However, difficulties in accessing these particular green spaces hindered their ability to participate in activities. In China, high-density urban development makes it possible for residents to walk or take public transportations to destinations. Older Chinese immigrants are used to walking to nearby green spaces to participate in activities. However, the urban traffic pattern in Australia heavily relies on private vehicles. On the Gold Coast, 88% of daily trips are made by cars,
while only 7% of trips are by walking and the remaining 3% are by public transport (City of Gold Coast, 2013). Major thoroughfares and an abundance of canals serve as neighbourhood boundaries. Large expanses of tract housing in suburban areas restrict the residents’ ability to visit other parks in the city centre or outside of their neighbourhoods. Participants with lower mobility are limited to visit green spaces that are far from their home, only able to visit local-neighbourhood green spaces. It can be deduced that the accessibility to infrastructures affects the travel routes and visitation to green spaces, which is closely related to the neighbourhood type in which they live. With this in mind, further studies of how accessibility to green spaces in urban areas can be increased should be considered. With the number of immigrants increasing, collaborating with Chinese organizations to better understand the needs of these minority group members so that culturally sensitive planning can take place should be taken into account in future development and renovation plans for urban green spaces.

In 2014, the average neighbourhood green space area in China was 12 m$^2$, compared to 154 m$^2$ in South East Queensland, Australia (Wang et al., 2015). Urban green spaces are also socially mediated ecologies, developing within a particular culture and social ideology. In Australia, green spaces differ from those in China by size, the ornamental plants, the design, and the facilities (Wang et al., 2015). These social, cultural, and ecological differences shape how older Chinese immigrants perceive and utilize green spaces (Byrne & Wolch, 2009). The results also find that participants are aware of the differences in the soundscape between the Gold Coast and their hometowns. The birdsongs mentioned in the interviews and the participants’ described tranquil experiences in green spaces helped to form a soundscape for public green spaces (Liu et al., 2019b; Shu & Ma, 2020). Therefore, further studies are needed to investigate how the older immigrants perceive the soundscape and how different cultural factors affect their relationship with the soundscape in green spaces and their well-being. The green spaces present within this research are informed by western culture, which assumes that visitors focus on individualism and the quiet enjoyment of nature (Byrne & Wolch, 2009). Older Chinese immigrants, however, prefer lively environments of green spaces. The particular lifestyle and activities of older Chinese immigrants influence the way they express their values in relation to green spaces. Although they praise the landscape in green spaces and its physical benefits to their well-being, the participants had negative perceptions of green spaces because of their own cultural values, which resulted in diminished social and
mental well-being. The benefit of approaching greenness is reduced when the green space cannot meet the values of residents. Therefore, in order to maximize the positive functions of green spaces for older Chinese immigrants, values held by this group should be firstly identified.

With regards to urban planning, although many previous studies call for inclusive urban planning for multicultural cities (Rishbeth, 2001), few strategies have been implemented into different measures and programs. With the increase of ethnic minority groups in urban areas, urban planners must also be sensitive to the significance of minority ethnic groups as a part of local society. For example, the voices of immigrants could be taken into consideration in the process of designing green spaces and city governance.

The limitations of this study also warrant a mention. First, the research recorded 30 interviewees’ travel behaviours; therefore, their patterns of green space visitation may not be representative of a full picture that reflects all older Chinese immigrants’ living conditions on the Gold Coast. However, the analysis of the interviews still offers great insight into older Chinese immigrants’ perceptions of urban green spaces and the role that cultural values play in the relationship between green spaces and well-being. Regarding the participant recruitment process, all the participants were recruited through Chinese community centres; therefore, most of the participants were relatively healthy, active, and capable of participating in outdoor activities. The most vulnerable individuals who were less mobile were therefore underestimated. Second, this research treats the older Chinese immigrants as a homogeneous ethnic group and ignores the variety of their demographic characteristics, background, and living conditions in their hometowns. More explicit breakdowns could enable these factors to provide further insight into their interactions with green spaces after immigration. Third, this study only discusses the values of older Chinese immigrants in order to construct an inclusive urban green space; however, future studies could compare the experiences of older Australians and other older minorities. Finally, this research only focuses on parks and ignores other types of greenness in urban areas such as the green spaces along the road or surrounding homes and the private green spaces within the participants’ houses.
6.6 Conclusion

This research examines identifiable patterns pertaining to green space visitation, with specific focus on older Chinese immigrants and the relationship between green spaces and their well-being on the Gold Coast. The results indicate that green spaces maintained the well-being of older Chinese immigrants. For older Chinese immigrants, Chinese-related activities significantly influence their perceptions of green spaces. However, the preferences for activities and a lack of accessibility to green spaces also negatively influenced older Chinese immigrants’ ability to perform their values of keeping healthy, being social, and being engaged. The fact that the values of older Chinese immigrants are less fulfilled in green spaces on the Gold Coast indicates a contradiction among green space provisions, demand, and utilization. The findings highlight the importance of activity management and multicultural planning and design of urban green spaces.

This study adopted a mixed method combining the travel diary, mapping travel routes, and in-depth interviews to understand the participants’ behaviour and experiences. The mixed method helped compensate for independent methodological weaknesses. The travel diary and the mapping exercise aided in the visualization of the participants’ travel routes and provided a window of insight into everyday situations and interactions that occur within green spaces. The combination of interviews strengthened the understanding of the ways in which participants experience green spaces and the meaning and functions that drive their motivation to conduct certain activities in green spaces. The participants revealed dimensions of their social context that influenced their sense of well-being when they visited green spaces, such as the language barriers and experiences of stress that stem from insecurity.

This study highlights how values play a crucial role in how the relationship between green spaces and well-being is understood. The theory of value provides urban planners and policymakers with a better understanding of which elements of the urban environment are important to residents and therefore helps to shape priorities for policy and maximize the benefits of environments. Cultural variation should be taken into account during the decision-making process, which requires participatory or interactive planning and management between residents and urban planner. Green space planning and management should contribute to green spaces with serious consideration of the physical
and social needs and expectations of vulnerable groups and residents with diversified values.

This research sheds light on the accessibility of urban green spaces and the provisions that enable age-friendly community planning. Increasing accessibilities of various levels of green spaces, especially for those who organize cultural activities, could significantly increase the benefits of those green spaces. It also needs to be mentioned that the implications of this research are not just for older Chinese immigrants but also for other vulnerable groups who are not being effectively served by urban parks. Immigration and the aging population have altered the demographic compositions in urban areas, which has resulted in complex demands being sought in urban green spaces. When considering the increasing number of older people and the ethnic minority groups, their preferences in recreational activities and their social needs should be considered in future urban green space planning. More attention should be given to cultural elements and facilities that promote exercise and social networks within the provisions and design of green spaces. Intensifying culturally sensitive strategies in urban planning and design is important. For a long-term policy, being sensitive to the values of residents is necessary for urban planners if they wish to develop more appropriate facilities that meet the needs of those living within a dynamic demographic structure.
Chapter 7: Discussion

This chapter discusses the main results of this research and is divided in three sections. The first discusses older Chinese immigrants’ accessibility to essential facilities in the host country. The second section focuses on the wellbeing of older Chinese immigrants based on the perspectives of geography and urban planning studies. The end of this chapter presents the importance of providing inclusive urban planning to meet the rising demand of a growing immigrant ageing population and achieving healthy cities.

7.1 Accessibility to Essential Facilities

This study explored the effects of the neighbourhood environment on the older Chinese immigrants who experienced re-establishing their lives on the Gold Coast. Existing literature has shown that diverse cultural groups experience and manage the neighbourhood environment in various ways (Becker, 2003; Kyle & Johnson, 2008; Phillips et al., 2011; Sassen, 2000; Sugiyama et al., 2009) and that older Chinese immigrants’ perceptions of the environment stem from their values that are different from prevailing values in society (Qian, 2014; Zhang et al., 2018).

Existing literature usually summarises immigrants’ experience outcomes into three categories: (1) rejection, when immigrants do not adapt to the host society and maintain their previous activities; (2) adaptation, when they adapt to the new environment while also maintaining their cultural values and entrenched daily activities; and (3) assimilation, when immigrants seek daily activities with the host culture and do not maintain their previous lived experiences (Berry, 2007; Cramm & Nieboer, 2019; Rothe et al., 2010; Schwartz & Zamboanga, 2008). In this research, the results clearly show that there is no trend towards assimilation among older Chinese immigrants. Rather, they tend to adapt with a varied level of rejection. These findings are supported by the existing literature. For example, responding to the distinct sets of physical and social environments in the original and host cities, this research identified the difficulties that older Chinese immigrants were confronted with in the unfamiliar environment. These people needed to adapt their behaviours in the process of interacting with the neighbourhood environment (Gibson, 2001; Li et al., 2018; Rothe et al., 2010; Xu et al., 2018). At the same time they also tried to maintain their ‘old’ or entrenched lived experiences (Cramm & Nieboer, 2019).
Additionally, abundant literature (Berry & Hou, 2016; Dong et al., 2015; Da & Garcia, 2015; Jetten et al., 2018; Liu et al., 2019; Mao et al., 2020; Park & Kim, 2013; Tang et al., 2018; Xu et al., 2018) has investigated the social adaptation experiences of older Chinese immigrants such as engaging with communities and developing social networks and finds that unfamiliar services and language barriers lead to adaptation stress. Yet, limited research explores older Chinese immigrants’ adaptation experiences related to the neighbourhood environment. This is another significant contribution of this research which highlights that poor access to essential facilities and difficulties in taking public transportation leads to stress and lack of fulfilling older Chinese immigrants’ needs which undermines their wellbeing.

This research identifies several elements of the neighbourhood environment that influence older Chinese immigrants’ daily activities and adaptation outcomes including transportation (e.g. driving private cars and taking public transportation), community organisations (e.g. Chinese associations and local communities), grocery stores (e.g. local supermarkets and Chinese grocery stores) and open spaces (e.g. green spaces and beaches). Table 7-1 illustrates the adaptation outcomes of each participant in this research. This table shows that two thirds of the participants cannot adjust to local modes of transportation. In terms of community organisations, all the participants of this research only go to Chinese associations and none are involved with non-Chinese local associations. Regarding grocery stores, all the participants go to both local supermarkets and Chinese grocery stores. Finally, all the participants go to green spaces and few of them are likely to visit the beach even though it is a renown feature of the Gold Coast.

Table 7-1 Level of adaptation among the participants

<table>
<thead>
<tr>
<th>Case #.</th>
<th>Pseudonym</th>
<th>Transportation</th>
<th>Community organisation</th>
<th>Grocery stores</th>
<th>Open spaces</th>
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<td>Private cars</td>
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<td>Case #.</td>
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<table>
<thead>
<tr>
<th>Summary</th>
<th>Rejection: 67%</th>
<th>Rejection: 100%</th>
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<tbody>
<tr>
<td></td>
<td>Adaptation: 33%</td>
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<td>Adaptation: 100%</td>
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<td>Assimilation: 0</td>
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<td>Assimilation: 0</td>
<td>Assimilation: 100%</td>
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</table>

“✓” indicates that the participant uses the facilities or services

This research confirms that Chinese community centres and Chinese grocery stores are particularly important for older Chinese immigrants which is consistent with the finding of Wieland et al. (2013) showing that older Chinese immigrants need language specific and ethnically appropriate activity programs. Culturally congruent services and resources
for older Chinese immigrants are centralised in some centres of the City of Gold Coast such as Chinatown and Robina Town Centre. Shopping centres and other services are clustered in these two centres. However, on the Gold Coast, a sprawled suburban neighbourhood environment impedes older Chinese immigrants from walking out. Low accessibility leads to a smaller offering of the facilities that older Chinese immigrants can reach out to which undermines older Chinese immigrants’ abilities to adapt to the host society (Chappell, 2005). Most importantly, this study revealed that in line with the research of Coughlan (2008), this thesis finds that a majority of (67%) participants live with their adult children in suburban areas and thus are increasingly dispersed into the broader Australian community. This finding is important because it highlights the importance of the neighbourhood environment on older Chinese immigrants, even more so when previous studies mostly focused on the population segregation of ethnic minorities including ethnic preferences for neighbourhoods and socioeconomic status (Chhetri et al., 2020; Tang et al., 2020). As such, revealing the rejection, adaptation and assimilation patterns also translate the shift in the place of the settlement that occurred. Although this research did not investigate this specific aspect, it shows some of its consequences: a direct impact on the wellbeing of the older Chinese immigrants.

Furthermore, the interplay of cultural preferences and accessibilities determines the spatial pattern of daily activities. Although older Chinese immigrants have access to local facilities, they do not use these facilities but try to use their preferred facilities even if the facilities are far away from the participants. In line with previous studies (Wang & Lo, 2007; Wang & Roisman, 2011), a spatial discrepancy exists in the supply of and demand for culturally sensitive facilities. Consequently, future urban planning should investigate the residential location of Chinese immigrants and then optimise the location of the essential ethnic facilities such as Chinese community centres and Chinese grocery stores. This strategic planning could increase the accessibilities of older Chinese immigrants’ preferred destinations which, in turn, would help them adapt to the neighbourhood environment.

Another finding shows that low accessibility to essential facilities negatively influences older Chinese immigrants’ abilities to conduct daily activities. Public transportation is the key facility for older people to maintain their mobility later in life (Zeitler & Buys, 2015). Previous studies (Caidi et al., 2020; Da & Garcia, 2015) identify that older Chinese immigrants have difficulties in taking public transportation which generates constraints
in developing social lives. As Cerin et al. (2019) conclude that this is related to inadequate and unaffordable public transportation. This study identified the factors that impeded the participants from using public transport: mainly the unfamiliar environment and language barriers. Mao et al. (2018) proposed that providing a bilingual environment in public transportation could help older Chinese immigrants to independently complete travel tasks. Due to the unfamiliar environment, older Chinese immigrants’ previous experiences cannot be applied in Western society (Carro et al., 2010; Philo, 2014). This finding indicates that teaching older immigrants how to use public transportation and helping them familiarise with the environment of the main destinations (e.g. shopping centres and community centres) could significantly encourage older immigrants to use public transportation.

Overall, this section discussed the findings related to the neighbourhood environment and helped to understand older Chinese immigrants’ adaptation experiences on the Gold Coast. Revisiting neighbourhood planning (for instance in allocating ethnic facilities and facilitating public transportation) could be an efficient strategy to help older Chinese immigrants adapt to the neighbourhood environment and facilitate their wellbeing. The next section will discuss the wellbeing of older Chinese immigrants.

### 7.2 Older Chinese Immigrants’ Perceptions of Wellbeing

In this thesis, wellbeing is understood through environmental perspectives and the key components of older Chinese immigrants’ wellbeing include family relationships, independent lives and social networks. This study of capturing multiple components of wellbeing moves beyond the understanding of health and subjective wellbeing such as affect and mood (Diener & Ryan, 2009). It is closely related to older Chinese immigrants’ experiences in the context of the neighbourhood environment which is a key issue to social services provision, healthy city planning and health geographic studies (Conradson, 2012; Diener & Chan, 2011; Fleuret & Atkinson, 2007; Gatrell, 2013). The results of this thesis further demonstrate the findings of Montayre (2019) in stressing the importance of family relationships and unfamiliar environments in the wellbeing of older Asian immigrants. Harmonious family relationships promote the wellbeing of older immigrants while the unfamiliar environment negatively influences older Chinese immigrants’ capability to travel and develop social networks (Montayre, 2019). In line with previous
studies (Li & Chong, 2012; Lin et al., 2016; Luo, 2016), this research also confirms that social networks and support contribute to the overall wellbeing of older Chinese immigrants.

This thesis focuses on wellbeing related to the neighbourhood environment and finds that the key determinants that influence wellbeing also include independent lives and social networks. The result can contribute to the research that focuses on the overall wellbeing of older people based on the environmental perspective such as the research of Ziegler and Schwanen (2011) and Gatrell (2013) which highlights that the wellbeing of older Chinese immigrants is affected by cultural factors. As Tiberius (2014) notes, the components of wellbeing are based on an individual’s cultural values. Values have different orders and levels of importance (Schwartz & Sortheix, 2018). Thus, the components of wellbeing also have different levels of importance and the importance of these components may change as older Chinese immigrants need to adapt to the new neighbourhood environment (Nowok et al., 2013). The study of Nordbakke and Schwanen (2014, p.109) explains the changes of wellbeing and emphasises that components of wellbeing ‘are not stable objects’ but are ‘redefined continuously in social interactions’. Before immigration, reuniting with adult children is more important than independent lifestyles and social networks which results in older Chinese immigrants deciding to immigrate. After immigration, older Chinese immigrants fulfil their needs of reuniting with adult children. However, this research finds that older Chinese immigrants’ wellbeing is not perceived as improving. As Diener et al. (2006) argues, individuals adjust their aspirations to achieve stable wellbeing after immigration. In this research, after meeting the family values of older Chinese immigrants, they may turn to focus on independent lives and social networks which significantly influence the wellbeing of older Chinese immigrants. Figure 7-1 depicts a schematic diagram of component changes of wellbeing before and after immigration.
The change of wellbeing components indicates that older Chinese immigrants need to make an effort to adapt to the new environment even if they meet difficulties such as language barriers and unfamiliar environments. The concept of resilience is regarded as ‘the process of adapting adversity’ (American Psychological Association, 2017, para. 4). As Johansson et al. (2013) stressed, older people are resilient by reproducing previous life patterns and reconstructing their relations with the new environment.

In the process of adaptation, this research finds that external elements such as social support, family relationships, public services and welfare contribute to the resilience and the process of ageing of older Chinese immigrants. In terms of family relationships, the research confirms the conflicts between adult children and older Chinese immigrants. As a result, living separately could be a strategy to promote the family relationship. This research finds similar results compared with previous studies made by Guo et al. (2016) showing that co-residence is correlated with lower quality of parent-child relationships. Li et al. (2018) and Lin et al. (2015) argue that being more independent and autonomous to conduct activities is a strategy to adapt to new environments. Older Chinese immigrants who live independently have positive perspectives on their immigration experiences (Da & Garcia, 2015; Lai, 2005). For those who do not need to take care of adult children and have the ability to live independently, policy makers could provide alternative housing options to help older Chinese immigrants live independently and maintain intimate family relationships. As shown in Chapter 5, guiding and assisting older immigrants to select
residential locations may promote the accessibility of preferred destinations. The objective of this kind of policy is to encourage and promote the choice of housing among older Chinese immigrants. The housing policy could simultaneously meet older Chinese immigrants’ needs of living close to adult children and living in a neighbourhood with the accessibility of essential facilities. Thus, their independence, social networks and family relationships could be promoted. Yet, we are aware that, at first, it might be considered against family values.

Consistent with the research made by Dong et al. (2012) and Guo et al. (2019), this study also demonstrates that heavy reliance on family members results in conflicts and unsatisfied support from adult children. As a result, lowering the filial expectations of older Chinese immigrants and increasing adult children’s awareness of caring for their ageing parents could be strategies to promote family relationships. Although, one more time, we are aware that many immigrants reunited to help with grandchildren and not to be taken care of.

In terms of lowering the filial expectations, local authorities could support Chinese community centres and related meaningful projects to help older Chinese immigrants receive formal aged care beyond the family. For example, public transportation or shuttle buses provided by Chinese community centres could increase older Chinese immigrants’ accessibility of essential facilities which encourages them to go out independently. Translators and other staff in Chinese community centres could help older Chinese immigrants use formal public services. Regarding increasing adult children’s awareness of taking care of older Chinese immigrants, programs or activities can be designed to facilitate intergenerational understanding by providing conversation opportunities for immigration families.

Older Chinese immigrants’ family lives contribute to their construction of home. This research has focused on the living arrangements and wellbeing of participants. However, on a macro level, the relationship between housing and its surrounding environment should be considered to understand how older Chinese immigrants create a sense of home among. As Heslop et al. (2020) argues, housing is a relational composite of space, politics, legality and materials, which connects with cities geographically and culturally. Constructing housing is a dynamic process involving reobtaining independence, social
networks, and social support from family and society. As a result, future research should pay more attention to the housing policies to help provide insight.

Overall, the point in these implications is that beginning with a deep understanding of wellbeing creates more appropriate answers towards effectively allocating social care and resources. This study demonstrates that a successful policy should involve residents to define their wellbeing and related high-quality neighbourhood environments. Kleinman (2011) has argued that it would be effective to first consider the needs of residents rather than particular services. Practitioners and caregivers should understand the specific needs and cultural differences of ethnic groups (Holten & Ammann, 2016). Older immigrants usually lack information about these aged care services and under-utilise social services (Ciobanu et al., 2017). The findings of this thesis can infer that rather than providing formal social or health services, the provision of resources to promote older immigrants’ ability to access services may be more useful. For example, providing better public transportation could promote the mobility of older Chinese immigrants and they can use social or health services independently and build social networks. Providing social activities that maintain active lifestyles, harmonious family relationships and social networks could promote older Chinese immigrants’ wellbeing.

It should be noted that this research is a snapshot of older Chinese immigrants’ wellbeing and focuses on the travel data for only one week. This research contains interviews of older Chinese immigrants, most of whom have lived in Australia for only a short time (from around half a year to five years), thus most participants are young and have good physical health. Time is one factor that influences older Chinese immigrants’ adaptation outcomes and wellbeing. Previous literature (Da & Garcia, 2015; Yan & Cardinal, 2019) demonstrates that the length of stay in the host society positively influences the adaptation ability of older Chinese immigrants. Therefore, longitudinal research can be used in future studies to have a deeper understanding of the wellbeing and resilience of older immigrants.

7.3 Development of Inclusive Urban Planning

This research explored the unique living experiences of older Chinese immigrants and indicated that older Chinese immigrants make an effort to continue their previous lives. Continuation of previous lifestyles can build a sense of familiarity and fulfil their needs
For example, Jetten et al. (2018) investigated social identities of older immigrants in Australia, and indicated that engaging in cultural activities, maintaining hobbies and activities, and connecting with other people from their country of origin helped older immigrants to develop continuity of life. Kou et al. (2018) also argued that older Chinese people can obtain continuity by conducting previous activities, interacting with people from the same hometowns and developing a familiar supportive context. Consequently, providing a supportive environment contributes to fulfil the needs of older Chinese immigrants which maintains their wellbeing.

Participants in this study complained that language barriers, unfamiliar environment and lower accessibilities to key facilities negatively influenced them in their attempt to conduct activities. Several strategies can be proposed to maintain their lives. These strategies include learning how to take buses and asking adult children to take them out to maintain mobility, participating in Chinese community organisations to conduct preferred activities, walking in green spaces to keep healthy and active lifestyles. It is also important to reiterate that the results of this research and the implications can also be applied to other immigrant groups or other vulnerable older populations.

With the increase of the ageing population, the World Health Organisation (WHO) has proposed the concept of the Age-friendly environment (World Health Organisation, 2007). This concept emphasises the importance of the environment on independence, participation, self-fulfilment and the dignity of older people (Kendig et al., 2014). The concepts of Healthy Cities of World Health Organisation (Rosenberg et al., 2016) and Sustainable Cities and Communities Goal of United Nations (United Nations, 2015) have become policy targets in urban planning that are already implemented in many local governments. All of these initiatives contribute to maintaining the health and wellbeing of older people through providing a better-designed neighbourhood environment (Chaudhury et al., 2016; Finlay et al., 2015; O’Brien, 2014; Wiles et al., 2012). Compared with local older residents, older immigrants have diverse needs from the environment (Ip et al., 2007; Yap et al., 2018). In line with the study of Neville et al. (2018), the age-friendly environment should be constructed and inclusive for older immigrants. However, these proposals have not usually addressed older minority groups although inclusive urban planning has been emphasised by scholars and policy makers (Garon et al., 2014; Keating et al., 2013; Kendig et al., 2014; Neville et al., 2018; Valentine, 2008). In the same way, research on age-friendly communities (Cramm et al., 2008; Lai et al., 2019;
Menec et al., 2011; Neville et al., 2018; Syed et al., 2017) mostly focuses on older immigrants’ inclusions in social activities, (Kending et al., 2014; Torres, 2012) while largely ignores minority groups and the inequality in facilities access. This is one contribution of this thesis.

On the Gold Coast, older immigrants account for a large proportion (44.8%) of older people (the City of the Gold Coast, n.d.). The Coast City Council offers public services for older people including social, cultural and recreational activities (e.g. tai chi, yoga, internet and computer lessons), volunteer activities, free public transportation and online consultation services. Besides, the Gold Coast has created age-friendly environments such as walkable environments, community centres and abundant green spaces while few of them focus on the older immigrants (Gold Coast City Council, n.d.). Cerin et al. (2019) also confirm that limited research concentrates on the neighbourhood environment that supports the lived experiences of older immigrants. Increasingly diverse populations raise challenges for urban planning (Schmiz & Kitzmann, 2017) and as such the amenities in neighbourhoods are required to adapt to the demographic changes (Sezer, 2018).

The results of Chapter 5 and 6 demonstrate that although the neighbourhood environment can meet older Chinese immigrants’ needs to some extent, older Chinese immigrants’ special needs of conducting meaningful activities cannot be fully accomplished. Chinese culture, values, social networks, daily activities and demographic characteristics affect individuals’ concerns about transportation, housing, land use practices and aesthetic environment (Allen & Slotterback, 2017; Schmiz & Kitzmann, 2017). This research further demonstrates the results by Rishbeth (2001) which highlights that urban planners should be aware of ethnic minority groups’ different interpretation of the neighbourhood environment. To achieve social inclusion, urban planning practices should embrace older immigrants who are often excluded from mainstream societies (Byrne & Wolch, 2009). A bottom-up participatory approach for assessing the environments is needed to construct an inclusive age-friendly community. Ross (2018) emphasises that urban planning needs to more inclusively represent distinctive cultures and communities. The importance of spaces for cultural activities and communities should be highlighted in regulatory frameworks.

Apart from having opportunities to conduct preferred activities, helping older Chinese immigrants visit essential facilities independently is also an important component of the
inclusive environment. This study indicates that the neighbourhood environment should help older immigrants who cannot understand English and are unfamiliar with the surrounding environment to interact with the physical environment independently. Promoting large-scale urban design would take time and require a huge investment (Wood & Martin, 2020). Increasing the accessibility of essential facilities could also be beneficial to older immigrants efficiently. As Rishbeth et al. (2018) proposed, maximising immigrants’ straightforward participation in urban planning, promoting diversity of activity and designing in the micro-scale environment (such as streets) contribute to developing an inclusive neighbourhood environment. Legible signs and aesthetic environments should be designed for those who cannot understand English and who are unfamiliar with the urban environment. For example, Ahmadpoor and Smith (2020) demonstrate that the greater simplicity design in intersections will contribute to the legibility of the environment. Older people can also develop a sense of place and familiarity through the aesthetics and usability of the urban environment (Phillips et al., 2011) which may encourage older people to conduct more physical activities. Thus, the needs of older Chinese immigrants can be fulfilled.
Chapter 8: Conclusion

This chapter is a conclusion chapter and it synthesises the key findings of Chapters 3 to 6. This chapter firstly summarises the answers to the main research questions in the thesis. Then, it describes how the findings of this research can contribute to the existing knowledge. This is followed by future research directions in the area of urban planning for minority groups.

The main purpose of this thesis was to understand the effects of the neighbourhood environment on the wellbeing of older Chinese immigrants. This research investigated older Chinese immigrants’ experiences and their perceptions regarding the neighbourhood environment (e.g. family relationships, accessibility, public transportation and green spaces) on the Gold Coast. Multiple research methods including semi-structured interviews, travel diaries and the mapping method were used to collect data and analyse the research questions. This research provided a clear link between the neighbourhood environment and the wellbeing of older Chinese immigrants.

Three main findings emerge from this study. The first finding understands the effects of family relationships on the immigration experiences and the wellbeing of older Chinese immigrants. The result shows that older Chinese immigrants’ decision to immigrate to the Gold Coast is determined by their family relationships. More specifically, the decision is influenced by the familiar retirement lifestyle, duty feeling, personal values and convenience. After immigration, excessive housework and conflicts with adult children undermine older Chinese immigrants’ wellbeing while they have a sense of fulfillment due to family values. The research shows that older Chinese immigrants do not necessarily perceive their wellbeing improved. Family relationships, social networks and independence are the main components of their wellbeing. Through disentangling the lived experiences in immigration families, this research emphasises that developing social welfare for older immigrants can help them utilise the formal social services independently and thus lower their expectations of their adult children’s support.

The second finding is related to the neighbourhood environment and older Chinese immigrants’ wellbeing which shows the relevance of planning for the ethnic diverse demographics. The research concludes that the accessibility of essential facilities (e.g. shopping centres, health services and community centres), outdoor spaces (e.g. green spaces) and public transportation significantly influence the wellbeing of older Chinese
immigrants. The interactions with the neighbourhood environment are mediated by older Chinese immigrants’ previous lifestyles. Older Chinese immigrants have low accessibility to destinations including green spaces, shopping centres with Chinese grocery stores and Chinese community centres. Travel by private cars as passengers and walking are the main methods of travel. Older Chinese immigrants who live in suburban areas cannot walk to their destinations. The unfamiliar environment and language barriers impede older Chinese immigrants to take public transportation.

The third finding focuses on the relationships between green spaces and the wellbeing of older Chinese immigrants. Green spaces are the most popular destinations. This research finds that walking and social activities are the most frequent activities that older Chinese immigrants conduct in green spaces. According to the travel diary data, the green spaces can be divided into two types: parks near homes and city parks. Nearly one-third of trip destinations (101) are to parks near their homes and 45 trips are to city parks. Older Chinese immigrants have high accessibility to the green spaces near their homes which maintains their wellbeing. However, the parks near their homes cannot meet older Chinese immigrants’ needs because they cannot communicate with other Chinese people and conduct their preferred activities there. Older Chinese immigrants who cannot drive or take buses have limited accessibility to city parks in which their preferred activities are organised. Overall, green spaces can meet older Chinese immigrants’ values of keeping healthy, active ageing and being social.

By answering the research questions, the findings of this thesis confirm that the neighbourhood environment has impacts on the wellbeing of older Chinese immigrants. Based on the results and limitations of this study, contributions and recommendations concerning the urban planning and future studies are provided below.

8.1 Significance and Contribution

Limited research explores the effects of the neighbourhood environment on the reconstruction of the lives of older Chinese immigrants and their overall wellbeing. This research is important because it fills gaps in the existing literature of the wellbeing of older Chinese immigrants and the neighbourhood environment towards older immigrants. This study contributes to existing knowledge and is detailed in the following sections.
8.1.1 Contribution of the Research Finding

(1) This study sheds light on older Chinese immigrants’ interaction with family members. As noted by some scholars, particular family relationships in immigrant families have significant implications for older immigrants (e.g. Luo and Russel, 2007). Adult children normally play an essential role in supporting older Chinese immigrants because of values of filial piety (Guo et al., 2020; Lai et al., 2019; Lin et al., 2020). However, the detailed interactions with adult children and its effect on the wellbeing of older Chinese immigrants have not received sufficient attention in the existing literature. By examining daily activities at home and interactions with adult children, this study enriches the research on older Chinese immigrants’ family relationships and enhances our understanding of the complexity of family relationships in immigration families.

(2) This thesis constitutes a potential important starting point for further research into the views of the effects of the neighbourhood environment in influencing older Chinese immigrants’ wellbeing. As the population grows more diverse, neighbourhood physical environments play key roles in determining the life and wellbeing of immigrants especially for those older groups. Individual wellbeing is implicated in relation to the neighbourhood environment. However, limited literature has concentrated on the associations between the neighbourhood physical environment and older immigrants. By examining their experiences and perceptions of the neighbourhood environment in the host country, the research highlights that access to essential facilities, public transportation and green spaces significantly influence the wellbeing of older Chinese immigrants. This research is able to advance the knowledge of the associations between the neighbourhood environment and the wellbeing of older immigrants.

(3) This research also advances the knowledge of older Chinese immigrants’ wellbeing. Previous studies (Da & Garcia, 2015; Dong et al., 2012; Lin et al., 2016) focus on the physical and mental health status of older Chinese immigrants and find that older Chinese immigrants have better physical health but worse mental health such as depression and loneliness than their local counterparts. However, wellbeing is a more complex concept compared with mental and physical health which emphasises overall wellbeing experiences. Little attention has been paid to the wellbeing of older Chinese immigrants. This research reveals the complex components of wellbeing through value theory which
has not been investigated by previous research. In particular, few studies have examined the effects of the neighbourhood environment (e.g. transportation, open spaces and facilities) on older immigrants’ wellbeing. By examining daily activities and experiences with family members and physical environments, this study deepens our understanding of how older Chinese immigrants perceive their wellbeing and the factors that contribute to their overall wellbeing.

8.1.2 Contribution of Urban Policies and Planning

This has potentially important implications for urban planning and social support services for minority communities. Whilst the findings of this research are specific to older Chinese immigrants and the neighbourhood environment on the Gold Coast, the results can also reflect questions more broadly about what the key component of older immigrants’ perceptions of wellbeing and their interactions with the neighbourhood environment is. This section discusses the potential for changes to the neighbourhood environment and policies to immigrants’ families in order to support the wellbeing of older Chinese immigrants. The implications can also provide new perspectives to understand the age-friendly environment for older immigrants. The implications of the neighbourhood environment and the wellbeing of older Chinese immigrants are new because this topic has not been discussed in the urban and planning literature previously. The following implications can contribute to developing a more inclusive neighbourhood environment which could support the wellbeing of older immigrants.

Two types of practical implications are proposed in this research. The first part relates to aged care for older Chinese immigrants. This research understands wellbeing by the values which provides new insight into the promotion of the wellbeing of older immigrants. The key components for older Chinese immigrants include family relationships, independent lives and social networks. As described in the discussion section, this research contributes to the social services and policies to promote intergenerational cohesion in immigration families and thus helps older Chinese immigrants adapt to the new environment and build social networks outside the family.

Apart from providing more activities and social services for older immigrants, another important implication is related to neighbourhood environment planning that promotes older Chinese immigrants’ capacity to access destinations. In terms of urban policies and
planning guidelines, this research highlights how culturally sensitive and inclusive urban planning helps maintain the wellbeing of older immigrants. This research provides evidence-based results to guide future urban planning policies. For example, facilities with legible signs could reduce older immigrants’ fear of losing their ways, decrease the barriers to walking in an unfamiliar place and thus increase the safety of walking in the street. The provision of a better public transportation system with more travel routes and multilanguage services are needed to ensure older immigrants’ access to more destinations and to encourage engagement in various social activities. More cultural associations should be allocated in suburban areas which would make the urban environment more capable of responding to the minority groups’ needs of developing social networks. According to the result of Chapter 6, other possible urban planning guidelines include redesigning green spaces to provide adequate lighting, keeping green spaces well-maintained and providing more surveillance systems; this will encourage older immigrants to visit green spaces. The independence and social networks of older immigrants can be promoted by providing an inclusive neighbourhood environment.

The third implication is demonstrating the importance of involving minority groups in the process of developing urban policies and planning guidelines. This research demonstrates that older Chinese immigrants’ interactions with the neighbourhood environment are influenced by their values. Given the significant differences between views of policy makers, scholars and residents’ preferences and perceptions (Hofmann et al., 2012), a successful policy should be based on all types of elderly people’s involvement to define the concept of a ‘good’ neighbourhood environment. In future policy making and inclusive urban planning processes, the engagement of older immigrants could help the neighbourhood environment meet the specific needs of older immigrants and thus enhance their wellbeing.

The concept of inclusive urbanism can be used to understand older immigrants’ wellbeing in the context of mid-sized Australian cities such as the Gold Coast. Globalisation has increased the ethnic diversity of many small cities. The case study presented in this thesis reveals a complex and multifaceted reality. The diverse population shapes the urban context within families and neighbourhoods, which diversify the urban environment. The challenges of diverse population deserve careful investigation. In such circumstance, more inclusive urbanism should be considered in future urban planning.
8.2 Research Limitations and Directions for Future Research

This study has some limitations and also presents open questions which merit further attention in the future. A potential area for future research is to conduct a longitudinal analysis. Although this study identifies some elements of the neighbourhood environment that influence the older Chinese immigrants, a cross-section study may not provide adequate evidence to understand lived experiences of older Chinese immigrants and relationships between the neighbourhood environment and wellbeing. Since the effects of adaptation and the change of wellbeing tend to be stable with time (Wu et al., 2010), future research could conduct a longitudinal survey to examine older Chinese immigrants’ experiences and perceptions of the neighbourhood environment after living in Australia for a long time which could offer more valuable results.

As discussed in the methodology chapter, future studies applying more robust study designs could be useful to understand the associations between the neighbourhood environment and the wellbeing of older Chinese immigrants. First, local older residents’ perceptions of the neighbourhood environment and the lived experiences of older Chinese immigrants living in other cities can be used as a comparison group to understand the effects of the neighbourhood environment. Second, previous research also emphasises that socio-economic characteristics of older Chinese immigrants, parent identity (e.g. parent-in-law) and previous lived experiences, such as the ability to drive and the climate of their hometown, influence immigrants’ family relationships and perceptions on the neighbourhood environment (Lai et al., 2019; Liu et al., 2019). In future research these variables are necessarily included to provide a more comprehensive understanding of the effects of the neighbourhood environment. The spatial data presents the differences between participants who live in suburban areas and city centres which indicates that the residential location of older Chinese immigrants should be involved in future studies to understand the influence of neighbourhood typology, allocation of the facilities and the social environment on wellbeing. The interviews from other groups or agencies (e.g. local city councils, leaders of Chinese immigrants and younger Chinese immigrants) could also be included in future research to provide other perspectives to understand the experiences of older Chinese immigrants. By comparing the perspectives from different groups, future
studies can seek a deeper understanding of older Chinese immigrants’ perceptions and experiences which can inform the policies regarding older immigrants.

Another limitation is the issue of generalisation in this study. This limitation has been mentioned in the methodology chapter. The research adopts a mixed method that includes not only qualitative data (i.e. interview data) but also quantitative (i.e. travel data). However, this research only collects the data from 30 older Chinese immigrants who live on the Gold Coast which indicates that the findings may not be representative. The qualitative research method has been criticised for concerns about the subjectivity of participants and research (Smith, 2018) although qualitative research can understand perceptions of the interviewees. It is also important to point out that the applicability of the findings in one social context can be limited to another context. Future research could utilise both quantitative and qualitative methods to provide deeper insights into the research questions and provide the potential for generalisation of the findings. For example, questionnaires could be issued to a large number of older Chinese immigrants to collect quantitative data. Scales related to wellbeing and the neighbourhood environment (e.g. Depression scales, Quality of life scales, ADLs scales and Neighbourhood Environment Walkability Scale (NEWS-A)) could be used in the questionnaire. An interactive smart phone application could be developed to collect the spatial data. Older Chinese immigrants could digitally record their travel routes, the spatial distribution of destinations and the time and length they conduct the activities. This data can then be transferred to GIS for further spatial analysis.

Finally, a potential area for future research is to explore the design of infrastructure to develop an inclusive neighbourhood environment. This study is among the first few studies on the neighbourhood environment and the wellbeing of older immigrants. With the challenges of a diverse ageing population, studies in this topic are urgently needed to develop knowledge for urban planners, policy makers and researchers. For instance, future research can investigate the essential facilities of the neighbourhood environment such as legible signs on the street and understand the way in which these designs contribute to the physical activities among a diverse population. Urban planners and scholars can explore the distribution of immigrant groups and then optimise the allocation of immigrants’ community centres to meet the needs of older immigrants. Scholars in the field of geography, medical science and information technology could cooperate to develop apps or devices to help these minority groups to live in the neighbourhood
environment independently. New technologies such as digital maps could be used to assist older Chinese immigrants to navigate the road and promote their confidence in going out.

8.3 Conclusion

This study is the first known research that analyses the relationships between the neighbourhood environment and the wellbeing of older Chinese immigrants by incorporating the effects of values in this association. This research finds that family relationships, accessibilities to essential facilities, ability to take public transport and green spaces could offer older Chinese immigrants’ opportunities to conduct their preferred activities and meet their needs and thus influence their wellbeing. The findings provide for an evidence-based approach to urban planning and policy making that aims at enhancing the overall wellbeing of older immigrants.

Several recommendations were made for future researchers, policy makers and urban planners which might be helpful and practical for the urban design and service provision of the neighbourhood environment. In order to facilitate an inclusive neighbourhood environment for older immigrants, collaboration among policy makers and older immigrants is required to provide efficient urban planning outcomes in maintaining the wellbeing of older immigrants.
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Appendices

Appendix 1. Inclusion of Papers Within the Thesis

This information is not relevant to those candidates enrolled in the PhD by Prior Publication program 6024. PhD by Prior Publication candidates should refer to the program specific thesis formatting information.

HDR candidates may include one or more papers within the body of their thesis if the papers have been produced under supervision and during the period of candidature, and where the quality is appropriate to Doctoral or Masters (Research) level research. A thesis prepared in this way is a different thesis format, it is not a different degree. There are several advantages to organising a thesis in this way:

- Preparing papers for publication saves time when preparing the thesis for examination as papers may make up one or several chapters within the thesis.
- It is to your advantage to publish work from your thesis as a means of disseminating your research and developing your writing skills.
- It may improve the quality of your thesis as part of your thesis has already been subjected to peer review.
- Examiners may have more confidence in your thesis if they can see that you have already published your research and you will have already met one of the criteria of examination, with the thesis suitable for publication.

As a candidature requirement, all doctoral candidates are expected to have at least one peer reviewed output accepted for publication during candidature. Candidates are encouraged to include this publication in the body of the thesis.

REQUIREMENT FOR INCLUSION OF PAPERS WITHIN THE THESIS

Inclusion of papers within a thesis is not a suitable thesis format for all research projects (e.g. collaborative projects where there may be several co-authors for each paper which may make it difficult for the examiner to establish the independence of the candidates work; where primary data is not collected or results obtained until late in the candidature; or where the research will not produce a logical sequence of papers that are able to be presented as an integrated whole).

Candidates should also consider whether this thesis format is an accepted practice within their discipline and likely to be received well by the thesis examiners (refer also to the examination requirements below). Candidates are required to consult with their supervisor(s) early in their candidature to determine if this thesis format is appropriate. It is expected that candidates will identify as part of the confirmation of candidature milestone if their thesis is to be prepared in this format. Candidates should consult their Group specific guidelines in addition to the requirements detailed below. Candidates are also encouraged to attend the workshop: ‘Inclusion of papers within a thesis’ offered by the Griffith Graduate Research School.

Refer also to the Griffith University Code for the Responsible Conduct of Research, specifically the sections pertaining to publication ethics and the dissemination of research findings, and authorship.

Status of papers

A thesis may include papers that have been submitted, accepted for publication, or published. Some disciplines may specify a variation to the status of papers requirement, refer to your Group specific guidelines.

Type of papers

For the purpose of this requirement, papers are defined as a journal article, conference publication, book or book chapter. Papers which have been rejected by a publisher must not be included unless they have been substantially rewritten to address the reviewers’ comments or have since been accepted for publication. Some disciplines may specify a variation to the type of papers requirement, refer to your Group specific guidelines.

Number of papers

A thesis may be entirely or partly comprised of papers. A paper maybe included as a single chapter if the paper contributes to the argument of the thesis, or several papers may form the core chapters of the theses where they present a cohesive argument. Where a thesis is entirely comprised of papers, there is no minimum requirement for the number of papers that must be included (except as noted below) and it is a matter of professional judgment for the supervisor and the candidate. Overall, the material presented for examination needs to reflect the research thesis standard required for the award of the degree.

Where a thesis is entirely comprised of papers, some disciplines may specify a minimum number of papers to be included, refer to your Group specific guidelines.
Authorship

The candidate should normally be principal author (that is, responsible for the intellectual content and the majority of writing) of any work included in the body of the thesis. Where a paper has been co-authored, the candidate is required to have made a substantial contribution to the intellectual content and writing. Co-authored work in which the candidate was a minor author can only be used and referenced in the way common to any other research publication cited in the thesis. A signature from the corresponding author is required in order to include co-authored material in the body of the thesis; refer to the declarations section below.

For co-authored papers, the attribution of authorship must be in accordance with the Griffith University Code for the Responsible Conduct of Research, which specifies that authorship must be based on substantial contributions in one or more of:

- Conception and design of the research project
- Analysis and interpretation of research data
- Drafting or making significant parts of the creative or scholarly work or critically revising it so as to contribute significantly to the final output.

Some disciplines may specify a variation to the authorship requirement, refer to your Group specific guidelines.

Quality of papers

Candidates should endeavour to publish their research in high quality peer reviewed publications. Papers to be included in the body of the thesis should be published (or submitted for publication) in reputable outlets that are held in higher regard in the relevant field of research. Candidates should consult their supervisor(s) for advice on suitable publications specific to their research discipline. Some disciplines may specify quality standards that must be met for papers to be included, refer to your Group specific guidelines.

The library also provides support and advice to candidates on choosing a journal. Candidates should avoid ‘predatory’ publishers.

- Strategic Publishing Guide for Authors
- Publishing in Open Access journals

Copyright

As copyright in an article is normally assigned to a publisher, the publisher must give permission to reproduce the work in the thesis and put a digital copy on the institutional repository. Information on how to seek permission is available at: Copyright and Articles in thesis. If permission cannot be obtained, students may still include the publication in the body of the thesis, however following examination the relevant chapter(s) will be redacted from the digital copy to be held by the Griffith University Library so that the copyright material is not made publicly available in the institutional repository. Students are required to advise the copyright status of each publication included in the thesis via a declaration to be inserted in the thesis, as detailed below.

Students requiring further advice regarding copyright issues can contact the Information Policy Officer on (07) 3735 5695 or copyright@griffith.edu.au.

Group and discipline requirements

Some Groups or Elements may specify additional requirements for including papers within a thesis, refer below:

- Arts, Education and Law
- Griffith Business School (PDF 214k)
- Griffith Health
- Griffith Sciences (PDF 271k)

PRESENTATION OF THESES WHEN INCLUDING PAPERS

General

Consult the thesis preparation and formatting guidelines for general information about the requirements for formatting the thesis. Some disciplines may specify a variation to the thesis format requirements below, refer to your Group specific guidelines.

Structure of thesis and linking chapters

The structure of the thesis will vary depending on whether the thesis is partly or entirely comprised of papers. Whatever the format, the thesis must present as a coherent and integrated body of work in which the research objectives, relationship to other scholarly work, methodology and strategies employed, and the results obtained are identified, analysed and evaluated.
A thesis should include a general introduction and general discussion to frame the internal chapters. The introduction should outline the scope of the research covered by the thesis and include an explanation of the organisation and structure of the thesis. The general discussion should draw together the main findings of the thesis and establish the significance of the work as a whole and should not just restate the discussion points of each paper.

It is important that candidates explicitly argue the coherence of the work and establish links between the various papers/chapters throughout the thesis. Linking text should be added to introduce each new paper or chapter, with a foreword which introduces the research and establishes its links to previous papers/chapters.

Depending on the content of the paper(s) and nature of research, a research methods chapter may also be necessary to ensure that any work that is not included in the paper(s), but is integral to the research, is appropriately covered. Any data omitted from a paper may also be included as an addendum to the thesis.

For further information on the thesis structure, refer to the following examples of acceptable ways to format the thesis when including papers.

- See Examples of Table of Contents

**Format of papers**

The papers may be rewritten for the thesis according to the general formatting guidelines, or they can be inserted in their published format, subject to copyright approval as detailed above.

**Pagination**

Candidates may repaginate the papers to be consistent with the thesis. However, this is at the discretion of the candidate.

**Declarations**

All theses that include papers must include declarations which specify the publication status of the paper(s), your contribution to the paper(s), and the copyright status of the paper(s). The declarations must be signed by the corresponding author (where applicable). If you are the sole author, this still needs to be specified. The declaration will need to be inserted at the beginning of the thesis, and for any co-authored papers, additional declarations will need to be inserted at the beginning of each relevant chapter. You may wish to consult the declaration requirements for inclusion of papers under Thesis Structure to ensure that you insert the correct declaration(s) within the thesis. Please note that completion of the declaration(s) does not negate the need to comply with any other University requirement relating to co-authored works as outlined in the Griffith University Code for the Responsible Conduct of Research.

**EXAMINATION REQUIREMENTS**

**Assessment by examiners**

Candidates who wish to include papers within their thesis, and who have determined that this thesis format is appropriate to the research project, should also consider whether this thesis format will be well received by the thesis examiners. The inclusion of papers may negatively impact on the thesis upon assessment by the examiners where: the thesis format is not a common or accepted practice within the candidates discipline area; where the inclusion of co-authored papers makes it difficult for the examiner to establish the independence and originality of the candidates work; where the thesis does not present to the examiner as an integrated whole; or where there is too much repetition in the thesis which an examiner may view as a weakness.

Theses that include papers are subject to the same examination criteria as theses submitted in the traditional format. It should also be noted that the inclusion of published papers within the thesis does not prevent an examiner from requesting amendments to that material.

Candidates should discuss the suitability of this thesis format with their supervisor(s).

**Nomination of examiners**

It is the responsibility of the principal supervisor to nominate thesis examiners, and the process dictates that the principal supervisor must approach all nominees to determine their willingness to examine. Where a candidate's thesis is formatted to include papers, the principal supervisor must also ensure that the examiners are familiar with and/or accepting of, this thesis format.

Upon dispatch of a candidate's thesis to an examiner, the examiner will be reminded that the thesis has been formatted to include papers. The examiner will also be provided with the relevant information and regulations regarding this thesis format.
Appendix 2. Ethical Clearance Certificate for the Study

Dear Dr Caryl Bosman,

I write further to the additional information provided in relation to the provisional approval granted to your application for ethical clearance for your project “How the neighbourhood contributors and barriers may influence the health and wellbeing of older Chinese immigrants in Gold Coast, Australia” (GU Ref No: 2018/464).

This is to confirm that this response has addressed the comments and concerns of the HREC.

The ethics reviewers resolved to grant your application a clearance status of “Fully Approved”.

Consequently, you are authorised to immediately commence this research on this basis.

Regards,

Kim Madison | Human Research Ethics

Office for Research
Griffith University | Nathan | QLD 4111 | Level 0, Bray Centre (N54)
T +61 7 373 58043 | email k.madison@griffith.edu.au
Appendix 3. Informed Consent Form

Project title: How the neighbourhood contributors and barriers may influence the health and wellbeing of older Chinese immigrants in Gold Coast, Australia

(GU Ref No: 2018/464)

Investigator

<table>
<thead>
<tr>
<th>Supervisor</th>
<th>Supervisor</th>
<th>Researcher</th>
</tr>
</thead>
</table>
| Prof. Caryl Bosman  
Griffith University  
School of environment  
(07) 555 27721  
c.bosman@griffith.edu.au | Ass. Prof. Karine Dupre,  
Griffith University,  
School of environment  
(07) 555 27534  
k.dupre@griffith.edu.au | Siyao Gao  
Griffith University,  
School of environment  
(07) 555 27529  
siyao.gao@griffithuni.edu.au |

By signing below, I confirm that I have read and understood the information package and in particular have noted that:

- I understand that I will not be identified in any research outputs.
- I have had any questions answered to my satisfaction.
- I understand that there will be no direct benefit to me from my participation in this research.
- I understand that my participation in this research is voluntary.
- I understand that if I have any additional questions, I can contact the research team.
- I understand that I can contact the Manager, Research Ethics, at Griffith University Human Research Ethics Committee on 373 54375 (or research-ethics@griffith.edu.au) if I have any concerns about the ethical conduct of the project.
- I agree to participate in the project.

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知情同意书

项目名称：社区环境如何影响中国老年移民的健康和幸福感？以澳大利亚黄金海岸为例。

调查员信息:

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<th>导师</th>
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<th>调查人员</th>
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<tbody>
<tr>
<td>教授 Caryl Bosman</td>
<td>师</td>
<td>高斯瑶</td>
</tr>
<tr>
<td>格里菲斯大学工程与建设环境学院</td>
<td>师</td>
<td>格里菲斯大学工程与建设环境学院</td>
</tr>
<tr>
<td>(07) 555 27721</td>
<td></td>
<td>电子邮箱：<a href="mailto:siyao.gao@griffithuni.edu.au">siyao.gao@griffithuni.edu.au</a></td>
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<tr>
<td><a href="mailto:c.bosman@griffith.edu.au">c.bosman@griffith.edu.au</a></td>
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<tr>
<td>副教授 Karine Dupre</td>
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<td><a href="mailto:k.dupre@griffith.edu.au">k.dupre@griffith.edu.au</a></td>
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我确定我已阅读并充分理解受访者信息声明，以及做出以下声明：

- 本人充分理解参与这项研究是不会泄露个人信息并被认出来。
- 本人所提问的任何问题都得到了满意的回答。
- 本人参与此项研究并没有直接的收益。
- 本人参与此项研究是自愿的。
- 如果有任何其他问题会联系调查人员。
- 如果本人对这项研究有任何意见和质疑，会联系格里菲斯大学伦理与道德委员会管理人员。电话是 373 52069 （或者电子邮件：research-ethics@griffith.edu.au）。
- 我同意参与此项研究。

姓名
签字
日期
Appendix 4. Information Sheet

Project Title: How the neighbourhood contributors and barriers may influence the health and wellbeing of older Chinese immigrants in Gold Coast, Australia

(GU Ref No: 2018/464)

Investigators

<table>
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<tr>
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<td>Siyao Gao Griffith University, School of environment (07) 555 27529 <a href="mailto:siyao.gao@griffithuni.edu.au">siyao.gao@griffithuni.edu.au</a></td>
</tr>
</tbody>
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Aims of study

This study is a component of a PhD research and it explores how the neighbourhood environment impacts the social and physical activities of older Chinese immigrants in Australia, and how this affects both actual and perceived wellbeing indicators of participants.

Why am I being asked to participate?

We are seeking to talk to older Chinese immigrants in Australia. The information you provided will help to clarify some of the health and wellbeing issues relating to the design and amenity of local neighbourhood environments experienced by older adults who immigrated to Australia from China.

Who is going to participate in this study?

Older Chinese immigrants who aged 55 years old and above (according to the retirement policy in China), who have moved to Australia for more than six months and less than 5 years and have moved to Australia after 50 years of age.

The expected benefits of the research

The expected benefits of this research include a better understanding of i) the daily activities of older Chinese immigrants in Australia; ii) how the changes of neighbourhood...
environment have impact on the social and physical activities of older Chinese immigrants and their health and wellbeing.

**What will I need to do? How much time would it take?**

We would like you to do the following:

1. Sign the consent form to take part in the research. The interviewer will read you a statement, and you will be asked to agree to this investigation.

2. When you finish each trip, you are asked to complete a travel diary. Travel diary is a table and you need to fill out after finishing a trip. The travel diary will be record of when and where you go, and how you get there. You also need to fill why you choose these routes. The record will help us to understand how the neighbourhood environment influences your travel behaviour.

3. At the end of the travel data collection week, a 30-minute interview will be conducted by a researcher from Griffith University.

4. Before the interview, you need to locate your residential location in the map. Then you need to draw your travel routes according to your travel diary data. You can also ask the interviewer to help you draw the routes.

5. The researcher will also ask you questions about your perceptions of these travels, activities and related neighbourhood environment. The interview then will ask questions about changes in your local neighbourhood environment between Australia and China, and how these changes have influenced your physical and social activities, and especially the positive and negative outcomes you experienced after immigrating to Australia. We are wanting to understand how the neighbourhood environment on the Gold Coast have impacted your health and wellbeing. These interviews will be conducted in Chinese and/or English as necessary and be taped recorded and transcribed into English for transcription with your permission.

**Do I have to participate in this study?**

No. Your participation in this study is completely voluntary, and there are no disadvantages, penalties or adverse consequences for not participating or discontinuing your participation. You have the right to withdraw your participation at any time.
How will this information be used?

The data collected from this project will be used in a final report, PhD thesis, academic papers, and conference presentations. This data will not be used in other projects, or be disclosed to external organisations.

Your confidentiality. Will I be able to be identified if I take part in the study?

No. Any reports or publications that arise from this study will not identify individuals. All data collected from our research will only be accessible to investigators of this research team.

Are there any potential risks as a result of being involved in this study?

There are no foreseeable risks associated with participation in this research. There are no right or wrong answers, and this study focuses on your experience of relocating to Australia from China. You do not have to answer any questions that you do not wish to or are not comfortable with.

Data storage and deletion

All audio recordings will be erased after transcription. However, other research data (interview transcripts, spatial data, and travel diaries) will be retained in a locked cabinet and/or a password protected electronic file at Griffith University for a period of five years before being destroyed.

Feedback to you

You will know about the results of the research through their participation and through the publications. One-page summary would also be available if you ask for the result of the research.

The ethical conduct of this research

Griffith University conducts research in accordance with the National Statement on Ethical Conduct in Human Research. If you have any concerns or complaints about the ethical conduct of this research project, you are encouraged to contact the Manager, Research Ethics on 07 3735 4375 or research-ethics@griffith.edu.au.

Privacy Statement

The conduct of this research involves the collection, access and/or use of your identified personal information. The information collected is confidential and will not be disclosed
to third parties without your consent, except to meet government, legal or other regulatory authority requirements. A de-identified copy of this data may be used for other research purposes. However, your anonymity will at all times be safeguarded. For further information consult the University's Privacy Plan at http://www.griffith.edu.au/about-griffith/plans-publications/griffith-university-privacy-plan or telephone (07) 3735 4375

What if I have questions or need further information?

If you have any questions, please contact Siyao Gao by email at siyao.gao@griffithuni.edu.au.
受访者信息声明

项目名称：社区环境如何影响中国老年移民的健康和幸福感？以澳大利亚黄金海岸为例。

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研究目标

本研究目标是研究澳大利亚的社区环境是如何影响中国老年人对社区体育活动与社交活动的参与情况，以及体育活动和社交活动的参与情况如何影响老年人的客观与主观上的健康情况和幸福感的？

为什么本人被邀请参加调查？

我们正在收集居住在澳大利亚的中国移民老年人的生活经历。对于从中国迁居到澳大利亚的老年人，您提供的信息能够帮助我们了解社区环境的设计和外观对他们健康和幸福感的影响。

谁会参与此项研究？

居住在澳大利亚社区中的中国老年人，年龄为 55 岁以上（根据中国退休政策），迁移到澳大利亚超过 6 个月，在 50 岁之后迁居到澳大利亚的中国老年人。

本研究的益处

本研究能够帮助理解（1）中国老年人在澳大利亚的社区中活动情况；（2）社区环境的改变和不同对中国移民老年人参与体育活动与社交活动有什么影响，对他们的健康和幸福感有什么影响？

您需要做什么？

我们希望你能够做以下这些事：
1. 同意参加此项研究。调查人员会朗读同意书，您需要表明同意参与此项研究。

2. 在进行访谈的前一周，在完成每一次出行后，您需要填写旅行日记。旅行日记是一个表格，记录了您每次出行的去向，目的地，如何到达的目的地以及什么时候出发和到达的。同时，您需要填写为什么您选择这个路线。您的记录能帮助我们理解社区环境是如何影响您的出行行为。

3. 在完成旅行日记后调查人员会对您进行访谈（30 分钟-60 分钟）。

4. 在访谈之前，您需要完成绘制活动地图。首先您需要在地图中标注出您的居住地点。根据您的旅行日记，您需要绘制出您的旅行目的地和出行路线。您也可以让访谈人员帮助您完成地图绘制。

5. 访谈内容是关于在出国之后社区环境的变化，这些变化是如何对您日常参加体育活动和社交活动产生影响的，特别是您在迁移到澳大利亚之后遇到的积极的或者负面的经历，以及这些影响是如何影响您的健康和幸福感的？访谈问题关注您对这些活动和环境的看法。我们的目的是理解黄金海岸的社区环境是如何影响您的健康和幸福感的。本次访谈可以通过普通话或英语交谈。访谈将会被录音，并转录并翻译成英文。

**我是必须参与这项研究吗？**

不是。在本研究中您的参与是完全自愿的，不参与调查对您不会产生任何影响。您有权利可以在访谈调查中的任何时间或在访谈结束时立刻选择退出问卷调查。然而，如果访谈结束，我们将不能撤回您的数据，因为我们并不能确定哪份访谈数据属于您。

**这些信息将如何被使用？**

调查研究所收集的数据应用于最终的报告、博士论文、学术论文以及会议报告。本次调查的数据不会应用于其他项目，也不会被其他组织使用。

**资料保密情况：如果参与此项调查您会被认出来吗？**

不会。在调查期间，您不会被问到关于您的任何联系方式，本研究所产出的任何文章不会找到任何个人的信息。本想调查的数据只有本项目小组的成员能够看到。
参与这项研究有任何潜在风险吗？

没有。本调查所有的问题没有对错之分，本想调查只是关注您在中国和澳洲生活的经历。并且我们不希望参与这项研究使您烦恼。您可以选择不回答任何使您不适或您不想回答的问题。

数据的存储与删除

所有数据将会被保存在格里菲斯大学的电脑中，电脑只有拥有格里菲斯大学的相关的账号和密码才能打开。

反馈

您可以通过参与调查或者了解本项调查的论文得到调查结果。如果您需要被告知结果，我们会在研究结束之后给您提供调查报告。

如果我有问题或需要了解其他信息怎么办？

如果您有任何问题，请联系相关人员。高斯瑶，电话 555-29340。或者电子邮件联系：siyao.gao@griffithuni.edu.au
Appendix 5. Interview Questions

Questionnaire

No.

Date of the Interview:

Venue of the Interview:

I open the interview by self-introduction, and then move to

- Explain the purpose of the interview (introduce my research and research questions to help them to better understand my research)
- Explain the purpose of digital recording
- Assure confidentiality and the participant signs the consent form

The interviewer starts by giving the following instruction:

I am interested in your life experience in Australia (e.g. everyday life, immigration experience, the neighbourhood environment, wellbeing). The method I use in the interviews is not a question-answer format. Rather, I use an in-depth interview approach, that is, open-ended question. I would like you to tell me about your stories of everyday lives, your feelings etc. In today’s interview, I would like you to talk about your life both in China and Australia, your immigration history, and your everyday life at home and in the neighbourhood (For couples or friends: Each of you can talk, and I hope to hear from both of you. You can agree about the story; you can disagree…). you can tell the story in any way, that is comfortable for you. Let’s start with your personal information.

Personal information

- Age
- Gender
- What is your marital status?
- The city you lived before you moved to Australia.
- Length of residence in Australia/when you moved to Australia?
- Understanding of English (most of, a little bit, not at all)
- Level of education?
- Who do you live with? (alone, with a spouse, with (grand)children)
- The preference of living arrangement (with friends or relatives, alone, with children)
• Do you own or rent a house in Australia?
• Religious participation (church/ temple service)
• Are you a permanent resident or citizen in Australia?
• Are you able to tell me what your monthly income is? And sources of income?
• What was your occupation prior to moving to Australia?
• How would you assess your health and wellbeing? (good, fair, poor)

**Immigration history**
1. When did you decide to immigrate to Australia? What were your motivations to immigrate to Australia? (prompt: reunion with child, pursuing good environments, the change of lifestyle)
2. What are your general feelings about your immigration to Australia?
3. Will you live on the Gold Coast forever? Why/Why not? Will you go back to your hometown?
4. Can you talk about how the immigration has influenced your wellbeing? (prompt: positive influence and negative influence, family relationships, activities at home) or do you think your wellbeing has improved after immigration? Why? (prompt: family members, activities, the neighbourhood environment…)
5. Have your daily habits and activities outside the home changed compared with your life in china? (prompt: leisure activities like stroll, food consumption, deliver grandchildren to and from school, shopping, going to library, going to the beach, learning English, participating in cultural activities, social activities, seeking medical care and religious activities/volunteers …)
6. Why do you participate in these activities? What is the main reason?
7. How do you find these activities?

**Neighbourhood Environment**

**Family relationships**
1. What do you do at home before and after immigration (Prompt: doing domestic tasks, cooking, gardening, conducting hobbies, watching TV, having visitors)?
2. Have your daily habits and activities within the home changed compared with your life in China?
3. Is there any difference in the relationship with your adult children and other family members between here and your hometown?
4. In your opinion, what factors will influence your feelings of your home (prompt: daily activities, families, memories…)?
5. Is there any time that you’d like to go ‘home’ (prompt: lonely, missing family, facing difficulties…)?

**Neighbourhood environment**

*Physical environment*

1. What do you think about building facilities, infrastructure, shopping, transportation and services here? Can you compare these with your hometown facilities?
2. What buildings or landscapes do you think are the most impressive for you in the neighbourhood you live on the Gold Coast?
3. Do you think your neighbourhood is safe? (prompt: fights, homeless, getting lost). Do you think your hometown is safe?
4. How do you evaluate the style of the urban planning (e.g. street, public transport, housing) on the Gold Coast and in your hometown?
5. Are there a lot of places on the Gold Coast where you can spend your leisure time?
6. Do you think the neighbourhood environment on the Gold Coast can meet your individual needs? (prompt: close relationship with nature, success, pursuing values, traditions)
7. Do you like living in this city? Do you like living in your hometown?
8. Do you consider yourself a local on the Gold Coast? Why? If you go back to your hometown, do you consider yourself a local?
9. Are there any changes in your feelings about your “hometown” and the Gold Coast after migrating to Australia (the neighbourhood environment)? Are these kinds of feelings getting more or less intense?
10. In your opinion, what factors will influence your feelings of your hometown and the Gold Coast? (prompt: friends, families, familiar places, memories related to the places…)
11. Do you think that you could live in another Australian city?
12. Can the Gold Coast provide you with the life you want? How about your hometown?

**Social environment**
1. Do you think you are a part of the neighbourhood where you live? If not, which group(s) do you think you are in? (prompt: Chinese organisations, None) Why? In your hometown, do you think you are a part of your hometown?

2. What's the difference between your feelings about the Gold Coast and your feelings about your hometown? (prompt: sense of belongings, identity, social networks…)

3. Is there any difference in the relationship with neighbours and friends between here and your hometown?

4. Do you think it is important to keep a relationship with your neighbours or friends? Why? Which relationship is important?

5. Do you participate in the activities held by your neighbourhood? Why?

6. What kind of activities do you take part in on the Gold Coast? what kind of activities did you take part in in your hometown?

7. Do you think your neighbours will help you when you are in an emergency?

8. How do you feel about your neighbours?

9. In your neighbourhood, do you agree with most of people’s lifestyles? Can you give me some examples?

10. Do you have close friends on the Gold Coast? Do you have close friends in your hometown?

11. Do you usually chat with your friends on the Gold Coast and friends in your hometown? How? How often?

12. Can you tell me how you celebrate Chinese traditional festival and Australian traditional festival?

**Natural environment**

1. Do you think the climate and natural environment (e.g. green spaces, beach, sea, climate) is good for your life (on the Gold Coast and in your hometown)? Why?

**The changes of life after migration**

1. Do you have any challenge when living on the Gold Coast? (prompt: language, social network, natural environment, infrastructures, landscapes)

2. How have you adapted to life on the Gold Coast?

3. Do you think you are familiar with the Gold Coast?

4. Do you think the scope of your activities is large on the Gold Coast compared with your hometown?
**How does the neighbourhood environment influence your wellbeing?**

1. How can the factors listed below influence your wellbeing?
   - Natural environment (climate, air quality, plants, scenery)
   - Physical environment (neighbourhood parks, Maintenance and aesthetic of neighbourhood environment, access to shopping and leisure activities, safety, transportation)
   - Social environment (belongings, relationship with others, atmosphere of the society)

2. Can you talk about how the migration has influenced your wellbeing (prompt: positive influence and negative influence)?

3. What factors do you think can influence your wellbeing? (prompt: family relationships, social support, social networks, accessibility to essential facilities)
项目名称：社区环境如何影响中国老年移民的健康和幸福感？以澳大利亚黄金海岸为例。

访问提纲
编号：
访谈日期：
访谈地点：
我首先自我介绍，然后
• 解释访问的目的
• 解释为什么录音
• 向参加者保证保密性，请参加者签署同意书

我向参加者介绍：
我对您在澳大利亚的居住经历非常有兴趣（例如每天的生活活动、迁移经历、社区环境和幸福感）。我所用的研究方法不是一问一答，而是深度访谈，也就是，没有预设答案的问题。我想请您告诉我关于您每天的活动安排以及您的感受。在今天的访谈中，我会询问您在中国以及在澳大利亚的生活经历。（对于夫妻或朋友同时进行访谈的，我希望你们都能谈一下感受，你们可以同意也可以不同意对方的意见）您可以以任何您觉得舒服的方式谈论您的看法，首先我们先了解一下您的个人情况。

个人情况
• 年龄
• 性别
• 婚姻状态
• 在迁移到澳大利亚之前您居住在哪个城市？
• 在澳大利亚的居住时长/什么时候迁移到澳大利亚居住的？
• 英文理解程度（很好，一般，很不好），在生活中会使用英文吗？
• 教育程度
• 您和谁一起居住（独居，只和配偶居住，只和儿女居住，和配偶和儿女共同居住）
• 您更愿意和谁居住？（朋友亲属，配偶，儿女，配偶和儿女）
• 您在澳大利亚拥有您自己的房产吗（不包括儿女的产业）？
• 宗教活动参与情况（教堂/佛教寺庙）
• 您是澳大利亚的永久居民或公民吗？您是怎么办理的移民？
• 方便告知您每个月收入大概是多少吗？
• 在您迁移至澳大利亚之前您在国内的工作是什么？
• 您如何评价您自身的身体健康和幸福感？（不好，一般，很好）

移民经历
1. 您什么时候决定移民到澳大利亚的？您为什么移民到澳大利亚？（提示：与孩子团聚，更好的环境，追求更好的生活方式）
2. 您移民澳大利亚后整体感觉怎么样？
3. 您会永远居住在澳洲吗？为什么？您会回到自己的家乡吗？
4. 您能谈谈迁移对您的幸福产生了什么影响吗？（提示：正面影响和负面影响、家庭关系和社区环境变化）
5. 在迁移后，您的生活习惯和日常活动有什么变化？（提示：休闲活动例如散步，食物，接送孙辈，购物，去图书馆，去海滩，学习英语，参与文化活动，社交活动，看病，宗教活动以及志愿活动）
6. 为什么参与这些活动？主要原因是什么？
7. 您是如何发现这些活动的？

**家庭关系**
1. 您在迁移前后在家中都有什么活动？（提示：家务、做饭、园艺、从事业余爱好、看电视）
2. 您的活动在迁移前后有什么变化吗？
3. 在迁移前后您和您的子女关系有什么变化吗？
4. 您觉得澳大利亚住的地方是您的家吗？您觉得日常活动、家人和记忆对您的家的看法有什么影响？
5. 有您特别想回家的时候吗？（提示：孤独，思念家人，面临困难）

**社区环境**
1. 您如何评价基础设施、绿地购物中心、交通以及健康服务？您觉得在使用这些设施时和家乡的设施有什么不同吗？
2. 对于黄金海岸，在社区中您印象最深的建筑或景观是什么？
3. 您认为您的社区安全吗？（提示：打架、无家可归者、不熟悉的街道有走失风险）
4. 您觉得整体城市规划和您的家乡有什么不同吗（提示：街道、公共交通、房屋）
5. 在黄金海岸有很多地方能让您度过休闲时光吗？
6. 您认为社区环境能满足您的需求吗？（提示：自然环境、成功、传统活动）
7. 您喜欢居住在这里吗？您喜欢居住在家乡吗？
8. 您认为您现在在黄金海岸算当地人吗？为什么？您回到家乡您觉得您是当地人吗？
9. 您在迁移后对家乡和对黄金海岸有什么样的感情？这种感情更强烈了还是更平淡了？
10. 在您看来，一下这些因素如何影响您在黄金海岸以及在家乡的生活？（提示：朋友、家人、熟悉的地方、与地点有关的回忆）
11. 您认为您能在另一个澳洲城市生活吗？
12. 黄金海岸这个城市可以提供给您理想的生活吗？您的家乡可以给您提供吗？

**社会环境**
1. 您认为您属于您现在居住的这个社区吗？您有加入什么社会组织吗（例如华人协会）？为什么参加这些组织？您在家乡有没有参加过这些组织？
2. 您对黄金海岸和家乡是什么？您会有归属感吗，您的主要社交联系实在黄金海岸还是在家乡？
3. 您与家乡朋友的关系以及黄金海岸朋友的关系有什么不同？
4. 您觉得保持和邻居以及朋友的关系重要吗？
5. 你会参与邻居举办的活动吗？为什么？
6. 您在黄金海岸都参与哪些活动？有什么活动时您在家乡不能参与的？
7. 在紧急情况下您觉得您的邻居会帮助你吗？
8. 您觉得您的邻居怎么样？
9. 在您居住的社区中，您认同邻居们的生活方式吗？（提示：日常生活，与家人的交往等）
10. 您在黄金海岸有关系密切的朋友吗？
11. 您在澳洲和在家乡多久和朋友见一次面？
12. 您能告诉我澳洲您怎么庆祝中国的传统节日的？

自然环境
1. 你觉得黄金海岸的气候和自然环境如何（例如绿地、沙滩、气候等）？对您的日常生活和健康有什么影响？

迁移后生活的变化
1. 在黄金海岸生活有什么挑战和困难吗？（提示：语言、社交网络、自然环境、基础设施和交通）
2. 您如何适应在黄金海岸的生活呢？
3. 您对黄金海岸现在熟悉了吗？
4. 您在黄金海岸的活动范围大吗？相比较于您的家乡呢？

社区环境与您的幸福感
1. 以下因素是如何影响您的日常生活的，能满足您的需求吗？
   ● 自然环境（气候、空气质量、植被和景观）
   ● 物理环境（社区公园、社区环境的维护与美观、购物中心和休闲活动的可达性、安全性和交通）
   ● 社会环境（归属感、社交关系、社会氛围等）
2. 你能了谈一下在迁移之后您的幸福感有什么变化吗？
3. 您觉得那些因素最影响您的日常生活感受呢？（提示：与家人的交往、社会支持、社交网络、可达性）