ASPIRATION FOR SANCTUARY AND POTENTIAL ALTERNATIVES

: NEW HOUSING ENVIRONMENT FOR YOUNG PROFESSIONAL SINGLE PERSON HOUSEHOLDS IN SEOUL

By

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A thesis submitted to

the University of Birmingham

for the degree of

DOCTORAL OF PHILOSOPHY

Centre for Urban and Regional Studies

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June 2017

ABSTRACT

The number of single person households in global cities such as London and New York has increased dramatically since the 1990s, with significant impacts for development patterns in these cities. The trend has been particularly prominent in South Korea's capital, Seoul, where whose 854,606 single person households represent 23.9% of total households as of 2010 and even more now in 2015. The increase has been mainly driven by the significant increases in young single households aged in their 20s and 30s. The government has been striving to keep pace with the rapid increases in the single person households by supplying residential dwelling types for them such as 'Urban Lifestyle Housing'. However, initial commentary highlights that the resulting housing environment exhibits numerous shortcomings. In this context, there is a need for research to understand the nature of the city living experience for young single person households, their aspirations and the implications for future design and planning approaches in the city. This research aims to address this gap and to provide a basis for recommending potential alternatives in the development and design of new housing for Seoul's changing population, approaching the issue with three perspectives: 'Human relationships', 'Housing design', and 'Economic issues'.

Dedicated to my beloved family

My beautiful wife, **JUYOUNG KWON** and my adorable son, **EUIJAE JEONG**

Their love and support makes me a better person

ACKNOWLEDGEMENTS

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GLOSSARY

Singleton — A person who lives alone without any cohabitant, whether in a relationship or not.

Jeonse — It is a kind of a real estate term in South Korea and it refers the method which housing is leased. The tenant does not pay the monthly rental cost but gives a large amount of deposit to the landlord when the leased is signed. Generally, the amount of the deposit is from 50% to 80% of the housing's market value, and the period of the lease is 2 years.

Pyeong — It is a term refers an aerial unit used to measure the size of rooms or buildings in Korea and one pyeong is 3.3058 m^2, 3.954 sq yd or 35.586 sq ft

₩ — A symbol of 'Korean Won' which is the currency of South Korea.

One-room — A term "one-room" is not an officially defined concept, but generally refers to a single room with a toilet and the kitchen, distinguishing it from other housing types such as apartments. Thus, 'one-room' can be classified as a kind of multi-households housing, business facility like officetel, or neighbourhood facility.

House Poor — A house poor is a person who spends a large percentage of his or her total earnings on home ownership, including property taxes, mortgage payments, maintenance and utilities, so the house poor tends to have trouble meeting other financial obligations like vehicle payments.

Rent Poor — A rent poor refers to those who do not have their own house, live in a rental housing, and spends a large proportion of their earnings on paying the rental cost because of overpriced rents, thus they are hard to fulfil other financial obligations.

Gold Mr and Miss — A Gold Mr. or Miss used to describe an unmarried person who is aged between 30 and 45, with a high level of education and socio-economic status.

Single belt — The conspicuous feature related to the distribution of the singletons in Seoul is that the areas are spread out along the Subway Line 2, and this geographic pattern has been called the *Single Belt*, which goes through the central areas including CBD, GBD, YBD, and Gwanak district

Micro apartments — an apartment or studio flat smaller than the existing minimum legal size for a residential house in the city

Share house	A kind of house sharing where each sharer can use a private bedroom while sharing the living room, kitchen, and bathroom
Urban Lifestyle Housing	A kind of cheap and fast-supplied multi-unit residential building which has less than 300 households; is characterized by relaxed standards of housing construction and community & service facilitie; and is supplied through a simplified procedure, mainly in order to keep the pace with the sharp increase in one or two households in city centres and supply affordable housing to the population

HOUSING TYPES IN THE CONTEXT OF SOUTH KOREA

Type of housing	Type of housing							
	Housing						Quasi housing	
	Detached housing		Multi-unit housing					
Detailed type	General detached house	Multi-household housing	Apartments	Terraced house	Multi-family housing	Accommodation	Officetel	Gosiwon
Image								
The criteria of Building law	A house that a family can dwell independently, and this housing type has not limitation of floorage.	A housing that the total floorage is under 600m^2, and it has less than 3stories and 19 households	A housing which has more than 5 stories for residency	A housing that the total floorage of a building is over 660m^2, and it has less than 4 stories	A housing that the total floorage of a building is below 660m^2, and it has less than 4 stories	A multi-unit housing type for students and workers, having communal kitchen. Each unit is not an independent living facility	A building, mainly for business space which can provide studio flat, dining and toilet. Its area for exclusive use is limited below 85m^2	A multi-unit housing type, providing accommodations, toilet except dining. The total floorage of a building is below 1000m^2

ACRONYM

ULH	Urban Lifestyle Housing
RIR	Rent to Income Ratio
CBD	Central Business District
YBD	Yeoido Business District
GBD	Gangnam Business District
SNS	Social Network Services
ICT	Information and Communications Technologies
IoT	Internet of Things
KEIS	Korean Employment Information Service
KOSIS	Korean Statistical Information Service
SI	Seoul Institute
SERI	Samsung Economic Research Institute
HMR	Home Meal Replacement

CHAPTER 1

INTRODUCTION

1.1 Background

The past few decades have seen the heart of global cities undergo not only a significant growth in population, but also rapid economic development and social change (UN, 2014, Engelman, 2009, Hall and Pfeiffer, 2013). These changes have been attributed to the increases in new major flagship projects in the city centres, improving built environment, and revitalizing urban economy and cultural circumstances, encouraged by urban planning policies (Punter, 2010b, Barber, 2007, Paddison, 2000). This phenomenon, so-called 'Urban Renaissance' (Force and Rogers, 1999), has caused city centre living (Barth, 1980, Nathan et al., 2005), and one of the significant trends related to the issue is 'the rise of living alone' (Jamieson et al., 2009, Unsworth, 2005, Tallon and Bromley, 2004, Allen and Blandy, 2004). There is a clear tendency that the number of single person households in the global cities has rapidly increased in the 20th century (Klinenberg, 2013, OECD, 2013, Euromonitor International, 2012), and they are mainly working aging group (Palmer, 2006) .

The meaning of the term 'single person households' might be taken to conflate two different

things: people who live alone and people who are single (not married and not have a partner). In this thesis, the 'single person household' is used to describe a person who lives alone without any cohabitant, whether in a relationship or not. In line with the meaning of the term, Klinenberg (2013) refers to 'singleton', including the meaning of 'single person household' in his book *Going Solo: The Extraordinary Rise and Surprising Appeal of Living Alone.* The word 'singleton' means a kind of lifestyle choice used to refer people who prefer solo living (Klinenberg, 2013), and it has brought into public awareness widely because of the popularity of the Bridget Jones novels and films (Kurutz, 2012). There is a minor difference between the meaning of 'single person household' and 'singleton' in the point of 'preference'. The latter is described to make one's own decision to live alone, while the former just describes a type of household regardless of the preference. In this research, the 'singleton' is used as same meaning as 'single person household' in order to widely approach the rising demographic issue, living alone in city centre, in Seoul context.

The visible trend of the rise of singletons has significantly influenced the built environments in the city centre. In particular, the demand for small-sized housing has increased, and the rental market for the housing type also has grown especially driven by the young professional singletons (Allen and Blandy, 2004, Oc and Tiesdell, 1997). The young, single professionals who are major contributors to the repopulation of the city centre (Tallon and Bromley, 2004, Butler, 2003, Butler and Robson, 2003) are more likely to rent a small flat or apartment rather than purchase their dwellings due to an affordability crisis caused by the inflation of housing markets in city centre (Allen and Blandy, 2004). This development focusing on the young

professional singletons in city centre has resulted in considerable problems: social conflicts between the rising population and existing city centre dwellers such as the gentrification issue (Jamieson et al., 2009, Van Criekingen and Decroly, 2003); social isolation of the singletons and associated negative mental and behavior issues (Hughes and Gove, 1981, You et al., 2011b, Herttua et al., 2011a); poor quality of housing design and its environment (Haughton, 2010, CABE, 2005a, CABE, 2005b, CABE, 2007, CABE, 2009, Design for London, 2007, Simmons, 2009) ; and the economic burden to afford to housing cost (Nathan et al., 2005, Smith et al., 2005).

In line with the global trend and the related socio-economic and design problem in the city centre, the thesis will examine the lifestyle and residential situation of the young single person households in city centre; then figure out the satisfactions and aspirations for potential housing environments; and finally suggest housing and urban design alternatives for them in the context of city centre regions. These will be done by focusing on Seoul, the capital city of South Korea, as a case site, conducting statistical and empirical researches. This way of proceeding give rise to a number of questions: how the social relationship issues between the young professional singletons and neighbourhoods can be improved; what the key aspirations of the young professional singletons for the housing environment are; how the quality of the environment can be enhanced; what the singletons' thoughts on the housing cost are; and what an appropriate approach to the economic regeneration in the local context involving both the singletons and local communities is. With the background and questions thus laid down, the next section shows the research objectives and main research questions for the thesis.

1.2   Research Approaches, Objectives and Main Questions

Since the last decade, the global trend 'living alone in city centre' has been dramatically prominent in Seoul, where whose 850,000 single person households represent 24.4% of total households as of 2010, and this tendency has gradually increased (Byun et al., 2015, Office, 2010). The phenomenon has been mainly driven by the rise of young professional single person households, who are in their 20s to 30s (KOSIS) and have an aspiration for living in small-sized and well-designed housing (Lee and Yang, 2012). They are also highly likely to prefer a housing environment of which the location of housing is not only good for commuting but also close to high streets and shopping centres so that they can enjoy their free time by shopping and eating out (Byun et al., 2015).

The trend of living alone in the city centre has made a significant impact on the built environment and socio-economic areas in Seoul. In terms of the built environment and housing market, although the housing and real estate market have been slowing down after the global recession in 2008, demands for small housing has been gradually increasing, thanks to the rise in the single person households (Park et al., 2013, Byun et al., 2015, Byun et al., 2008, Lee and Yang, 2012). Governments also have tried to keep the pace of the rising population in city centres by supplying housing (Lee and Yang, 2012, Lee, 2012b). For example, 'Urban Lifestyle Housing' scheme, launched by Ministry of Land, Infrastructure, and Transport in May 2009, has been introduced in order to supply affordable housings for one- or two-person households by easing regulations related to the housing construction and installation and offering diverse

incentives to developers and house builders (Yoo and Shim, 2010, Cho, 2011, Ministry of Land, 2009). Furthermore, the lifestyle of the singletons has economically influenced the industry. The young solo dwelling group, mainly composed of office workers, has the strongest purchasing power among all generations, and tends to spare no expense in taking good care of themselves, investing in enjoying their life (Lee, 2013c, Paik, 2014, Byun et al., 2015, Lee et al., 2011). Thus this consumption tendency has brought about the rise of associated services such as convenience stores, pet shops, lifestyle shops, and parcel services (Paik, 2014, Koh, 2014).

In particular, the rapid developments without due consideration to have resulted in significant problems in three major perspectives: the nature of social relationship, housing design and quality, and economic aspects. In the aspect of human relationships, firstly, social disconnection is a serious problem. Although most young single person households choose the independent lifestyle, the situation of lacking communication with neighbourhoods causes negative social behaviours such as alcohol abuse and suicidal thoughts (Yoon, 2002, Lee and Yang, 2012, Byun et al., 2008). The housing environment makes the situation even worse; most buildings for the young single person households have no community space, causing socially disconnection with neighbours, at the same time only consist of one-room type units, a kind of studio flat (explored in chater 4, p.101) (Kim and Moon, 2009). Regarding the housing design and quality aspects, the small-sized housing has been supplied to the markets in large quantities in a short period time without considerations to design qualities and local circumstances (Cho, 2011, Kim and Moon, 2009). As a result, the problems of oversupply of the small sized housing and poor

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quality of the environment have emerged (Yi and Lee, 2010), and negative social phenomena have also occurred in the local context, including gentrification, and conflict between the singletons and local communities such as noise issues. Finally, in the perspective of economy, affordability is one of the most important considerations for the young single person households who live in Seoul (Lee and Yang, 2012). The housing price is too expensive for them to buy homes, although the price has been falling since the global recession in 2008 (Park, 2011), while the rental cost also seems to be a burden to them, compared to households income (Park, 2011, Lee and Yang, 2012). Moreover, there has been neglect in considering infrastructure such as convenient facilities for the rising population in the local context, and this has caused social conflictions with local neighbourhoods due to infrastructure overloads by the newly resident single people in the local area.

There are many literatures about the rise of single person households, mainly focusing on elderly solo dwellers and their characteristics (Victor et al., 2000, Kharicha et al., 2007, Dean et al., 1992). However, few researches among them have dealt with the young professional single person households who are driving the solo dwelling trend in Seoul. Furthermore no relevant studies have probed deeply into the group with specific perspectives including human relationships, housing design and quality, and the economic aspects by conducting statistics and empirical methodologies in order to figure out the developed housing environments for them based on their residential aspirations.

This thesis aims to address this gap regarding the rapid developments that have been carried

out without any consideration for human relationships, housing design quality, and economic circumstances, and to provide a basis for recommending potential alternatives in the development and design of new housing for Seoul's changing population. The spatial scope of the research is limited to Seoul, which is one of the global cities and is experiencing dynamic social trends, particularly the rapid growth of living alone in the city centre. The target group is the young professional single person households, in their 20s and 30s, and the significant leading group of the solo living trend in Seoul. To demonstrate the potential alternatives, the thesis explores the nature of the city living experience for the target group, their aspirations and the implications for future design and planning approaches in the city.

Based on this background, three research objectives are set out as follows:

- To understand the nature of human relationships amongst single person households in Seoul and particularly the balance between desires for privacy and communication in their housing situations

- To explain single person households' experience of their current housing types and how their lifestyles shape the potential for the design of new housing and neighbourhoods

- To understand how wider economic circumstances for young professional single person households influence their living habits and the implications this raises for future development and approaches to city place-making

These research objectives will be addressed through the following essential research questions:

- How can stakeholders such as urban planners, designers, policy makers or architects, related to the housing issues for young singletons, make an appropriate balance between 'personal privacy' and 'communicating with neighbourhoods' in the residential environment?   (Human relationships)

- What is a well-designed housing environment applied to aspirations of the singletons?   (Housing design)

- What kinds of economic considerations are important in order to improve the quality of housing environments for singletons in both personal and regional contexts?   (Economic aspects)

These essential questions are formulated from the reviews of the relevant literatures about city centre living, built environment issues, and the trends in the context of Seoul. The first main question is designed to examine the relationship issues between young single person households and their neighbourhoods, considering the balance between privacy and communication in both their housing environment and local context.

The second question is set up to figure out a well-designed housing for the targeted singletons based on investigating their lifestyle, shortcomings found in the current housing situation, and residential aspirations. It also approaches the housing design topic by considering appropriate

furniture for the housing and technology issues in order to improve the quality of solo life in the residential environment.

The last question is designed to identify the economic considerations for the young singletons that are relevant to improving the quality of their housing environment. The considerations include the housing cost issues and the correlation of economic issues with urban renewal.

The next section explains the research design for addressing the essential research questions.

1.3 Research Design

The thesis examines the current residential situation of young professional singletons in Seoul, their satisfaction of the circumstance, their housing aspirations, and then explores the potential housing alternatives for them. A triangulation mixed-method study, using both a quantitative questionnaire and qualitative in-depth interviews, is used in order to comprehensively analyse data (Greene et al., 1989, Jick, 1979). The issues of young professional singleton and housing environment in Seoul are quite complex and require consideration of architectural, economic, cultural, demographic, geographic and psychological perspectives. Thus, one method can complement another method which, otherwise on its own, might miss detailed information and provide biased outcomes (Creswell, 2013, Greene et al.,

1989).

To examine the main research issues, online surveys were conducted as the quantitative method; in-depth interviews with the targeted singletons and key stakeholders were conducted as the qualitative method; documentary analysis was carried out; and direct visits were made to housings where the target singletons currently live. Through these ways, the thesis seeks to understand what the real experiences of the young professional singletons in the Seoul context are, what their key aspirations for the developed residential environments, how the major stakeholders such as policy-makers, urban designers and architects deal with the issues, and how the housing alternatives are implemented on the urban development for the young singleton population.

1.4   The Layout of the Thesis

The thesis explores issues presented so far in this introductory chapter. Through reviews of the relevant literatures, it explores the global trends in city centres especially 'living alone'; built environmental trends associated with the rise of the singletons; and the issues in the Seoul context. It then explores the issues of young professional singletons and housing environments in the three perspectives of human relationships, housing design, and the economic aspect, by conducting the mixed methods into the Seoul context. The thesis finally suggests potential housing alternatives based on the synthesis of the mixed researches, and concludes with further

discussion.

There are nine chapters in the thesis.

This first chapter has introduced the background, the objectives, the main research questions, the methodology and the layout of the study. Chapter 2 explores trends in global city centres with demographic, cultural, socio-economic, and geographic perspectives. It also looks into how the conspicuous social trend 'living alone' has emerged; what kind of population leads the phenomenon; and what influences the trend has had on the city centre.   Chapter 3 explores global built environmental trends in city centres, such as gentrification, property boom, and relevant policy issues. In addition, it investigates urban design and architecture for the young professional single person households, drawing on the issue of a recent housing alternative for them in city centre, micro apartments. Chapter 4 reviews social trends, built environmental issues, the rise of young professional singletons, and its related socio-economic impacts on the target area, Seoul, the capital city of South Korea. Particularly, it focuses on the characteristics of the singletons, their residential situation, urban renewal, and human relationships with neighbourhoods. Chapter 5 provides a methodological approach to the research. The main points and questions of research are set out. It then explains why the mixed methods are selected for the research, and how the mixed methods are used. Chapter 6 presents the outcome of the quantitative method research. Key points are figured out in the statistics of graphs and numerical tables: the current dwelling situation of the young professional singleton, their satisfactions related to the housing environment, residential awareness, and aspirations for the

ideal housing. An initial analysis of the outcomes is carried out by using SPSS and Excel programmes. Chapter 7 presents the results of in-depth interviews. The key points are identified from the empirical outcomes of the interviews with the targeted young singletons. Also, through the interviews with the stakeholders, the chapter examines the issues of the singletons and housing environments in political and practical perspectives. The collected data are arranged and initially analysed through the NVivo coding procedure. Chapter 8 presents the synthesis on the main issues, based on the findings of mixed methods. It sets out to answer the main questions, and it also links the answers to the literature reviews in order to academically support the outcomes of synthesis. The chapter then suggests potential housing and urban design alternatives for the young professional singletons in Seoul, expressing them in three-dimensional images. Finally, chapter 9 concludes the thesis. The main findings, including those from the human relationships, housing design, and economic perspectives, are summarized in this chapter. It then explains the contribution of the research to the academic, practical, and political areas associated with the young single person households and housing environments. The chapter ends by considering limitations of the thesis and suggesting future studies.

CHAPTER 2

CITY CENTRE LIVING:

SOCIAL, CULTURAL, ECONOMIC AND DEMOGRAPHIC TRENDS AND PROJECTIONS

2.1 Introduction

The centres of global cities have undergone not only a substantial growth in population, but also significant economic and social changes since the mid-1990s (UN, 2014, Engelman, 2009, Hall and Pfeiffer, 2013, Hopwood and Mellor, 2007). In the case of the UK, cities such as London, Birmingham, Manchester and Leeds have experienced the phenomenon over the past couple of decades. This can be attributed to the increases in new major flagship projects and property schemes in city centres to improve environments in the areas and revitalize economic and cultural circumstances, encouraged by proactive urban planning policies (Barber, 2007, Johnstone and Whitehead, 2004, Unsworth and Nathan, 2006). This conspicuous phenomenon, the so-called 'Urban Renaissance', has encouraged people to locate into the city centre (Force and Rogers, 1999, Unsworth and Nathan, 2006). Moreover, these trend of re-urbanization and city centre living have also been prominancy in large cities of other European, North American and Asian countries such as New York, Tokyo, and Seoul (Kim and Han, 2012, Sassen, 2001,

Sorensen et al., 2010). Such appearance of city centre living has been a main theme of academic interests and the trends, therefore, have increasingly become a crucial social phenomenon for city planners, urban developers and researchers (Barber, 2007, Allen, 2007).

Several types of dwellers have driven the significant growth of the central area living trend. According to commentators, four typologies can be identified: 'young professionals', aged under 35; 'counter-culturalists', including gay and lesbian residents; 'successful agers', pensioners who want to enjoy a range of cultural facilities in city; and 'lifestyle changers', middle-aged separated or divorced people (Allen, 2007; Baber, 2007; Allen and Blandy, 2004). In particular, the young professionals are the prominent leading group to fuel the city centre living trend, compared to the other groups (Baber, 2007). They seek city centre living due to not only the location of workplace but also their lifestyle, pursuing new experiences of being at the 'heart of things' in the area (Wynne and O'Connor, 1998, Seo, 2002). Thus many young professionals chose to postpone marriage and children; to live alone in small sized rental housing, located in the city centre, in order to fulfil their pragmatic and lifestyle aspirations (Allen and Blandy, 2004).

Living alone in the city centre is a global trend, along with the urbanization phenomenon. In particular, Klinenberg (2013) maintains that the significant social phenomenon has mainly been driven by a group named 'Singletons', featured in his book *Going Solo: The Extraordinary Rise and Surprising Appeal of Living Alone.* Scholars (Klinenberg, 2013, Kang et al., 2011, Falkingham et al., 2012) have described that singletons are mainly a young professional

population who live in urban areas, seeking individual freedom, self-achievement, and personal control, and the trend of the rise of singletons has occurred globally. According to a statistical report about family database conducted by OECD, the rate of single person households account for more than a quarter of total number of households in many developed countries which have experienced re-urbanization such as the UK, Germany, USA, and Japan, and even over 40% of the total number of those in Finland (OECD, 2013). In the case of the USA, the rate of people who live alone in the city centre has notably increased since the end of the 20th century (Klinenberg, 2013), and the group has been the fastest-growing household type since the 1980s (United States Bureau of the Census, 2012). In addition, the UK has also seen a gradual increase in the number of single person households. The percentage of UK single person households climbed steadily from 12% to 29%, amounting to approximately 7.5 million households today, between 1961 and 2010 (Beaumont, 2011).

Within these contexts, the main purpose of this chapter is to explore these urban trends and in particular to investigate the issues of young single person households in urban areas, analysing why the trends have emerged, and how they are likely to project into the future. The chapter begins by exploring the urban trend of 'solo dwelling in city centre' with several key aspects such as demographic, cultural, geographic, economic factors, and social issues. Then, the rest of the chapter examines the implications and projection of the trends. The exploration starts in the next section by examining the significant demographic trend in city centre: living alone.

2.2 A Significant Demographic Trend: Living Alone in the City Centre

2.2.1 The Rise of Single Person Households

The phenomenon of urbanization has been significantly dominant in global cities, and the majority of population around the world now dwells in cities (Hopwood and Mellor, 2007, UN, 2014, Engelman, 2009). The global urbanization has been mainly driven by young professionals who live alone in city centres (OECD, 2013, Barber, 2007). Nathan et al. (2005) describe the young professional singletons as well-qualified and high incomers; a career-focused group; people who have a positive perspective of future earning; preferring to rent rather than own; spending their free time mainly on socializing such as eating out or drinking a cup of coffee; and enjoying convenience shopping, one of the major advantages of city centre living. In addition, other scholars (Allen and Blandy, 2004, Urry, 2012) note that they are increasingly making a choice to postpone marriage and children due to their aspiration of self-fulfilment; they are likely to be 'footloose' to move to new places, following jobs.

In line with the increase in young professional singletons in city centre, Klinenberg (2013) claims that more and more of people choose not to marry and prefer to live by themselves, and 40 per cent of all households are single occupancy in most major American cities. In Manhattan and Washington, D.C., that number goes up to 50 per cent. Although the booming trend has occurred all over the world, it has not been studied or researched in to the depth that it deserves

(Klinenberg, 2013). And in the case of England, 13% of the population who lived alone in 2006 was four times more than those in 1960 (ONS, 2005, ODPM, 2006). According to the research company Euromonitor Euromonitor International (2012), 34% of households in the UK were solo living families in 2011. This skyrocketing change has also occurred in other western countries. Sweden has the greatest number of single dwellers in the world, with 47% of households being a singleton. The runner-up is Norway at 40%. In the case of Japan, although the country had historically been constituted by strong family-based communities, 31% of its households now have one resident. And China, India and Brazil are the fastest-growing countries in single living households in the world (see Figure 2-1).
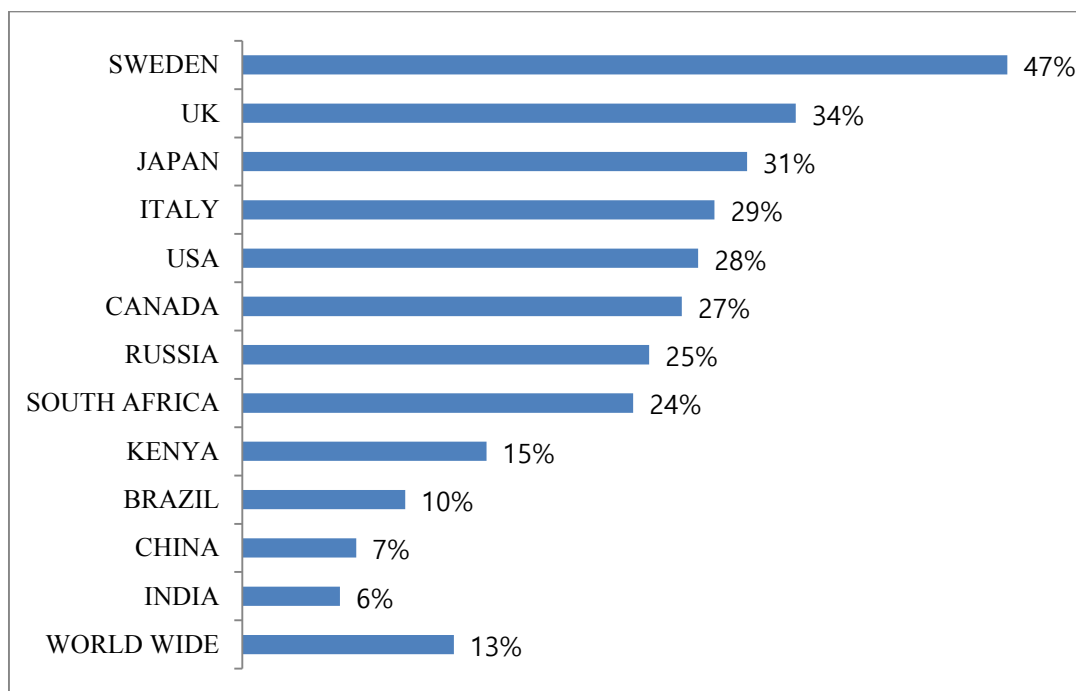
Figure 2-1 The Percentage of the Single Person Households Worldwide (Euromonitor International, 2012)

The major characteristic of the increasing number of single person households in the city centre, compared to their predecessors, is age shift. According to Bennett and Dixon (2006), people who live alone were traditionally elderly or pensionable people, and the number of older people living alone has gradually been growing because the total sum of pensioners has been increasing. Unlike the tendency of older people's solo living, the contemporary one-person households are among those of working age, and is highly associated with the rise of young professionals in city centres (Allen and Blandy, 2004). A greater number of working-age people now are singletons than in the past (Bennett and Dixon, 2006). In contemporary US, the number of people aged 18 to 34 who live alone is more than 5 million, compared to 500,000 in 1950 (Klinenberg, 2013). This trend has also occurred in UK, as the table 2-1 below shows.

Table 2-1 The Proportion of Age Groups in People Living Alone in Great Britain

	1986/87	1996/97	2003/04[1]	2026 projection
All				
16–24	3	4	5	4
25–44	6	8	12	17
45–64	10	11	15	23
65–74	28	31	27	28
75 and over	50	47	49	39

Source: (Bennett and Dixon, 2006, Summerfield and Gill, 2005, ODPM, 2006, GAD, 2005)

Considerable changes in household composition are shown in the table above; in particular, the proportion of younger people who are between the ages of 25 and 44 living alone has significantly increased. The proportion of young singletons will approximately be three times

more in 2026 than that in 1986-7. Although the group of elderly solo dwellers is the largest by proportion, it is because of becoming widows or widowers in their later life (Bennett and Dixon, 2006). From the cases of the the US and the UK, therefore, young people's single living has rapidly increased over the last two decades, and this trend has been occurring simultaneously in many developed countries. The next section will investigate a wide range of drivers behind the phenomenon.

2.2.2 Drivers for the Increase in Single Person Households in Urban Areas

The global urbanization driven by the rise of young professionals has resulted in the emerging solo living trend. In addition to this, it has been highlighted four fundamental socio-demographic drivers for the trend: the issue of marriage, economic instability and women's economic power, and value changes in the society. One of the reasons for the increase in living alone is the decline of marriage. It is natural that a number of one person households will increase when people of the typically marriageable age avoid or postpone a wedding. The rate of marriage has declined particularly in industrial societies, regarded as a significant demographic social change of our time (Mason and Jensen, 1995, Lesthaeghe, 1995). In the case of the US, the annual rate of marriage among women aged 15 to 44 began to decrease significantly since 1970 (Goldstein and Kenney, 2001), and the number of newly married adults was 4.21 million in 2011 – a much lower than the 4.51 million estimated in 2008 (Fry, 2014). Marriage is gradually being replaced by one-person households or cohabitation, and this tendency is expected to continue in the near future (Fry, 2014, Davis, 1983).

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This phenomenon of avoiding marriage and living alone is globally dominant in urban areas, and it seems to be highly associated with the rise of young professional people in city centres. According to Klinenberg (2012), the rate of avoiding marriage is higher in cities of advanced countries in 2011, e.g. 48% for Washington DC and 30% for London. Furthermore, according to Davos International Economic Forum in 2008, the number of highly educated single person households is increasing worldwide, and especially 20-30 year old single women are the new main subject of culture and consumption (Byun, 2010). Thus, the increase in professional women singletons is highly related to the rising rate of unmarried women in the urban area.

The second driver for being a singleton in the city centre is economic instability. As seen in the characteristics of young professionals, they tend to prefer to choose solo living. However, many the young professionals are forced to choose the solo life by negative economic circumstances (Lewis, 2005). Since the economic crisis occurred after Subprime incident in US of 2008, many North America, Asian countries, and Europe experienced a great recession (Giannone et al., 2011, Eaton et al., 2011). These kinds of economic problems lead to decreasing number of jobs, lower wages, and unemployment (Rothstein, 2011). It is actually hard for many young marriageable adults to prepare a wedding on their own and to buy a house (Bell and Blanchflower, 2011, Schaller, 2013). In this economically pressured situation, therefore, the young professionals tend to avoid or postpone marriage, then to choose a lifestyle of solo dwelling.

Thirdly, emerging women's economic power is also important driver to increasing solo living

households. The increase in women's economic independence is related to the rise in living alone (Falkingham et al., 2012). In the past, women's economic dependency on men was more common because most women could not afford to live alone. However, the rise in women's economic participation in society and enhanced relative incomes has given rise to decrease economic returns to wedding (Becker, 1981). According to Leong (2012), in modern society people tend to be looking for a partner who has similar socioeconomic status. The traditional "Cinderella story" has been replaced by a story more akin to *Sex and the City* – instead of waiting for a prince to save them, proficient and self- sufficient females are now enjoying their single life (Leong, 2012). Therefore, the rise of women's socioeconomic status causes the rate of living alone in the city to increase.

Finally, in addition to the rise of women's economic power, their value change on roles and lifestyle in the society is a significant driver behind the decrease in marriage and the increase in living alone. Women's liberation, individualization and post-materialism have caused the increase in living alone and the delay of marriage (Van de Kaa, 1987, Lesthaeghe, 1995). Researchers claim that in the modern society, marriageable people tend to postpone and avoid a wedding because of the perceived economic burden and loss of individual freedom when they get married. Klinenberg (2013) argues that due to the prevalent cult of individuality, more people are avoiding marriage all around the world. Another commentator also claims that the marriage culture is disappearing fast and free relationships through cohabitation are becoming the normal culture in some Europe countries such as the UK and Sweden (Raley, 2001). Also, women's liberation supported by their economic independence makes them less susceptible to

pressure from nursing and housework, and be able to pursue careers. They could choose to marry and have children when they want, and even divorce should they want (Heller, 2012). Therefore, the rise of women's freedom in the marriage culture and the decline in marriage inspired by ideational changes such as individualization and self-actualization have naturally caused the single living atmosphere.

To sum up, the rise of young professional single person households is one of the major demographic trends in global city centres. It has been driven by both socio-demographic and economic drivers. The next section will explore important cultural issues in the city centre, which are highly related to the trends of city centre living and solo dwelling.

2.3 Cultural Factors: The Rise of the Creative Class

2.3.1 Post-industrial Society and an Emerging New Class

Over the past 50 years, global countries and their cities have experienced a social transformation from industrial to post-industrial societies, based on significant ideational changes (Mommaas, 2004). In particular, Mellander et al. (2012) identified that post-industrialism relates to an essential shift in values. Inglehart (1997) figured out the shift to post-industrial societies is strongly associated with the movement from previous 'materialist' to the current 'post-materialist' value. The change revolves around a movement away from

conventional religious values and norms about conformity, seniority, traditional perspectives about gender and sexuality to new values that are more secular and support self-expression and individualism, openness and tolerance (Mellander et al., 2012). Scholars (Inglehart, 1997, 1990; Inglehart and Baker, 2000) also insist that in the advanced countries, people have gradually paid more attention to issues about the rights of individuality, self-expression and personal freedom than interests in conventional institutions and politics.

In this changed situation, some scholars have argued that the rise of 'post-industrial society' in urban areas has been significantly driven by highly educated professionals such as engineers, scientists, and executives (Bell, 1976a, Reich, 2010). In particular Florida (2002) maintains that the leading professional groups can be described as 'Creative Class People' in his book '*The Rise of the Creative Class*' . He also identifies the rise of the creative class as a hallmark of post-industrial societies (Florida, 2002). The definition of the creative class is a group of people who work with creativity such as computer scientists and mathematicians; architects; engineers; life, physical and social scientists; teachers, trainers and library scientists; as well as artists and designers, entertainers, and athletes; and also professional workers including company managers, business and financial operators, judges, health care practitioners, technicians and high-end sales managers (Florida, 2002; Mellander et al, 2011). The creative class has increased substantially for decades in developed countries while the proportion of blue-collar workers has been reduced (Boschma and Fritsch, 2009; Clifton, 2008; Florida and Tinagli, 2004). In this situation, the research needs to clarify that the characteristics of this newly emerged class are, which will be explored in the next section.

2.3.2 The Characteristics of the Creative Class People

Global urban areas have undergone a shift in values to a 'post-materialist society', and the creative class has been the major leading group for the phenomenon. This significantly influential class has their conspicuous characteristics, impacting on city areas in diverse aspects. According to Florida (2002), one of the important characteristics of the creative class is individuality. Many creative people prefer self-statement, self-expression and individuality. Secondly, they are highly likely to have an open-minded personality and thus they can accept a wide range of people, trends including up-to-date high quality technologies, and various street level amenities and active culture. In addition, they tend to pursue a 'weak relationship' (Florida, 2008). According to Florida (2008), many people might say that the creative young people might be isolated in social life and rarely meet friends in face to face, focusing on communicating with friends through the cyberspace such as social media or email. However, they still like interacting with other people, albeit in a new way; weak relationship, which is a wide, rapid and casual relationship style, that takes place in third places such as a coffee shop, sharing information and making communities (Florida, 2002).

Based on these findings, it can be seen that creative people tend to form a wide, rapid and casual relationships, driven by the internet and social media, rather than a focused and deep human relationship. Unlike the traditional relationship method, this weak relationship has positive characteristics such as sharing ideas speedily and interacting with others at a quick pace (Florida, 2008).

Although there have been numerous critiques of the Richard Florida's theory: the creative class, in terms of the scope of creative class group, Florida's approach to urban theory and applicability of the his model (Malanga, 2004, Arvidsson, 2007, Krätke, 2010), the creative class has been regarded as a hallmark of post-industrial societies and the major driving force economic development in societies (Florida, 2002). The young professional group, classified as one of creative class by Florida (2002), has also grown and been prevalent in the society, driving the urban renaissance and city centre living trend (Bell, 1976b, Barber, 2007, Jamieson et al., 2009). In this context, single person households in the city centre driven by the young professional can be highly associated with the creative class, sharing their characteristics.

2.3.3   The Creative Class and the Young Professional Singletons

In the processes of the social shift into post-industrial societies and re-urbanization, the professional workers such as IT programmers, creative-industry professionals, and scientists have been prevalent; on the other hand, the importance for the blue-collar workers based economy has declined (Bell, 1976b). Florida (2002) categorises the professional group as one of the creative class groups – which are Super-Creative Core, Creative Professionals, and Bohemians – because the groups have mutually shared features. Consequently, the solo living trend driven by the young professionals who live in city centre is highly related to the issue of the creative class and their characteristics.

According to Kang et al. (2011), the social characteristics of young single person households who live in the city are as follows: the major age group is between 20s and 30s; they tend to think that their identity is important and focus on enjoying life; they are likely to lead to a reasonable consumer life by using useful information from diverse media including the internet ads; they regard IT-related smart facilities such as the high speed internet and social media as important points in their life. Falkingham et al. (2012) also mention individualisation, liberation and a stronger stress on self-actualisation as main characteristics of solo dwellers. The majority of the characteristics seem to be mutually shared by the other groups of the creative class, particularly in the features of a me-oriented attitude, being open-minded to diverse people or to accept new technologies, socializing, and enjoying city life. Thus, looking at the creative class characteristics can be useful for understanding the lifestyle and features of young professional single person households in the heart of the city. The next section will explore the geography of economic activity that influences both the features of the creative class and urban trends.

2.4   Economic Factors

2.4.1   Socio-Economic Drivers for the City Centre Living

During the last three decades, the shift to post-industrial societies has brought about the restructuring of the economy, driving city centre living as well (Allen and Blandy, 2004, Mommaas, 2004, Mellander et al., 2012, Bell, 1976b). In particular, the service- and knowledge-based economic sectors have been increasingly prominent in cities, in contrast with

the sharp decline of old manufacturing industries (Lash et al., 1993, Drucker, 1994). The changes in social and economic perspectives have mainly impacted on the trend of city centre living in two ways: the rise of new job opportunities and new working culture, and the seeking of city centre living by young professional singletons. At first, job opportunities have increased in city centres globally during the mid-20th century to the beginning of the 21st century (Nathan et al., 2005, Teaford, 1990, Davis, 1985). The increased opportunities which have mainly been in knowledge sector such as financial and business services have led to the repopulation in city centres. In particular the central areas have been key site for the knowledge sector; financial companies and banks agglomerated into the city cores (Nathan et al., 2005). In addition, the new economic culture in which the young professionals tend to work long hours (early till late) for earlier promotion to high-salaried positions has also driven the city centre living trend (Devine et al., 2000). In this context, they choose the city centre living in which their workplace is located. The second main driver behind the rise of city centre living is aspirations for experiencing the heart of things by young professional singletons (Wynne and O'Connor, 1998). One of their conspicuous characteristics is the high level of residential mobility (Burrows, 1999). They tend to move from one place to another within city areas easily, due to not only finding job opportunities, but also seeking new experiences such as meeting new people, enjoying night culture, and living in new places, rather than settling down permanently, purchasing a house, and getting married (Urry, 2012). Within this context, the converged young professional singletons have significantly shown their distinctive economic characteristics and been economically impacting on the heart of cities, compared to other generations.

2.4.2 Young Singleton Economy

Young singletons play an essential role in economically revitalizing and activating the city centre. Compared with married people, they tend to spend much more money on eating out in restaurants, having coffee time in cafes, taking a gym or art classes, and volunteering (Klinenberg, 2012). According to the US federal Consumer Expenditure survey in 2010, a singleton's average annual expenditure was $34,471, greater than those of married people without children and the highest-spending person in the families with children (respectively $28,017 and $23,179) (Bureau, 2010). This seems to be highly associated with their lifestyle: enjoying city-centre life, the me-oriented attitude, and being open-minded to meet new people and new technologies (Klinenberg, 2012).

Singletons' purchasing power has grown and companies have made increasing efforts to target them (Klinenberg, 2012, Koh, 2014). Examples include the car company Chevrolet courting the young singletons through advertisements, and the jewellery brand DeBeers selling a ring product "right-hand ring", targeting unmarried single women. Therefore, the city centre life of single people who have been sharply increasing population in the central areas has a positive influence on the entire city economy, and companies have started to focus on the singletons' wallet power and tendency of consumption (Koh, 2014).

2.5   Social Issues

Along with the rise of city centre living, new social issues have emerged as well as the demographic, cultural, and economic phenomena. This section explores the major three social issues: an emerging new paradigm of human relationships and community, developed ICT (Information and Communications Technology), and the housing affordability issue.

2.5.1   Human Relationships and Community in the City Centre

The rise of young professional singletons in city centre has socially impacted on emerging relationship issues including a new forms of community, its human relationship with 'Authentic' city centre dwellers, and a discourse on human relationship issues of living alone.

New Community Style

The new communities driven by the young professionals differ from a traditional sense of community. The new communities tend to regard a human relationship with friends as far more important than that with the neighbourhoods (Nathan et al., 2005). They also prefer having larger and weaker social networks more strongly than traditional communities did (Florida, 2005; Nathan and Urwin, 2005), which is quite similar to the characteristic of the creative class as seen in Section 2.3.3 (p.25). The new communities tend to be open and fast-changing, despite

finding it hard to meet the 'sustainable communities' criteria. This is because most residents are highly transient and likely to move on to new areas within one or two years due to their personal reasons or job circumstances change (Barber, 2007). This weak relationship and open community, however, have positive characters such as sharing ideas and interacting with others (Florida, 2008).

The Relationship between the 'Visitors' City Centre Residents and 'Authentic' Dwellers

Some scholars refer to the young professional city centre dwellers as 'visitors' because of their mobility characteristics such as seeking new experiences in the central area and tending to move to another places within one or two years (Allen and Blandy, 2004, Barber, 2007). On the other hand, there have been permanent residents called by researchers 'authentic' city centre residents, who account for about 20~30% of all the city centre dwellers and tend to stay for a longer time (or even never leave)(Allen and Blandy, 2004). Some scholars are concerned with a potential social conflict between the new community and such 'authentic' communities (Hetherington, 2005; Norwood, 2005). This is because there are many differences among them including demographic, cultural and lifestyle differences. In particular, enjoying nightlife, which is mainly pursued by the younger communities, can potentially trigger noise and anti-social behaviours in the area, and it can bring about a negative human relationship issues between the young and authentic communities (Hetherington, 2005). Other scholars (Klinenberg, 2012, Koh, 2014), however, claim that the authentic communities welcome the new population because of the anticipation that the social changes driven by younger generation

would bring economic revitalization into the area. Also, according to a case study conducted by Nathan et al. (2005), the anti-social behaviour by the young communities was not a big problem, and the elderly dwellers had a generous and tolerant attitude to the young city central dwellers enjoying the night life around them.

Discourses on Social and Emotional Issues of Living Alone

The rise of living alone in city centre areas has caused emergent human relationship and emotional issues. Many scholars (You et al., 2011a, Herttua et al., 2011b) maintain that the solo living phenomenon in the city centre has been highly associated with the emergence of anti-social phenomena. Particularly, disrupted social connectedness such as personal conflict, poverty, lack of social support, and solo living have been related to suicidal thoughts and behaviours (You et al., 2011). In addition, one of the crucial reasons behind a significant increase in the danger of alcohol-related mortality is living alone, and crude death rates of single person households were about five times higher for men and three times higher for women, compared to people with family members (Herttua et al., 2011). Therefore, scholars have been worried about the singletons' social isolation, and recommended them to communicate with other people, emphasizing the socio-emotional stability of married people.

However, according to Klinenberg (2013), the trend of living alone in the city centre has more positive aspects in social and mental perspectives. Based on his empirical researche (in-

depth interviews with 300 singletons), he found that the majority of single person households who live in the city centre were not lonely souls but were enjoying the solo life, pursuing individual freedom and self-realization, and even actively socializing more than those who live with others. Also, some divorced people said that living with the wrong person makes people even lonelier than living alone (Klinenberg, 2013). Even now this issue is still controversial among scholars, and it requires further research.

2.5.2   Developed ICT

The newly emerged community in city centre, which has the characteristics of an open, larger and looser social network, is highly associated with the development of ICT (Information and Communications Technology) such as smart technology and social media. Since the emergence of the Internet services and post-industrialism, people rushed into the society of information technology (IT)(Mellander et al., 2012). Recently, through the real-time web-based programmes represented by *Facebook* and *Twitter,* people can interact with one another and share information faster and easier than ever before. In addition, smartphones represented by iPhone and Galaxy S provide easy access to SNS technologies, encouraging people to exchange information anytime and anywhere. More than 500 million people around the world are now users of *Facebook*, and more than 450 million people are experiencing mobile web services including social media (Bughin et al., 2010). In this way, social media has become a significant influence on our life. In addition to the social media, smart technology, which can integrate a combination of functions such as music, internet, word, recording, photo, video, phone and so

on, has been applied in a wide range of fields from cell phones to housing and city planning. The smart house, which is a highly automatic and multi-functional house with its advanced computer systems (Craven, 2013), and smart city, which has multiple networks that provide real-time information to dwellers who can be connected with each other and share data (Batty et al, 2012), are growing to be increasingly important issues.

2.5.3 Housing Affordability

Affordability has become an important issue in the heart of global cities, and some scholars (Shaw, 2008, Nathan et al., 2005) maintain that it has been strongly associated with the continued economic and residential growth in the city centres. Since the late 1990s the housing price had significantly increased in the central areas of many industrialised countries based on the growth of economy and influx of the new population into the areas (Fitwi et al., 2015). In this context, it has caused many people to be unable to afford to live where they want (Nathan et al., 2005). In addition, according to Smith et al. (2005) the average age of first-time house buyers has gone up from 30 to 34 over the last 20 years, and this phenomenon has been mainly driven by young households (those under 30). Furthermore, the rental cost has significantly increased, and it has given financial pressure on the young singletons if they live in the central area. This situation indicates that the younger generation seems to feel the financial burden of housing affordability, compared to other age groups.

2.6 Conclusion

2.6.1 Chapter Summary

The trend of city centre living, mainly driven by young professional single person households, has raised a number of demographic, cultural, economic, and social issues in the central areas. Firstly, looking from the demographic perspective, the proportion of young professional single person households has sharply increased in many global cities since the 1990s. While pensioners are traditionally the largest living alone group, the number of young people living alone, aged between 25 and 44, has sharply increased in the recent times (Bennett and Dixon, 2006). This trend has been attributed to a combination of a number of factors such as lifestyle changes, women's economic independence, and a stronger stress on 'self-actualisation' (Falkingham, 2012; Klinenberg, 2012). Secondly, the rise of the creative class has been a significant cultural factor, and this population is highly related to the young professional population in the city centre. From the economic perspective, shifting to post-industrial societies has caused the re-structuring and re-vitalization of the economy in the city central areas, fostering growth in the economic sectors of service and knowledge (Lash et al., 1993, Drucker, 1994). The re-development of economy has led to an emergence of many jobs in the city, attracting many people, especially young professions to come into the central area. It has consequently brought about the economic revitalization in the areas (Nathan and Urwin, 2005). In addition to this, the young and professional city centre dwellers who mainly live alone have emerged as a major activator of economy. They tend to spend more money on eating out and

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enjoying social activities than people living with family members. Companies started to recognize their purchasing power and endeavour to target them (Klinenberg, 2012). Finally, looking from the social perspective, a new version of communities (larger and weaker) has been created mainly by the young and professional singletons in the city centre (Florida, 2008). In line with the community, there have been diverse discourses on the human relationship between new and traditional communities, and social and psychological issues of living alone. 'Affordability' is also an important issue in the city. Many city residents, especially younger singletons, find it hard to afford to live in the city centre because of highly increased housing cost.

2.6.2 Implications

Along with the urbanization and re-development in the city centre, it is certain that the rise of young and professional single person households has been dominant in the global cities. The major stakeholders such as policy makers, developers, urban designers and architects have focused on the urban trend. Policy makers and developers have turned their attention to implementation of policies and developments that meet the real estate economic environment for the young and solo dwellers in city centres, while the need for spacious living space mainly for three or four person households can decrease. Also urban designers and architects have focused on present proposals that catered for realistic demands of the solo dwellers and their lifestyle, satisfying their physical and emotional aspirations.

As the population of young people living alone in city centre has increased, the emergence of socially negative phenomena has resulted in disrupted social connectedness such as personal conflict, poverty, and lack of social support, and solo living is related to suicidal thoughts and behaviours (You et al., 2011). In order to solve this social disconnectedness, research using state-of-the-art technologies such as social media should be conducted in cooperation with experts of ICT. This kind of social technology can improve the circumstance of current solo living households into the smart environment of single person households. In conclusion, the phenomenon of the increase in city centre living has influenced a wide range of fields including economic, social, policy, and built environments, and has made diverse stakeholders related to the fields focus on the issues such as urban planning, housing design, ICT, and anti-social thoughts or behaviours.

2.6.3 Projections

It is expected that the trend of increase in young professional singletons in city centre will continue in the near future, based on many reliable studies (OECD, 2013, Barber, 2007, Byun et al., 2015, Klinenberg, 2013). Researchers and the stakeholders should turn their attention on three major perspectives in order to deal with the dynamic social trend. The first consideration is the housing quality and design issue for the increasing population in the city centre. Although residential properties have been supplied into the city centre housing market in order to keep pace with the increases in the young singletons during the period of urban redevelopment since the mid-1990s, there seem to be many drawbacks of housing in design and quality aspects.

Therefore, it is possible to focus on the housing issues to improve the quality of residential environments for the singletons. The second consideration would be the human relationship issue. In this individualized society, living alone can potentially make a person isolated and this disrupted social connectedness can cause anti-social problems such as loneliness. Within the context, well-designed housing and urban plans would help the singletons to overcome such adverse effects. The third consideration is the issue of affordable housing for young singletons. Since the worldwide economic recession in 2007, it has been quite hard for many young professionals to buy even a small flat in the city centre. In this context, researchers should give increasing priority to investigate the influence of the recession on the built environment from economic perspectives, and practitioners have to put their attention on improving current urban planning and housing design to supply affordable housing into the market, mainly for the increasing number of young singletons in city centres. Based on the information, the next chapter will explore built environment and urban design issues for the young professional singletons in city centres as well as the emergence of new housing for the solo population.

CHAPTER 3

BUILT ENVIRONMENT, URBAN DESIGN AND ARCHITECTURE FOR

SINGLE PERSON HOUSEHOLDS

3.1 Introduction

Since the mid-1990s, global cities have experienced dynamic demographic, economic, cultural and social changes (UN, 2014, Engelman, 2009, Hall and Pfeiffer, 2013). Particularly, one of the most noteworthy phenomena is an increase in young professionals living alone in central districts (OECD, 2013, Barber, 2007, Klinenberg, 2013), driven by diverse factors: redevelopment of urban areas; working in a job in the area; declining of marriage; and the rise of women's economic power and ideational changes (Van de Kaa, 1987, Lesthaeghe, 1995, Falkingham et al., 2012, Mason and Jensen, 1995). The increase of young professional singletons' city-centre living has engendered the re-shaping of residential districts, housing structures, and property markets (Punter, 2010b, Paddison, 2000). With the significant demographic changes in city centre areas, the centres of global cities have experienced dynamic transformation in built environment through phenomena such as 'urban renaissance' and the property boom, the global recession since 2007 and its impact on the housing market, and emerging new residential alternatives for the young professional singletons in response to the weaknesses in the housing sector such as the affordability crisis and poor housing quality which

have resulted from the changes (Agnello and Schuknecht, 2011, Punter, 2010a, 2010b).

This chapter aims to identify the important built environment issues in the city centre in the contexts of the economic climate, design perspectives and socio-demographic trends. The chapter begins with an outline of urban redevelopment or the urban renaissance in the city centre, mainly focusing on the residential sector. It then explores the process of booms and bursts of the city centre housing market with international cases. Next, it focuses on micro-apartments, a kind of alternative housing type mainly for the increasing number of the young professional singletons in the city centre, reflecting the aspirations for improving the poor quality housing environment. Finally, the chapter examines the limitations of the residential environments for the young singletons, and new housing alternatives.

3.2 Redevelopment of Central Areas in Global Cities since the Late 20th Century

With the dynamic transformations regarding socio-demographic aspects in the centres of major large cities, a significant built environment and economic change has occurred during the past several decades (Bromley et al., 2005, Barber, 2007, Buzar et al., 2007, Hall and Pfeiffer, 2013). Encouraged by urban planning policies, new flagship projects including commercial and residential developments have been conducted in central areas, enhancing the built environment and reactivating urban economy and cultural sectors (Punter, 2010b, Barber, 2007, Paddison, 2000). This dynamic urban re-development, the so-called 'Urban Renaissance' (Force and

Rogers, 1999), has been prominent in many European and North American inner-city areas (Buzar et al., 2007). A large influx of population has occurred in the central areas, mainly driven by young and professional single person households, and new residential design challenges have emerged as part of this urban regeneration (Punter, 2010b). Key stakeholders such as governments, local authorities, and architects focused on the development of new homes to facilitate the increase in population and new housing design approaches emerged as part of this (Hall, 2013). This section of research briefly explores some international cases of the built environment changes and issues in major cities of North American and Europe.

The Redevelopment in North American Cities

With regard to the US, the phenomenon of urban redevelopment began in the late 1970s, bringing significant investments and developments into inner-city areas (Kim, 1999). Although the urban development slowed somewhat during the recession of the early 1990s caused by the stock market crisis in 1987, reinvestment and residential redevelopment in the central areas has again taken hold since the mid-1990s (Hackworth and Smith, 2001). In New York, all of the major city centre housing market indicators such as housing prices, levels of rent and mortgage, and tax arrears have restarted to rise from the downturn during the recession with the third-wave of redevelopment in the urban area (Goodman, 2005, Hackworth and Smith, 2001).

In addition to New York, one representative North American city that experienced considerable redevelopment and attracted much comment is the City of Vancouver, Canada. In

the late 1980s, Vancouver's stakeholders of redevelopment such as planners, developers, architects and policy makers embarked on large scale projects in order to attract people into the central area and create an active and mixed-use city centre through developing compact and high-rise residential districts on formerly vacant industrial space (Sandercock, 2005, Punter, 2010c, Harris, 2011). Many scholars (Punter, 2010c, Sandercock, 2005, Boddy, 2004, Price and Miller, 1997, Kear, 2007) positively evaluated the Vancouver's urban renaissance as "the Vancouver Miracle" or "the Vancouver Achievement", based on its high-quality housing environments and public realm in the central area. As a result, a large number of new population (over 40,000) have moved into the city centre – 80,000 people lived in the downtown peninsula in 2010, and it is expected to rise up to 120,000 by 2020 – and at the same time, more than 150 skyscrapers have been built in the area, generating high quality urban life in these neighbourhoods through the provision of green space, high-quality amenities and infrastructure, and community centres (Sandercock, 2005).

The "miracle" of Vancouver's redevelopment has been driven by well-designed urban planning (Sandercock, 2005, Punter, 2002, Boddy, 2004). One of the important factors for the successful urban design was the role of TEAM (The Electors Action Movement) which focused on enhancing urban design and planning for the downtown development by reforming the process of development permit, creating new plans and guidelines for the central area development, and making efficient urban design policies and heritage conservation schemes (Punter, 2010c). Another significant factor was a distinctive collaborative and transparent process of planning, having a long-term and well-communicated collaboration among the

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councilors, developers, architects, urban designers, planners, citizens and affected neighbourhoods. (Sandercock, 2005, Punter, 2002).

A large scale of residential development projects on the waterfront – the northern side of False Creek – in Vancouver's downtown area is one of the projects that made the city's successful story possible, based on the well-designed urban planning (Sandercock, 2005, Harris, 2011) (see Figure 3-1). Through well-designed urban planning and effective cooperation between developers, project directors, talented designers and the public, the central area has shifted to become a compact and vertical residential district with a new version of emerging architectural prototype: tower-townhouse model (Punter, 2010c). This model, of referred to us "the Vancouver model", consists of the high-rise residential tower block with the low-rise townhouse (podiums) which offer continuity at the ground level (Boddy, 2004, Kear, 2007). As seen in the images below (Figure 3-2), the residential development project has not only enabled the central area to deal with the high density of population but also made it a livable, active, safe and neighbourhood-friendly zone (Beasley, 2000, Sandercock, 2005, Kear, 2007). This mega project thus created the standard design principles that have formed all subsequent housing projects in Vancouver (Sandercock, 2005)
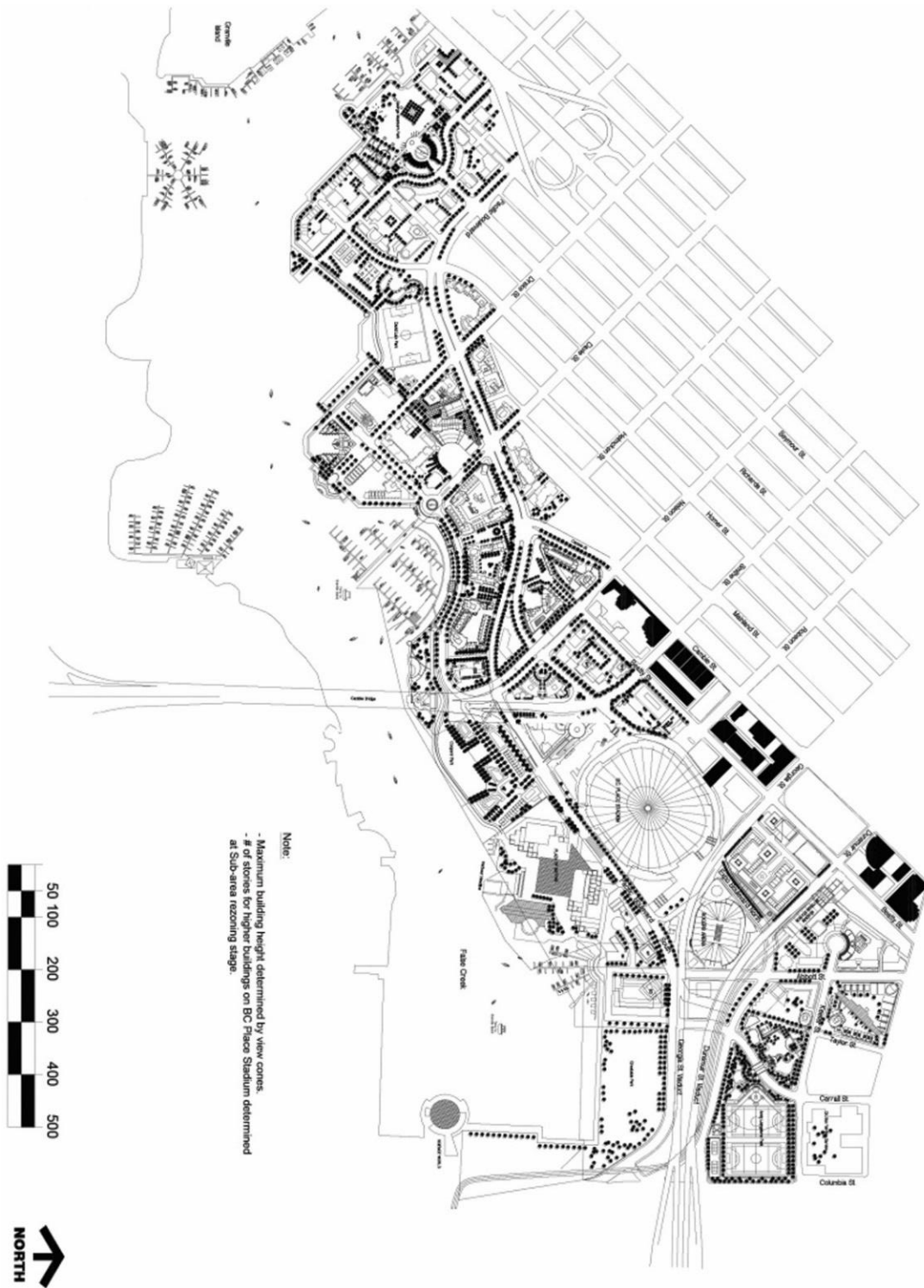
Figure 3-1 An Illustrative Plan of False Creek North Official Development, a Good Example of Well-designed Urban Planning and Sustainable Regeneration (CITY OF VANCOUVER, 1990)

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Figure 3-2 False Creek, Vancouver (Source: www.crbprogram.org)

The Urban Redevelopment in the European Cities

Like the North American cities, many central areas of the major cities in European countries such as the UK, Sweden and Denmark have experienced major inner city redevelopment. In particular, the UK significantly experienced the urban renaissance across the major cities such as London, Birmingham, and Manchester, achieving large increases in population, increases by 37 per cent during the period of urban redevelopment between 2001 to 2011, from 0.66 million to 0.9 million in city centres of the cities; revitalizing cultural and socio-economic sectors; and engendering new residential development in the areas (Punter, 2009a, Thomas et al., 2015). In 1998, Sir Richard Rogers, British architect and Chair of the Urban Task Force (UTF), was in charge of the task of 'establishing a new vision for urban regeneration founded on the principles of design excellence, social well-being and environmental responsibility within a viable economic and legislative framework' (Urban Task Force, 1999, p.1). A year later, the UTF published its report, which emphasized 'design-led' urban redevelopment and sustainable

development considering local economic and social circumstances (Urban Task Force, 1999, p.7). Also recommendations for delivering the urban renaissance were made by the report, which were based on the principles of 'design excellence, economic strength, environmental responsibility, good governance and social wellbeing' (Urban Task Force, 1999, p.7). The report significantly contributed to reforming policies of planning, housing, and regeneration in the UK major cities, stressing the role of urban design (Punter, 2009b). Based on the principles of urban renaissance by the UTF, the inner city areas of the major cities in the UK experienced dynamic redevelopment.

This process was perhaps most evident in areas of central London since the mid-1990s. London entered the urban renaissance period since the mid of 1990s (Punter, 2010b). In particular, the perspectives of urban design and development strategy were crucial to the urban renaissance in central London. The strategy for the development in the central area included a commitment to enhancing the quality of life as an important premise of increasing the attraction of London in terms of being a hub of business, art, tourism and commerce (Ibid). Thus, improving urban design and policies for the central area in London was seen to play a significant role in boosting economic growth in the area, and these then generated the urban renaissance in the central London as they were implemented on large-scale regeneration projects such as London's Docklands, the redevelopment of South Bank of the Thames and World Squares were launched in the central area (Punter, 2010b, Butler, 2007). The regeneration projects have contributed to the extensive transformation of the area into a well-mixed and developed residential, commercial and industrial space (Oc and Tiesdell, 1991). Over the past three decades, the population of the central areas has more than doubled and the area, particularly

Canary Wharf, has become a second important financial centre in London as well as a significantly favourable area to live (see Figure 3-3).

Figure 3-3 Docklands Redevelopment – Canary Wharf

(Source: www. group.canarywharf.com)

Other major cities of European countries have experienced similar urban redevelopment, driven by public sector-led planning initiatives. In Sweden, there has been major inner-city regeneration in Stockholm, generating housing development in derelict industrial areas of the cities (Hall, 2013). In particular, Hammarby Sjöstad in Stockholm has currently undergone significant urban redevelopment in its waterside sites (see Figure 3-4). Similar to other such cases, the area in Stockholm was an industrial zone until the 1980s and after closing the factories in the area, the Stockholm government decided to start redevelopment in the site around water

(Iverot and Brandt, 2011).

As part of the regeneration plans, housing design is aimed to be natural environmental friendly as well as accommodate increasing number of people in the area; it is described that high density apartments located nearby open park or waterfront space (Johansson and Svane, 2002)(see Figure 3-5). In urban design aspects, the redevelopment intended to combine the traditional inner city area and modern style architecture inspired by the natural environment, being harmony with public and water space. Also, there were detailed design codes for the housing in terms of *building types-* apartment sizes and stairwells: and *building design-* a design guideline for facades, balconies, windows and roofs of the residential building (Hall, 2013,p 225). This well-designed and good quality housing environment has met diverse kinds of households from young single person households to middle-class family with young children (Ibid).

Figure 3-4 Redevelopment Master Plan in Hammarby Sjöstad, Stockholm

(Source www.jetsongreen.com)

Figure 3-5 Natural Environmental Friendly Housing in Hammarby Sjöstad, Stockholm

(Source www.jetsongreen.com)

Similarly, Copenhagen, the capital city of Denmark, also has undergone the urban regeneration over the last 18 years (Hall, 2013). Since 1980, planning has focused on sustainable regeneration in old industrial sites and harbour areas of the city, approving four mega projects: 'Redevelopment of Copenhagen Harbourfront', 'Ørestad New Town, Metro and Development Corporation', 'Øresund Fixed Road' and Rail Link to Malmö and southern Sweden', and 'Cultural Capital of Europe 1996' (Knowles, 2012, p.254). This sustainable redevelopment now has made Copenhagen one of Europe's most 'liveable' cities (Hall, 2013).

Among the regeneration projects, the waterfront redevelopment in north and south harbour areas has resulted in emerging modern buildings for residential purpose along the water spaces (Desfor and Jørgensen, 2004) (see Figure 3-6). During the redevelopment, major supplied housing type in the areas has been apartment housing and a total of 45,000 new and high quality apartments are planned to build in all developing sites over the next 20 years (Skovbro, 2007).

As the main concept of housing in the harbour areas, the city and Dutch architects who participated in housing design in the waterfront projects have proposed 'water dwellings' which means apartment housings are built in along newly created canals, facilitating residents to easily enjoy sail and motor boats (City of Copenhagen and the Port of Copenhagen, 2001, p.5) (see Figure 3-7).

Figure 3-6 Major Development Projects in Copenhagen (Skovbro, 2007)

Figure 3-7 'Water Dwellings': Housing in Harbour Areas in Copenhagen
(Source: www. pishichitay.hiblogger.net)

3.3 Boom and Burst in the Housing Market

3.3.1 Property Booms in City Centres

The phenomenon of redevelopment, the so-called 'urban renaissance' in the centres of major large cities has particularly impacted on the sector of residential environment. In terms of economic aspect, since the late 1990s the price of residential property had risen sharply in many industrialised countries, such as the USA, the UK, Australia, France, and Spain, until 2007 (see Figure 3-8 below) (Economist, 2015, Acharya and Richardson, 2009, Agnello and Schuknecht, 2011). For example, the price of housing in the United States had increased by more than 60% during 1995–2005 (Chu, 2014). This inflation in the cost of housing was particularly dominant in city central areas of the countries (Fitwi et al., 2015).
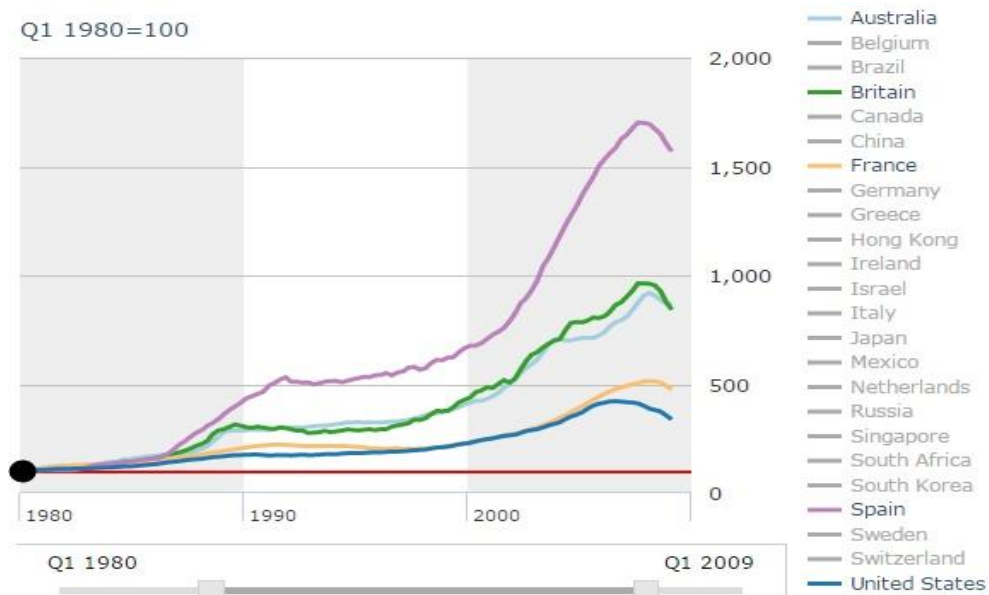
Figure 3-8 The Global House-Price Index (Economist, 2015)

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The rise of housing price has been caused by several reasons: the aspiration to supply more residential properties to cater for the gathering people in the city centre areas, who are mainly young and creative professionals, sharply increased; building residential properties looked economically attractive for investors who had lost trust in equities after the stock market bubble burst in 2000; and house buyers had been encouraged to borrow more money by low interest rates (Nathan et al., 2005, Allen and Blandy, 2004, Tallon and Bromley, 2004). These kinds of drivers had brought about the trend of residential property boom in the city centres.

3.3.2 International Cases in European, North American, and Asian Cities

Among European countries, the city centre property boom significantly occurred in the UK from 1994 to 2007, and cities such as London, Birmingham, and Manchester (Smith, 1996, Punter, 2010b, Barber, 2007). City governments welcomed the phenomenon because of its positive effects including repopulation in the cities, reinforcing employment in service sectors such as finance, expanding commercial space such as shopping centres, and removing dereliction (Punter, 2010b, Coleman, 2007). The government's policies for urban renaissance had a positive influence on the city centre residential property boom (ODPM, 2004). Since 1997, the government implemented pro-urban policies, focusing on residential and commercial activity in the city cores of major large cities (Power and Rogers, 2000). These polices have been quite efficiency and in particular brownfield land was main target for the development; 70% of all the development both residential and commercial sector was on brownfield in 2004 (Nathan et al., 2005). House-builders took advantage from the policies to increase the

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construction of apartments or flats in city centre, and then they were able to easily gain profits (Force and Rogers, 1999). This construction of residential properties had sharply increased by more than three times over the decade, reaching approximately 50% of annual construction in 2007 (DCLG, 2010). Along with the governments' policies, the trend of residential property construction was also driven by a shortage of residential properties in the central region set against the rise of the new population, and by investors who wanted to take advantage from buy-to-let and buy-to-leave practices, which facilitated high profit by rapid increases in property prices (Punter, 2010b).

Among the British cities outside London, since the mid-1990s, Birmingham has experienced rapid redevelopment in the city centre area driven by the local government policy of planning that has encouraged repopulation as well as by market-oriented development (Barber, 2007, Punter, 2010b, Smith, 1996). In particular, the housing market was inflated mainly by the urban entrepreneurialism, resulting in a supply of over 10,000 new, small-sized apartments (one or two-bed room) into the area since 1993. The residential development has targeted the majority type of new households - single person household - (see Table 3-1), who are mainly young and professional workers (Barber, 2007, BCC, 2010) and the properties have been bought and rented by investors and business, not by potential owner-occupiers, bringing about the high ratio of private rent in the central area (Barber, 2007, Punter, 2010b). The investment buyers were major contributors to the inflation of housing price and a large increase in the number of small studio and one-bed room housing in the Birmingham city centre (KNIGHT FRANK, 2005).

Table 3-1 Types of Households in Birmingham and their Projections by 2028

Table 2: Types of Household in Birmingham					(thousands)
Date (Mid Year)	With dependent children		Without dependent children		
	Lone parent*	Couple*	Couple*	One Person	Other
2008	48,072	76,589	96,595	152,620	31,679
2013	54,935	76,225	94,101	167,261	31,160
2018	62,759	77,320	92,493	181,645	30,190
2023	70,862	77,594	90,590	196,298	29,630
2028	76,259	76,400	90,577	211,946	30,130

Source (BCC, 2010)

North American Cities: Vancouver

As seen in sections 2.1 and 2.2, the central area of Vancouver experienced successful residential redevelopment through mega projects such as the North False Creek waterfront project and Granville Island development project (Sandercock, 2005, Harris, 2011). Based on the projects, the number of people living in the central area was expected to increase from 40,000 in 1995 to 120,000 by 2020 (Sandercock, 2005), and the majority of the population would consist of young skilled workers (Punter, 2010c). In order to deal with the high density in the region, the condominium type of residential property was prevalent during the property boom (Harris, 2011). In spite of the housing supply through the large-scale residential projects, Vancouver's central region has also experienced the rise of housing price and rent (Kear, 2007)

(see Figure 3-6). One of the main drivers behind the property boom was an influx of global capital into the city, such as Concord Pacific, a Hong Kong investment company (Mitchell, 2004, Olds, 2002). This tendency of investor-led residential development is similar to the case of British cities, and it then resulted in the inflation in house price and the high level of private-rent.
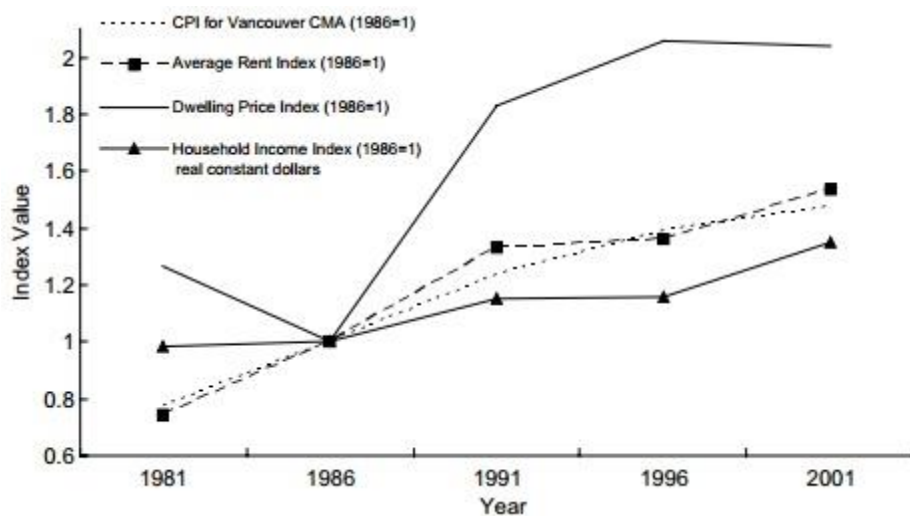
Figure 3-9 Economic Indicators in the Central Area of Vancouver: 1981-2001 (Kear, 2007)

An Asian Context: China

Several Asian industrialised countries such as China, South Korea, and Japan also experienced the urban development. In particular, since the late 1990s, China's exceptional economic growth and urban development has been accompanied by inflation in the residential property price (Economist, 2015, Golley and Tyers, 2013, Bian and Gete, 2014) (see Figure 3-

10 below). Scholars (Bian and Gete, 2014, Shen et al., 2015) have figured out potential drivers of the housing boom in China. The first factor was dynamic demographic changes in urban areas. The significant increases in the influx of working-aged people into cities have influenced the residential district (see Figures 3-11 and 3-12). The second driver was relaxation of credit constraints by "shadow banking" (Journal, 2013). Weak borrowers who were rejected by official banks can use new credit by the illegal financial channel in order to buy real estate. The third factor of housing boom was improved productivity. With the significant economic development since the mid-1990s, the productivity, which is highly related to the household income, has steadily increased at an average percentage of annual growth (2.2%) from 1996 to 2007 (Xu and Yu, 2012). As seen in the case of USA property boom, this increased productivity can be a major contributor to the increasing housing price (Kahn, 2008). The fourth driver was tax policies. The pressures of residential market-related taxes including sales tax, property tax, and personal income tax were considerably eased from 1998 to 2002 in order to stimulate the market (Zhang et al., 2012). Based on these drivers, China and its major cities have experienced the residential property boom.
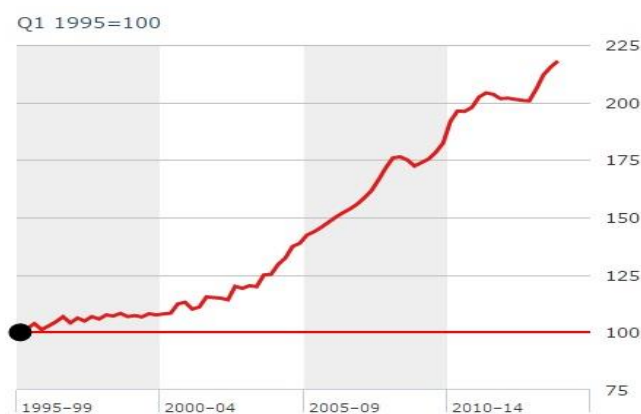
Figure 3-10 House-Price Index, China (Economist, 2015)
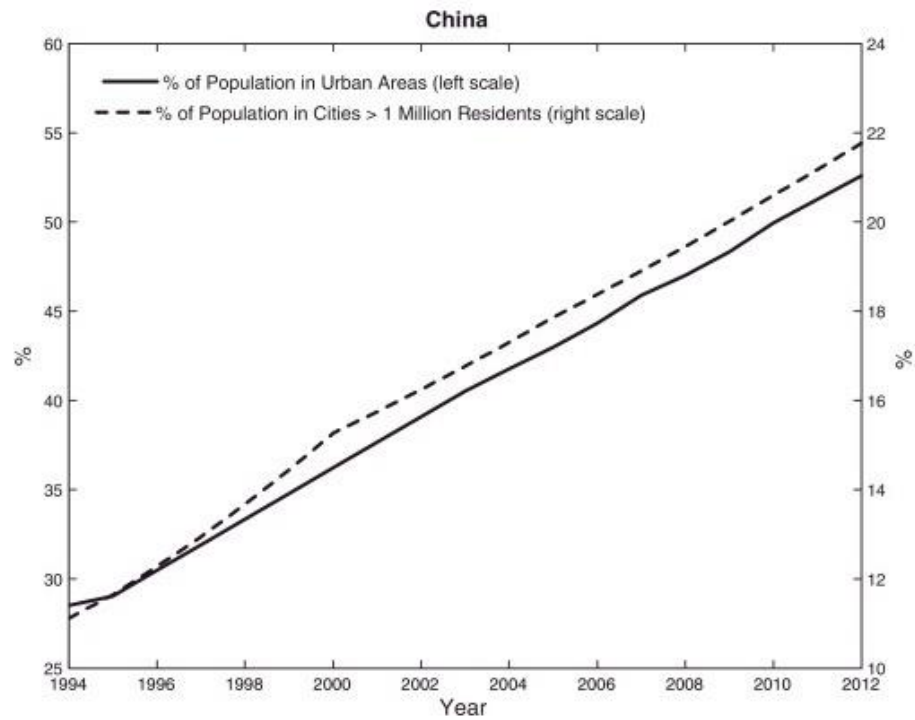
Figure 3-11 Population Dynamics in China (Bian and Gete, 2014)
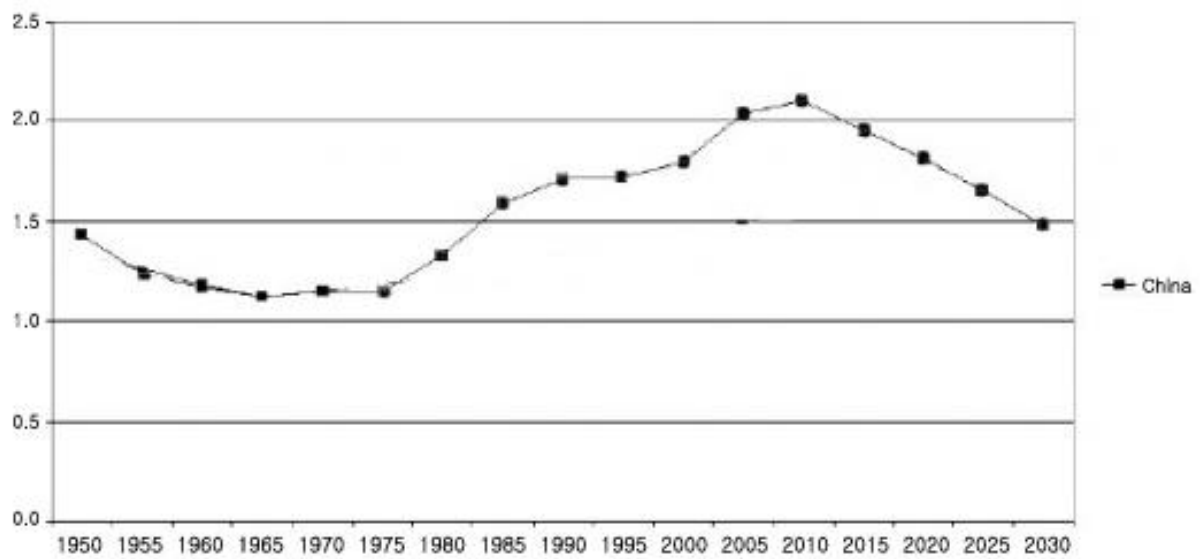
Figure 3-12 Increases in Working Age (15~59 years) Population in China (Golley and Tyers, 2013, UN, 2009)

Based on the international cases, the residential property booms in city centres have several essential characteristics. First of all, many scholars (Barth, 1980, Seo, 2002, Jamieson et al., 2009, Allen and Blandy, 2004, Unsworth, 2005, Barber, 2007, Bian and Gete, 2014, Shen et al., 2015, Punter, 2010b) maintain that the housing phenomenon was driven by the dynamic demographic transition: the rise of young skilled singletons in the central area. The second characteristic was the rapid rise of housing cost, and thirdly, the market-driven development took place in the new residential district, resulting in an expansion of the 'buy-to-let' or 'buy-to-leave' market by investors and businesses (Allen and Blandy, 2004). It is noteworthy that this market-driven tendency has also pushed up the price of private rental housing in the city centre (Punter, 2010a). Finally, this progress contributed to the rise of private rent and small-sized housing (studio or one-bed room flat), basically based on the lifestyle of the young city centre singletons - regarding city centre living as an 'experience' and the somewhat fluid lifestyle circumstances at the young age (Allen and Blandy, 2004, Florida, 2008, Boddy and Lambert, 2002).

3.3.3   The Global Recession and the Burst of the Housing Market

After the US sub-prime mortgage crisis in early 2007, the inflated housing prices bubble burst and the US housing market collapsed (Economist, 2015, Agnello and Schuknecht, 2011, Shen et al., 2015). The impact of recession and housing market downturn spilled over to many other industrialised countries including North American and European countries (Agnello and Schuknecht, 2011) (see Figure 3-13). The inflated housing and real estate price, which

previously seemed to be ever rising, fell heavily (Isidore, 2008).
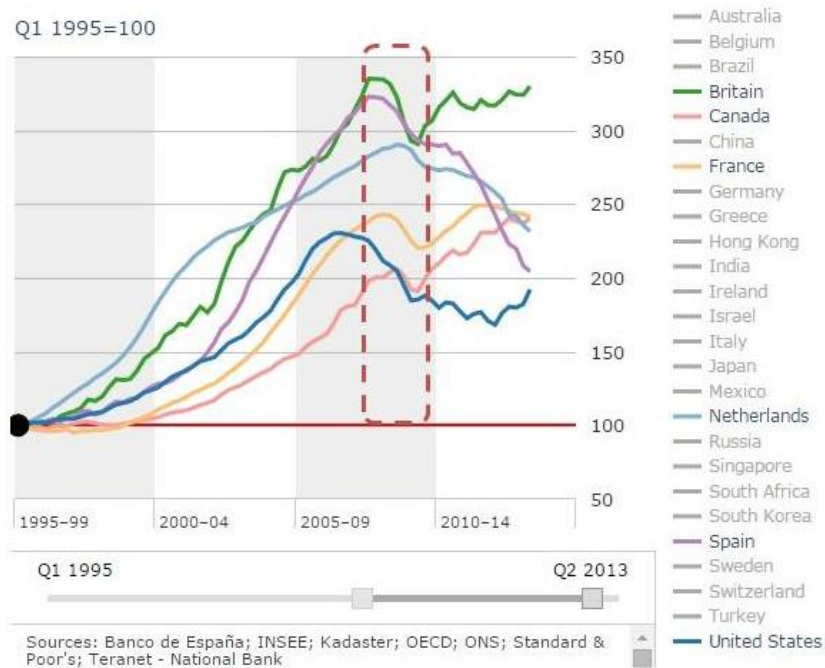
Figure 3-13 Global House-Price Index (Economist, 2015)

House prices and land values fell in the central areas of many cities that had experienced the property boom, and this caused the rise in household debt and economic deprivation (Fitwi et al., 2015, Agnello and Schuknecht, 2011).

The UK was no exception. The recession caused an unprecedented surplus of properties in the city centres, such as a great number of small-size flats and apartments, retail shops and commercial offices (Punter, 2009a, Haughton, 2010). Within this context, the property market in the city centre started to down turn and the prices of property decreased since 2007 (see Figure 11) In the case of the UK, the housing market condition of city centre apartments was

economically not good; the largest annual fall rate of house prices was 16% in 2008 (DCLG, 2010). In this situation, it was necessary for local authorities and housing experts to rethink about city centre housing policies entirely and endeavour to find new sources for resuscitating the city centre housing market.

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The Impact of Global Recession on the Housing Market

The main contributor to the housing boom, young professional singletons in the city centre, seemed to be the major victim by the economic burst (Verick and Islam, 2010, Fitwi et al., 2015). In many cases, economic instability is deeply correlated with laboriousness of having a family, and it has given rise to a decrease in a marriage rate and proliferation of single life among the younger generation in big cities (Agnello and Schuknecht, 2011, Schaller, 2013). The economic stagnation has also led to a sharp increase in unemployment, and has raised the proportion of single-person households who find it difficult to get married and support a family (Schaller, 2013, Martin, 2010).

In particular, the housing market changes have significantly impacted on the younger generation in a negative way. As the high unemployment rate continued due to the global recession, the dream of home ownership remained an unachievable dream for the young people (Punter, 2010a, Martin, 2010). Although the price of house sharply decreased during the recession period, the prices were still too expensive to be purchased by the young singletons

who were suffering from the economic instability (Verick and Islam, 2010). They have had difficulties in affording the expensive property rental cost, let alone owning a house. In the case of the USA or the UK, while the housing prices have fallen during the period, housing rental prices have gradually risen, and thus the young people who have suffered from the economic burden have struggled to find affordable housing in the city centre (Gilbert, 2015, Holmans et al., 2008). Finally, an aspiration for small-sized housing has steadily continued since the residential property boom. However, the difference in the recession period was that while young singletons mainly chose the small housing with their preference based on their lifestyle during the property boom, they tended to be forced by the economic burden to live in the small-sized housing (Czischke, 2009).

To rectify the economically depressed situation, especially the housing market, governments in the countries which experienced the economic downturn proposed solutions to urban development system and city comprehensive plans (Punter, 2010a). In the case of the UK, government, developers and house builders quickly responded to the situation after the global financial crisis (DCLG, 2009). For example, the government not only allowed for minor changes in application and planning permissions that were adopted during the property boom, but also mitigated or exempted the requirement of permissions, and made new policies of urban planning in order to foster economic development (*ibid*). With the efforts by the governments, some countries such as the US, the UK, and Canada recently started to upturn the housing market situation (Economist, 2015).

3.4 Aspiration for Improving Residential Environment

During the global economic depression caused by the US sub-prime crisis, problematic city centre housing issues such as affordability crisis and poor design quality of housing, which originally started from the housing boom, have deteriorated even further (Punter, 2010a, Punter, 2010b, Haughton, 2010).   In this context, the desire to address the economic and design-related issues has increased, mainly demanded by the young singleton group.

3.4.1 Affordability Crisis

After the economic crisis, many people started to lose faith in the traditional belief that owning a house is a good investment and the worth of residential property never declines (Nathan et al., 2005, Martin, 2010, Holmans et al., 2008, Punter, 2010a). While the percentage of the first house-buyers has decreased, the rental market has been steadily growing in global cities (Holmans et al., 2008) – about 1.2 billion people live in rented properties all over the world (Gilbert, 2015). With the rise of the rental housing sector, the price of the rent has gradually increased, and the case of the UK shows this tendency (see Figure 3-14 and 3-15).
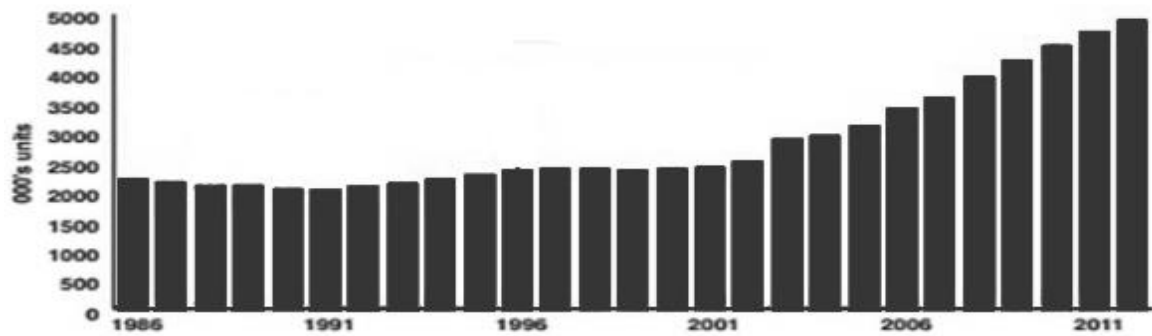
Figure 3-14 The Growth of Private Rental Housing in UK (Gilbert, 2015, Dyson, 2014)
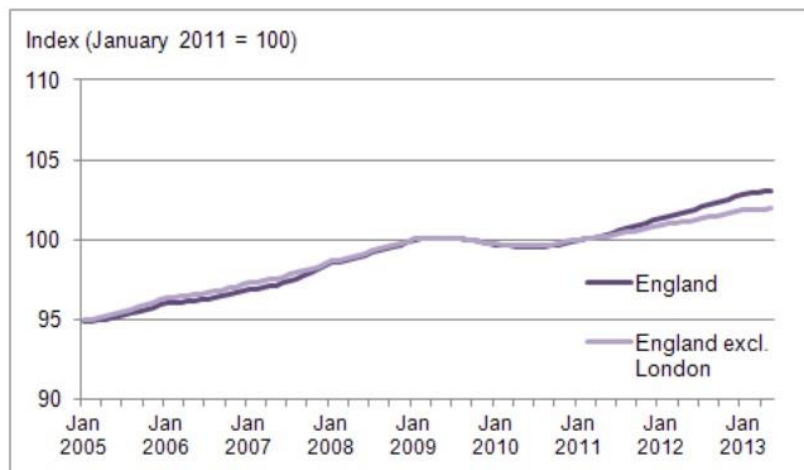
Figure 3-15 Rental Prices Index in UK (2005-2013) (ONS, 2013)

This trend in housing sector has mainly dominant in city central areas in the major large cities of the UK, and the young singletons in the areas have been subjected to the economic pressure of housing affordability issue (Gilbert, 2015, Dyson, 2014). As seen in the previous section on the impact of the global recession (Section 3.3.3), many young singletons who live in city centres have been economically pressured by the expensive rental cost.

3.4.2 Quality of Housing Design

Good quality design of housing and its environment means that a residential environment satisfies both aesthetic and practical conditions, reflecting local identities and characteristics, and also following the national design standard for well-designed housing and neighbourhoods, such as 'Building for Life' (BfL) (CABE, 2010, DCLG, 2015, DCLG, 2011, BfL, 2015). Throughout the new residential boom and burst in global city centres, accompanied with the rise of young, creative urban professional singletons, many commentators (Haughton, 2010, Punter, 2010a, Simmons, 2009, Hall, 2013) maintained that the qualities of the residential environment and implementation of planning in particular was disappointing, and this opinion has been strongly put forward after the global recession in 2007. Scholars argue that there have been several reasons for the poor quality. First, the planning and housing design were subjected to diverse pressures to satisfy increased demands of city redevelopment to build faster and to extract as much housing and profit as possible (Punter, 2010b). Second, although the relevant planning and agenda were visionary, strategic and effective enough to deal with the multiple pressures and demands, the preference for entrepreneurialism in the housing sector such as focusing on the 'buy-to-let' market outstripped the statutory planning (Hall, 2013). Many of house builders and investors rarely focused on long-term design qualities of the plans, and were only interested in the development for short-term financial profits through plausible design. These kinds of 'trade developers' were negligent in the aspects of sustainability, public community space, flexible unit styles and far-reaching perspectives of design quality (Punter, 2010a). Thus the intended impacts of planning and design quality were weakened, and the quality of the city centre housing district decreased.

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In particular, in the case of the UK context, one-fifth of the new houses built during the property boom had serious building problems, and almost one-third of the new home plans and housing did not fully satisfy the design criteria of Building for Life (BfL) (CABE, 2005a, CABE, 2005b, CABE, 2007). The BfL design criteria include 20 questions which are used to assess the quality of housing environment, and the 20 criteria are classified into four main perspectives: 'Environment and community', 'Character', 'Street, parking and pedestrianisation' and 'Design and construction' (BfL). Many commentators (Design for London, 2007, Haughton, 2010, Simmons, 2009, Punter, 2010a) were concerned with the situation encompassing the low quality of buildings, poor energy efficiency of housing, lack of amenities, public and green space, and negative feedback of human relationship among neighbourhoods. Moreover, the general design flaws during the period were poor space standards, an excessive number of dwellings for single persons, inflexible property types, a poor level of sustainable design, and excessive car parking spaces (Simmons, 2009) (see Figure 3-16). For example, city centre dwellers who live in apartment housing have been forced to give up the backyard dream (Meadows, 2015) and there was a case of poor quality public space use in Leeds that the space which was designed to use community space for residents and local communities currently used for car park space (Haughton, 2010) (see Figure 3-16). In this situation, the urban planning and housing design have failed to meet the expected quality of development in dealing with the rise of young professional singletons, social exclusion, intensification, and sustainable development.

Figure 3-16 Poor Quality Housing Designs: Inflexible Residential Unit Types, Lack of Green Space (Left) (Meadows, 2015) and Poor Public Space and Excessive Car Parking Space (Right) (Haughton, 2010).

Poor Quality of Housing Environment: the Case of Nakagin Capsule Tower in Tokyo

In addition to the UK case, there is a proper Asian example - *Nakagin Capsule Tower in Tokyo* – that lays emphasis on the poor quality of housing environment, particularly small sized housing for the young single person households, developed during the property boom. During the 20th century Japan experienced significant urbanization, economic development and property boom, accompanied with rapid population growth (Okata and Murayama, 2011). In particular, Tokyo experienced urban redevelopment during the bubble economy in the 1980s, and construction of small sized residential buildings such as studio flats was prevalent in the central area of the city in order to accommodate the rise of young and professional single person households (*ibid*).

Nakagin Capsule Tower can be a good example of small-sized housing for the young singletons in central areas. As shown in Figure 3-17, the mixed-use tower, providing both residential units and offices is located in Shimbashi, Tokyo. The building consists of 140 individual capsule apartments which are designed for single person households who work in the city (Ouroussoff, 2009).
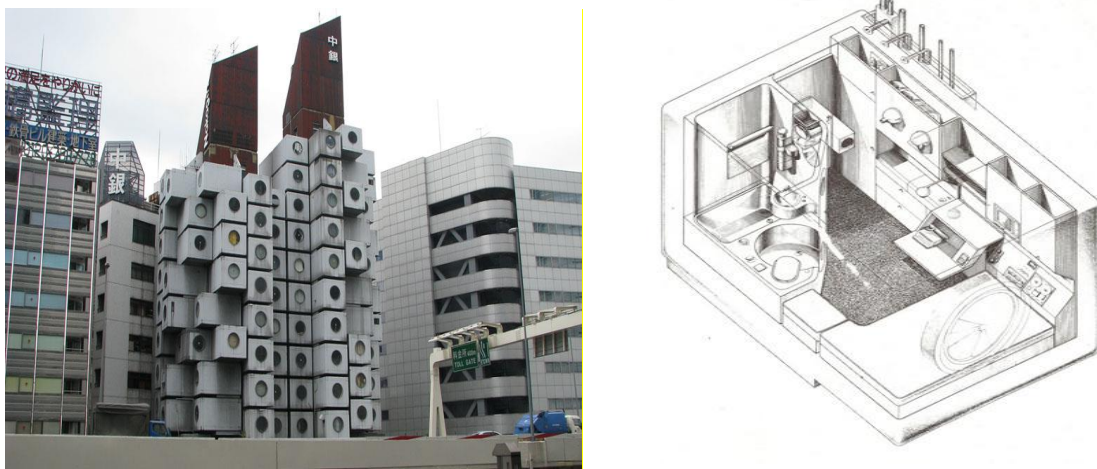
Figure 3-17 Exterior and Interior of the Nakagin Capsule Tower

(Source:http://www.slate.com/blogs)

Despite its experimetal architecture aiming to satisfy the need of the rising demographic population in the city, several limitations have emerged in terms of design qualities. One of the most crucial weaknesses is 'small size'. Although the 'capsule size' is an important notion of the building, it is clear that living spaces for many residents are not big enough, resulting in appliances and personal belongings spreading out to the narrow passages as seen in Figure 3-18 (Chapman, 2012). In addition to the size issue, other dissatisfactions include poor maintenance, the noise problem and disconnected human relationships among dwellers (*ibid*).

Figure 3-18 Personal Belongings and Appliances Spreading Out to the Passages, the Nakagin Capsule Tower (Chapman, 2012)

Faced with the affordability crisis and poor quality of housing environment in the global city centres, stakeholders including governments, policy makers, urban designers, planners and architects have been committed to improve the socio-economic and architectural design issues, considering the needs of the young singletons who live in the city centre. One visible outcome of the commitments is an emergence of *micro-apartments* in the central area (Palmer, 2006, Kang et al., 2011), and the issues of this new housing type will be explored in section 5.

3.4.3 Community Space, and Human Relationship with Neighbourhoods

During the market-driven housing developments, major stakeholders including developers,

investors and architects mainly concentrated to make profits in the short-term and invested on plausible housing design, and tended to neglect creating public community space and common amenities which facilitate more active communication, social inclusion, and sustainable community (Punter, 2010b, Punter, 2010a). As seen in Chapter 2 (its section 5 on social issues, p.29), this weakened awareness of human relationship issues in the development progress has directly or indirectly brought about anti-social phenomena such as personal conflict, poverty, lack of social support, and suicidal thoughts and behaviors (You et al., 2011a). The issue needs to be considered the context of both residential building scale and local area scale.

The Scale of the Residential Building: Tenants Relationship

Scholars (Allen and Blandy, 2004, Mulholland, 2003) maintained that the new housings, supplied during the property boom in the city centre area and mainly targeted at the young professional singletons, had a lack of open space. A lack of human relationship and community space in the residential building could cause not only the anti-social problems, decreases in conventional community assets such as a strong sense of social integration, but also neighbour problems, mainly noise-related conflicts among residents (Allen and Blandy, 2004, Baron, 2000). In this context, some research found that many more singletons would consider city centre living if the neighbour problems could be decreased (Blank et al., 2002). In addition to this consideration, some scholars (Florida, 2008, Florida, 2002, Watters, 2003) also maintained that the new type of social relationship among the young city centre population characterized by weak-ties (discussed in Chapter 2) and social media communication needed to be considered

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in the stage of residential development and housing design.

Social Inclusion and Sustainable Community in the City Centre

With the characteristics of young city centre dwellers such as pursuing a city centre experience and remaining in the central area between two and five years on average (Chatterton and Hollands, 2001, Urry, 2012, Allen and Blandy, 2004), the issues of social mix and sustainable community, particularly between the new city centre population and indigenous neighbourhoods in the area, have been important topics for stakeholders of city centre housing developments (Punter, 2010a and 2010b). The urban design, planning and housing development during the property boom usually neglected to encourage the new city centre residents to get involved in the local communities, resulting in lack of public, green space or amenities and deficient considerations for the human relationship with neighbourhoods in local contexts (Punter, 2010a, Design for London, 2007, Haughton, 2010). Some examples describes the potential social conflicts caused by the development without consideration for the human relationship; enjoying night life could cause a conflict between the new population and the indigenous communities (Allen, 2007, Nathan et al., 2005), and the rapid increase in housing price, mainly driven by the influx of the young singletons has forced the indigenous residents out of the inner-urban areas, resulting in social conflict between the groups (Butler, 2003). In this context, it has been important to encourage the young city centre population to develop attachments to the central areas and become socially balanced with the indigenous neighbourhoods (Allen and Blandy, 2004).

3.5 Emerging Housing Alternatives for the Young Single Person Households in City Centres

In the face of the visible negative phenomena in the city centre housing sector, which included particularly residential affordability and poor housing design issues, a new housing type - micro-apartments - has emerged in order to fulfill the needs of the young professional singletons, and to improve on the economic and design problems (Christie, 2013, Day, 2012).

3.5.1 The Rise of Micro Apartments

The micro-apartment is typically defined as an apartment or studio flat smaller than the existing minimum legal size for a residential house in the city (Cohen and Pagels, 2013). The housing alternative has become popular in city centres in major North American, European and Asian cities such as New York, Paris and Hong Kong (Christie, 2013). In particular, this research explores the case in New York. In July 2012, New York Mayor Bloomberg announced a new urban planning project, called adAPT NYC, a design competition for developing micro-apartments between 275 and 300 square feet in size for single person households and cozy couples in New York city where nearly 60 percent of the city's population consists of one- and two-person households (Marchetti, 2012). There have been already small apartments for dealing with the singleton issues during the property boom, but the properties have not kept pace with the sharply increasing number of the young singletons, alleviated their financial burden, or enhanced design environments and financial burden (Cohen and Pagels, 2013). Thus,

many local authorities, housing builders and architects have been trying to improve the small size residential properties for single person households in the city centre, resulting in conducting the adAPT NYC project. Reflecting the difficulties in the housing sector, the important purposes of the competition were to encourage the private sector to create tiny apartments with high space efficiency to supply affordable housing for the young professional singletons in the city and to meet the city's increasing population, which is predicted to rise by a million in the near future (Shepard, 2012). Eventually, the proposal of 'My Micro NY' designed by nArchitects won the competition, and the first micro-apartment in New York City based on the winning proposal will be set to open in February 2016 (nARCHITECTS) see Figure 3-19 and 3-20).

Figure 3-19 An Interior View of the Winning Project of adAPT NYC
(Source : www.narchitects.com)

Figure 3-20 The Winning Proposal of the adAPT NYC Housing Unit (left) and Building Scenes (Right)

3.5.2 The Characteristics of the Micro Apartments

The newly emerged micro-apartments have two conspicuous characteristics. The first special feature of the housing type is literally its 'micro size'. As the name of the housing type implies, the size is normally smaller than the apartment size currently allowed under safety and health regulations (Cohen and Pagels, 2013). In the case of US cities, the size of apartment must be over 400 sq. ft. However, because of the micro-apartment, the minimum requirement for housing size has been modified; in San Francisco, the figure for the housing size has been reduced to 220 sq. ft.; Boston city also reduced the type of residential size requirements from 450 sq. ft. to 375 sq. ft.; and Seattle have also taken a similar step (Wong, 2013). Furthermore, the size of the award-winning proposal of the adAPT NY competition was on average 286 sq. ft. per unit (nARCHITECTS).

At the same time, it must be remembered that the micro-size could lead to an unbearable living condition, as seen in the case of *Nakagin Capsule Tower in Tokyo*. In Hong Kong, one of the most densely-populated cities in the world, some singletons are living in super-micro-apartments sized 40 sq. ft. with poor quality (Grozdanic, 2014). This kind of weaknesses of the small sized housing was considered in the previous section (3.4.2 Poor Housing Design and Aspirations for the Improvement, p. 64), and a potential solution to the problem will be discussed in the next section.

The second important character of the apartment is a high level of space efficiency. According

to property developer Matt Blesso, small space does not have to mean poor, as space efficiency can be improved by creating hidden storages, secret sleep spaces, and foldable dining table and dash (FAST COMPANY STAFF, 2012). To maximize the efficiency of the micro living space, he tried to maximise storage and minimise dead space, and also focused on improving space flexibility by using a kind of installations such as fordable tables (*ibid*). In particular, the transformable furniture can be a crucial part to make the micro space be free from the residential deprivation. The adAPT NYC winning proposal 'My Micro NY' is a good example to explain how the changeable furniture can make efficient space. The use of transformable folding bed can turn the living room into a bedroom at night as seen in Figure 3-21. This collaborative design is fitted together from different components, which can make it easier to live in a compact space.

Figure 3-21 The Use of Folding Bed in the adAPT NYC Proposal

(Source : www.narchitects.com)

3.5.3 Limitations of the Micro Apartments

In spite of the small size and space-effectiveness in the micro apartments, there have been three visible limitations. First, the price of housing type is still expensive despite the efforts to decrease the financial burden of housing cost (Wong, 2013). In the case of San Francisco, the average rental cost in the new micro apartments market ranged from $1,200 to $1,500 per month, and started at $939 in the market of New York (*ibid*). The second limitation is a lack of community space in the residential building. Some local architects and critics noted that although the young singletons prefer to live in cool and hip micro apartments buildings which offer group efficiency in communal areas for cooking, communication and recreation, some tiny housing looks like a set of little motel rooms (Stanton, 2015, Wong, 2013). This lack of community space might result in a situation of disconnection among the tenants as well as the socially negative problems (You et al., 2011a). The third limitation of the development of micro apartment is potential conflicts between the new residents of the micro housing and local neighbourhoods. Recently, the neighbourhoods opposition to the micro apartments has increased particularly in city centre areas (Infranca, 2013). Their major complains to the trend of micro housing are firstly the character change of neighbourhoods by the influx of "itinerant" and "sketchy" population (Infranca, 2013, p.63), and secondly aggravating on-street car parking problem in the central area (Holden, 2009).   ,

3.6 Conclusion

Drawing from the literatures on the built environment, urban design, and architecture issues in city centre areas, this chapter has explored several major issues present in the central urban areas: urban regeneration and residential property boom; the impact of global recession on the global housing market since 2007; the market-driven development during the property boom focusing on reaping profits in a short period of time and without sufficient considerations, which led to poor quality of the new housing environment such as affordability crisis, a lack of awareness about the human relationship among tenants and social inclusion in the local context; and emerging housing alternatives such as micro apartments that both reflect and respond to the weaknesses in the housing sector. All the important issues, especially the boom and burst of the city centre housing market, are highly associated with the rise of young professional single person households and their city centre living.

In this literature, two essential questions are raised: what appropriate urban design, planning, and housing environments in the context of city centre housing sector for the increasing young population are? and how the residential environments can be improved? The answer might depend on specific circumstances in cities, residential aspirations of the young professional singletons, governments housing strategies and the focus of city centre housing market. For example, this chapter discovers the micro apartment as one of the appropriate housing alternatives for the city centre singletons and considered their lifestyle and residential aspirations for affordable housing and improving housing qualities. In order to implement the

micro apartments, the US governments deregulated the minimum size of apartments, and NYC government also held the adAPT competition in order to create the first micro apartments in its city centre. This new housing type has contributed to a fulfillment of both the housing aspirations of the young singletons and attracting developers and investors in this market. However, there are some limitations in the micro apartments such as less consideration on the community issues among tenants and local neighbourhoods, and the expensive rental cost despite the efforts to ease the affordability burden. These limitations need to be considered in this research and reflected on the new alternatives of housing environments for the young professional city centre dwellers. Also, as seen in the successful housing development in Vancouver, a sustainable approach to the improving city centre housing environment for the young singleton is needed, bringing together wider understanding of their motivations, aspirations, experiences in line with debates in Chapter 2.

Armed with this built environmental context and socio-demographic trends, the following chapter describes the features of young single person households in Seoul, South Korea and their residential environments through a review of literatures. The significant rise of single person households and housing for them are crucial issues not only in North America and European cities but also in Asian cities such as Seoul and Beijing. In particular, Seoul, the capital of South Korea, is a dynamic city for culture, economy, built environment and demographic trends. The number of people living alone has become an important social issue in recent years, and the ratio of single households in Seoul in 2010 was almost 24.4% and the ratio was nationally 24% of entire South Korean residence in 2010 (The Statistics Korea, 2010), and this tendency has been accelerating at a considerable rate (The Seoul Research Data

Service). Therefore it is important to investigate and research the Seoul situation, which could in turn shed light on how global city centres could benefit from the positive impacts of single person households while minimizing the potential negative effects.

CHAPTER 4

URBAN TRENDS AND BUILT ENVIRONMENTAL ISSUES FOR YOUNG PROFESSIONAL SINGLE PERSON HOUSEHOLDS IN SEOUL

4.1 Introduction

This thesis has a number of main aims, which are as follows: to investigate the dynamic socio-demographic change in city centres that is the rise of young professional singletons; to address a gab of the midst of the rapid developments in city centre housing sector for the group without paying sufficient consideration to social inclusion, neighbourhoods issues, housing design quality, and economic circumstance; and to suggest a basis for potential alternatives in the context of housing environments. In Chapter 2 and 3, the socio-demographic economic and built environment issues were explored with international cases, and this chapter will examine those major issues in the context of Seoul, the capital city of South Korea. Since the 1990s, South Korea has been experienced a dynamic trend that is the increase of solo living in urban areas, and one out of four households was a single person household in the country, accounting for 27% of total households in South Korea in 2015 (SERI, 2015) (See Figure 4-1). The figure has grown nearly to the level of other industrialised countries such as the US (26.7%) and Japan (31.4%) (Economy Insight, 2015), and the pace of increasing number of solo dwellers in South Korea has been much faster than in other countries. While it took 42 years for single person

households to grow by 9.6% in the US between 1970 and 2012, an increase of 22.3% was witnessed in South Korea over 35 years from 1980 to 2015 (The Statistics Korea, 2010, Economy Insight, 2015). In particular, Seoul has mainly driven the solo living trend among the cities in the country, engendering diverse socio-cultural, built environmental, and economic issues (Byun, 2010, Lee, 2014).
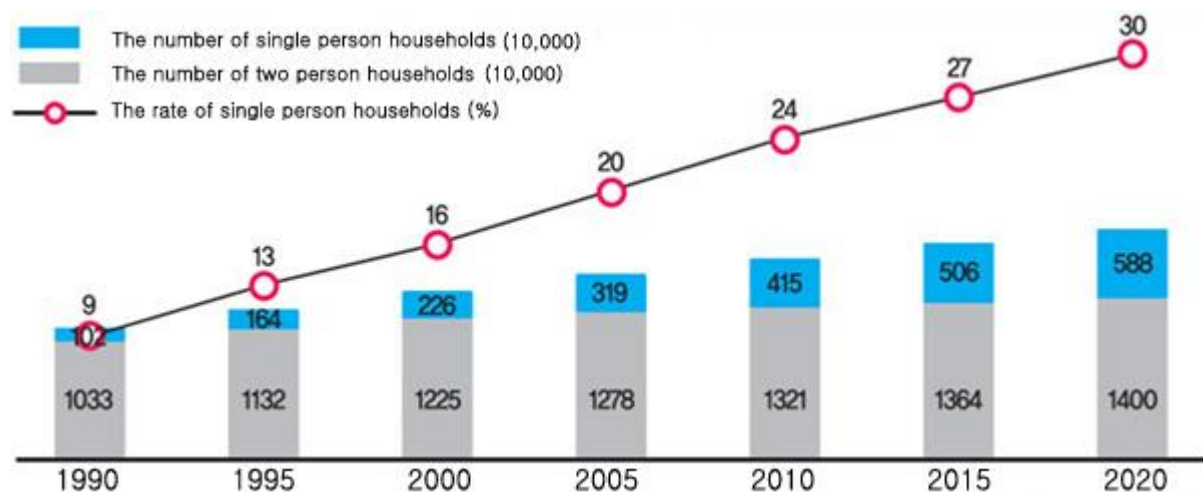
Figure 4-1 The Increasing Number of One and Two Person Households in South Korea from 1990 to 2020 (SERI, 2015)

This chapter begins with a brief outline of Seoul, and major built environment issues in the city. It then explores the dynamic demographic change - the rise of young and skilled singletons in central areas of Seoul - in terms of demographic, geographic, economic, housing environmental and social aspects. In particular, the chapter looks at how governments and housing markets keep pace with the rapid increases in young singletons in terms of housing issues; it explores newly supplied housing alternatives for the singletons in Seoul and identifies

major limitations of the current housing environments in Seoul. Finally, the conclusion is presented.

4.2 Seoul, a Dynamic Global City

4.2.1 The History of Development in Seoul

Seoul is one of the major global cities, and has been the capital city of South Korea for over 600 years. It is one of the most densely populated cities in the world with over 10 million dwellers, which means over one-fifth of the total population in South Korea lives in the city (Kim and Han, 2012, Beaverstock et al., 1999). As seen in Figure 4-2, Seoul consists of 25 districts, all of which are urbanized, and has three main urban centres: CBD (Central Business District), YBD (Yeoido Business District), and GBD (Gangnam Business District) (Kim and Han, 2012).
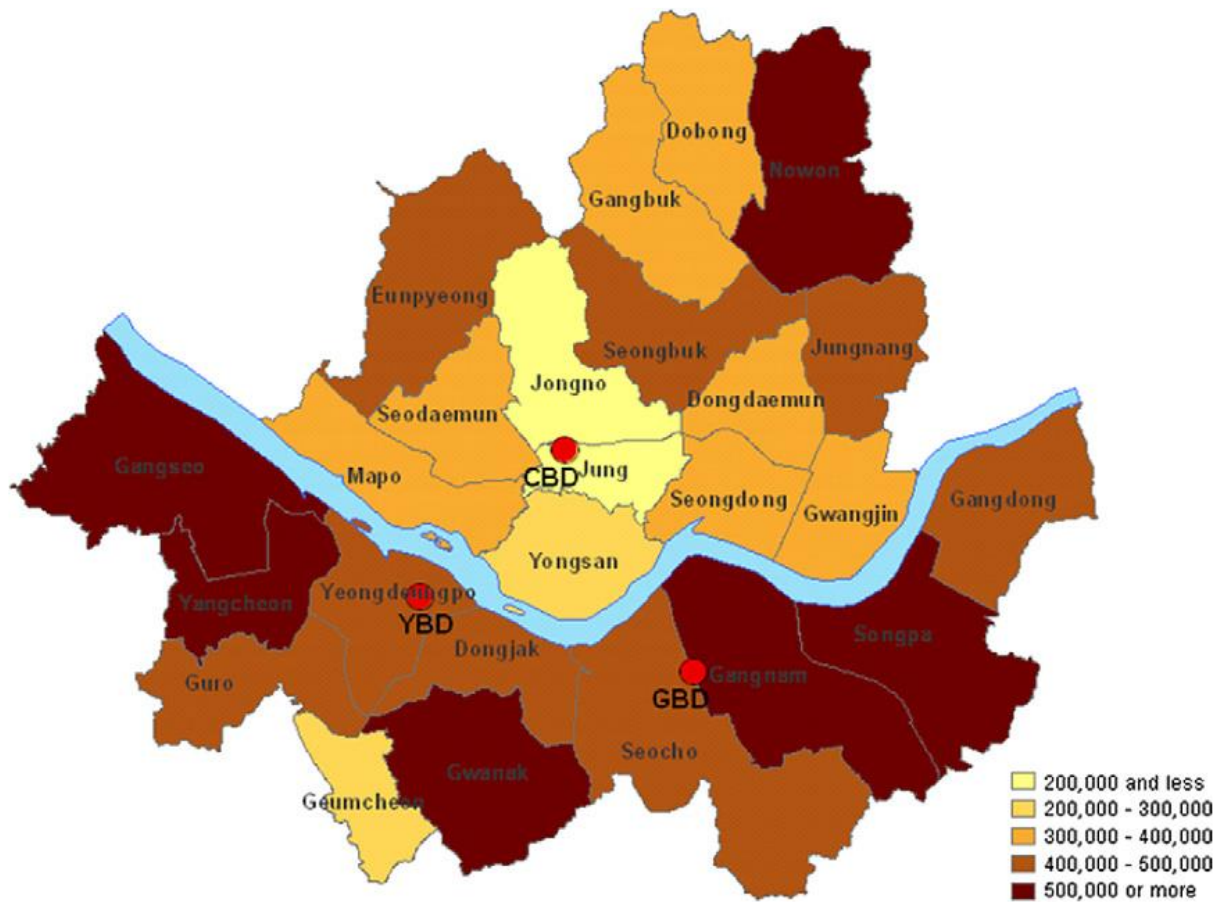
Figure 4-2 Population distribution in Seoul of 2007 (Source: Seoul Metropolitan Government)

Seoul Metropolitan City has shown diverse and rapid development in economic, social, and cultural aspects. During the 1970s, a transitional period towards a modern city for Seoul, the city has experienced rapid economic development, called the 'Miracle on the Han river' (Cumings, 1997, p.309). In the city centre high-rise office buildings appeared and the south of Han river (Gangnam) underwent tremendous development with the construction of large numbers of apartments (Son, 2009). In the 1980's, Seoul won the bid to host both the 1988 Olympics and the 1986 Asian Games in September and November 1981, respectively, and in order to develop the city's infrastructure to meet the international standard, construction and

maintenance works were carried out (Son, 2009). Since the 1990s, Seoul's influence extended beyond the administrative boundary of city, reaching up to 30~40km radius around Seoul, which is expected to encompass the entire Gyeonggi province (Lee et al., 2009). Based on its development trajectory, the population in Seoul has significantly risen as seen in Figure 4-3, and Seoul is now considered a rising global city, the 4th largest metropolitan economy in the world (Institution, 2015) with several Fortune Global 500 companies such as Samsung, LG, Hyundai, and POSCO headquartered there (FORTUNE, 2015), the most livable city among Asian cities (ARCADIS, 2015), and the most developed IT based network city all over the world (PwC, 2014).
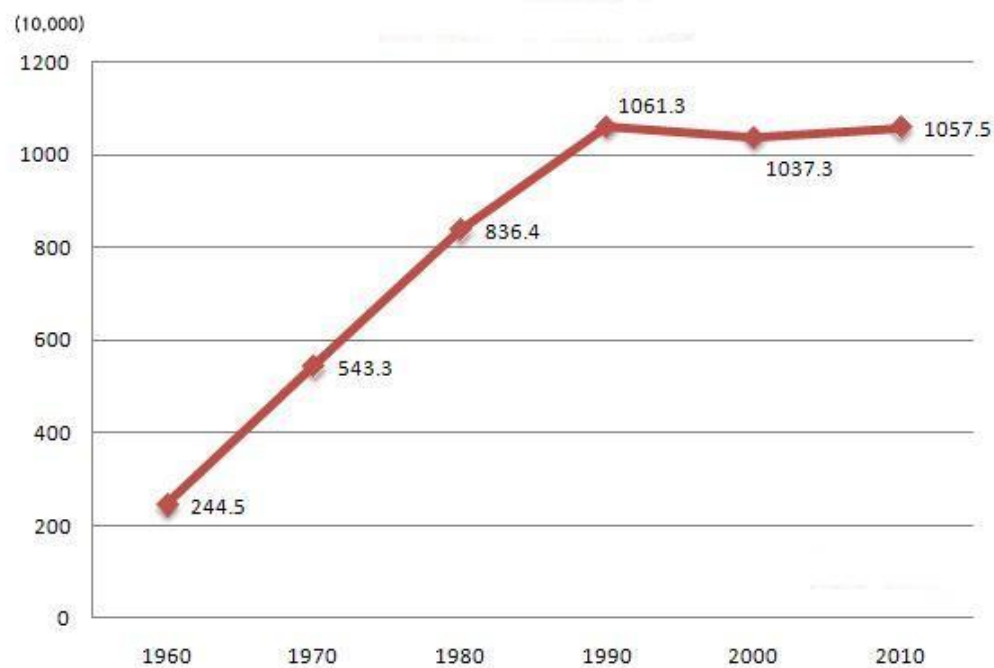
Figure 4-3 The population growth in Seoul from 1960 to 2010

(Source: Seoul Metropolitan Government)

4.2.2 Major Built Environmental Issues in Seoul

The Apartment Boom

The rapid development and urbanization in Seoul has brought about an unbalanced housing sector; housing supply could not meet the demand (Kim and Han, 2012). The Seoul government reacted by constructing more high-rise apartments which were regarded as a suitable residential form in Seoul where the influx of population into the city significantly increased (Jeon, 2009, Gelézeau, 2007). The trend of living in an apartment in the city has begun in earnest in the 1980s (Ibid). The apartments accounted for 26.1% of total housing stock in Seoul in 1985 and 20 years on, it had doubled to 54.2% in 2005 (Jeon, 2009). Within the increasing preference for apartment living, the price of properties soared, increasing about threefold between 1986 and 2008 (see Figure 4-4).
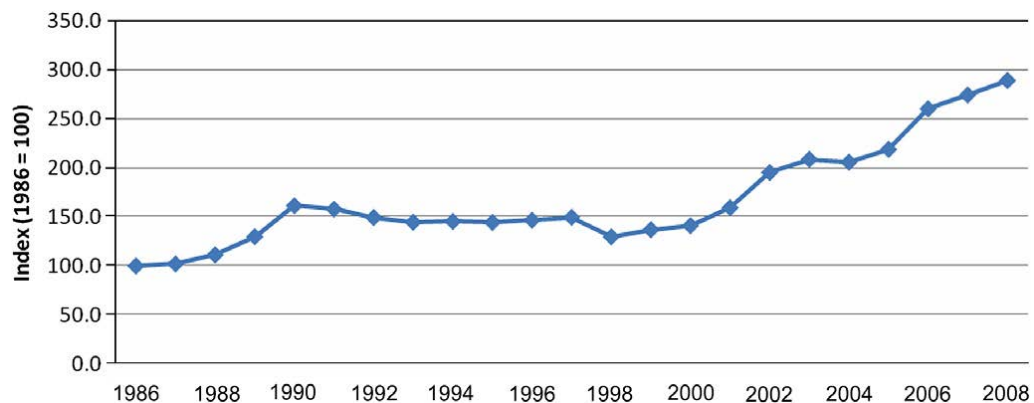
Figure 4-4 The Annual Average Price of Apartments in Seoul from 1986 to 2008

(Source: Seoul Metropolitan Government)

In addition to the government policies of housing supply since 1980s, there are major reasons for the apartment boom. First, apartments became the most effective means of gaining profit in Seoul. With the governments' housing policies, the value of apartments sharply increased and they were considered to be a profitable investment (Jeon, 2009, Gelézeau, 2007). Huge capital gains then were achieved by the property owners through profit-taking (Kim and Han, 2012). Second, the quality of apartments is superior to other housing types and the apartments are regarded as a luxury and expensive residential type in South Korea (Gelézeau, 2007). Moreover, the demands for living in convenient housing have been met by apartments because people have realized the advantages of apartments such as security, hot water and heating, and other convenient facilities (Jeon, 2009). In this situation, owning an apartment in Seoul means wealth and someone who lives in the apartment means the rich has been more common. As such, ownership of an apartment has become a lifetime dream to the majority of people in Seoul (Gelézeau, 2007, Kim and Han, 2012, Jeon, 2009). The price of apartments significantly soared due to these factors, and it has caused the affordability problem which is still one of the most critical issues in Seoul, particularly since the global recession in 2008 (Kim and Han, 2012).

The Impact of the Global Recession in 2008

Like other global cities of industrial countries such as the UK, the US, and France, Seoul has also been impacted by the global recession since 2008 as well as experiencing a low economic growth nationwide. In particular, the inflation in the housing market was halted and started to downturn, resulting in the economic problems in the housing sector, and problems related to

the rise of single person households. First of all, the housing market, mainly focused on apartments, started to be deflated since the global financial crisis. As seen in the graph below (Figure 4-5), the sale price of apartments steadily decreased since the middle of 2008 – the figure was down by 11.0 % between the highest point in 2008 and the end of 2012 (KOSIS).
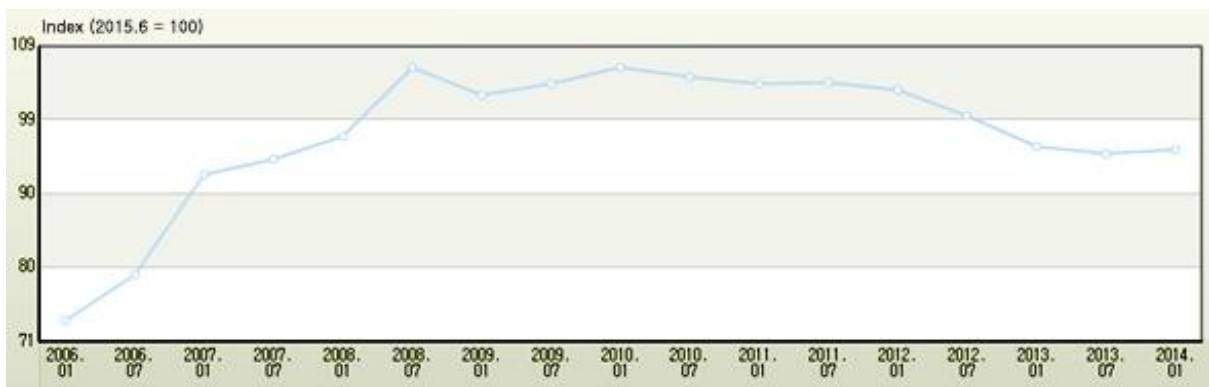
Figure 4-5 The Average Price of Apartments in Seoul from 2006 to 2014 (KOSIS)

The second important issue is an emergence of *house poor* and *rent poor*, which are common economic phrases in South Korea. With the depressed market of real estate and housing in Seoul, a new poverty class has emerged: house poor and rent poor. The house poor refers to a person who is poor despite owning a house. Most of them have a high level of housing mortgage loan invested in housing, mainly in large-size apartments, to earn profit, without enough information regarding the stage of housing market changes, and with the strong faith that the inflated housing and real estate price never stop rising (Park et al., 2013). Also, the government intended to use the housing and real estate market to boost economy by easing the loan regulation, consequently resulting in the boom and burst of the market and the increase in the debt of house

owners. All in all, drastic changes of financial environment, population and policy have created the house poor.

In addition to the house poor, the rent poor refers to those who do not have their own house, live in a rental housing, and spends an excessive proportion of their earnings on paying the rental cost because of overpriced rents, thus they become the poor (Euna, 2012).   The average rate of RIR (Rent to Income Ratio) of rent poor in South Korea was 44.8% in 2012, and the number of rent poor has sharply increased over the past decade; the figure rose by 25% between 2011 and 2013 (Park et al., 2013). An important issue was that the rent poor were concentrated in Seoul compared to other cities; in the perspective of demographic characteristics, single person households were the highest percentage (34.2% in 2013) among all types of households, and the rent poor group -aged under 30 - was the highest rate with 29.13% in 2013 (Ibid).

Lastly, the third important factor caused by the global recession was the rise of single person households and their housing problems. Although the number of single person households in Seoul has gradually increased since the early 1990s, this phenomenon has recently emerged as a significant issue especially accompanied with the negative economic effects of the global economic crisis. The next section will explore the issue of single person households in Seoul in detail.

4.3   The Rise of Single Person Households in Seoul

The rise of single person households has been a crucial issue not only in European and North American cities but also in Asian cities such as Seoul, Beijing, and Tokyo (OECD, 2013, Barber, 2007, Byun et al., 2015). In particular, since the last decade the solo living trend in urban area has become dominant in Seoul, where 850,000 single person households represent 24.4% of its total households as of 2010 (Figure 4-6) (The Statistics Korea, 2010), and this tendency has been accelerating considerably. According to the Korea Statistics in 2012, among all housing type in South Korea, the percentage of the single person household is forecasted to reach 34.3% in 2035 (The Statistics Korea, 2010). Given the recent tendency of the rise of single housing, the situation of at least one out of three households being single person household is a likely future (Lee, 2012b, Yang and Lee, 2013). This section explores the dynamic social trend in terms of demographic, geographic and economic aspects.
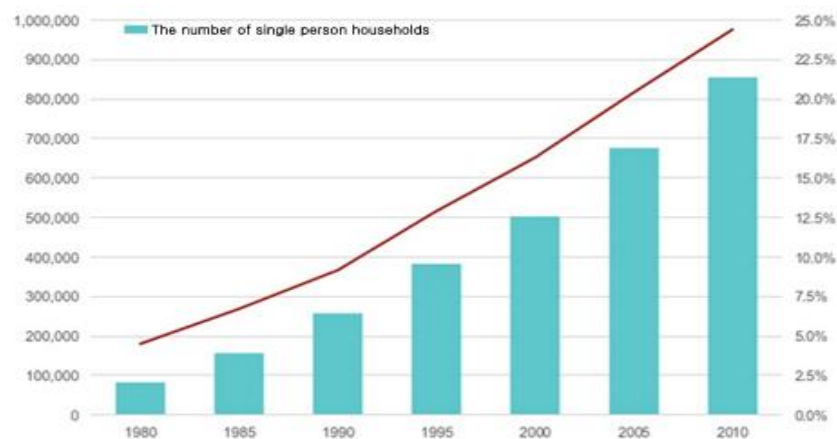
Figure 4-6 The Increases in Single Person Households from 1980 to 2010 in Seoul

(Source: KOSIS)

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4.3.1 Demographic Issues

Byun et al. (2008) categorized the single person households into the four group: *Gold Mr and Miss, reserved labor forces, depressed single* and *silver generation*. The Gold group consists of people mainly in their 30s and 40s who are working in the white collar and professional jobs and have voluntarily chosen single life; the reserved labor forces group is usually those in their 20s who are university students and have not yet got a regular job; the depressed single person household group is aged between late 30s and 40s who are divorced or live separated from their family; and the silver group is aged over 65 who live in widowhood or widowerhood (Ibid). Among the singleton groups, the gold singleton group has been noticeable to lead the trend of rising singletons in Seoul. According to KEIS (2009), the number of gold singletons, who are aged between 30 and 45, highly educated and earn over 40 million won a year, has sharply increased by tenfold in six years, from 7,103 in 2001 to 70,952 in 2007 as seen in Figure 4-7.
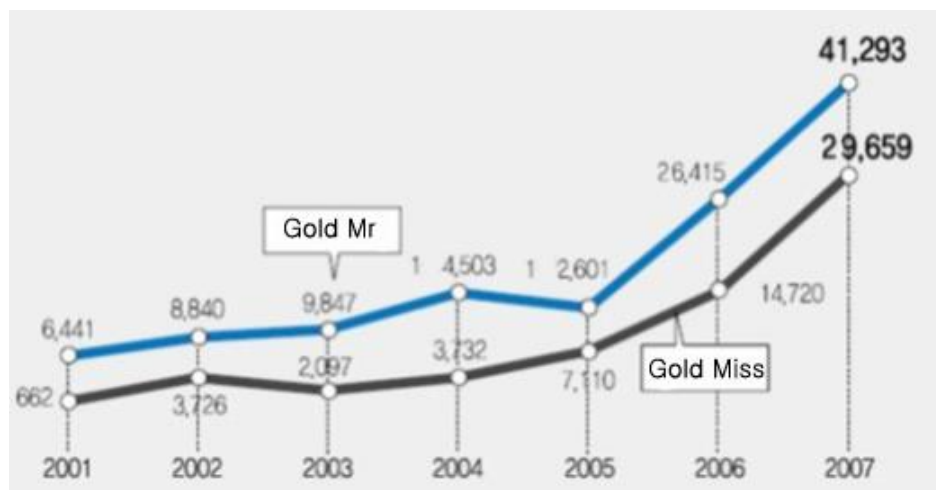
Figure 4-7 The Growth of Gold Mr and Gold Miss Groups from 2001 to 2007 (Source: KEIS)

Like other cases of industrialised countries examined in the previous chapter, the trend of the increasing single person households in Seoul has been mainly driven by the significant increases in young and working age singletons who are aged between 20s and 30s (Allen and Blandy, 2004, Klinenberg, 2013, Yi and Lee, 2010) (see Figure 4-8 below). The young singletons recently have increased accompanied by not only the significant increases in the number professionals and office jobs in Seoul, but also the rise of participation of the young singletons in the workplaces (Lee, 2012b). A part of this young population is included in the gold singleton group, and they have their own characteristics; they have chosen single life by themselves, pursuing personal achievement and individual life, and postponing marriage; they have a stronger purchasing power than other types of households; lead new culture and lifestyle in urban areas; and they have been regarded as major targets in the housing market (Byun et al., 2008, Byun et al., 2015, Yoon, 2002).
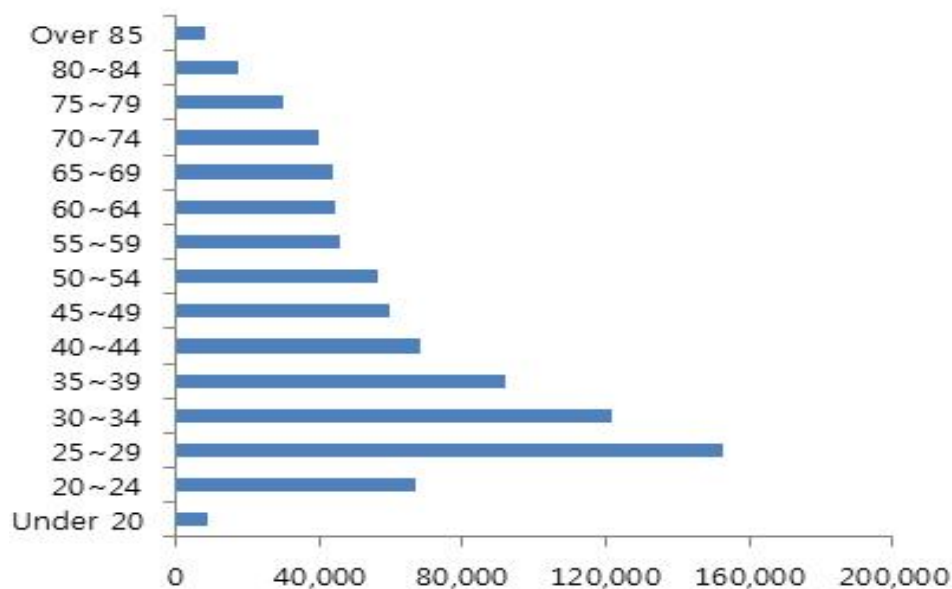
Figure 4-8 The Number of Single Person Households by Age Group in Seoul

(Source: KOSIS)

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Why do they live alone?

According to a report issued by Seoul Institute in 2008, the top reason for living alone in Seoul is 'because of job proximity' (49.2%), and the second is 'for independence from family' (38.4%) (Byun et al., 2008). In this context, the single person households in Seoul tend to consider their job and spirit of independence as significant factors for living and the reasons are highly related to the demographic character of the singleton: young and professional group which has mainly driven the solo living trend in Seoul.

Looking at the singletons' views of marriage, while a great number of respondents answered 'not now but I'll do someday' (44.6%), only 5.9% of them said they would be 'living alone forever'. The most popular reason for not getting married is 'economic reasons' (32.2%), and the second is not having found a good spouse (30.9%) (Byun et al., 2008). The result shows that many single person households in Seoul tend to have a desire to get married but are being forced to be single because of their economic and social circumstances, while those in the gold singleton group mainly choose the solo life.

4.3.2   Geographic Factors

The single person households in Seoul have converged around the cultural and business central areas: CBD, YBD and GBD (Byun, 2010) (see Figure 4-2, p.82). This geographical phenomenon could be explained by the factor that the young singletons, the major contributors to the solo living trend (see Figure 4-9), regarded proximity to the workplace and commuting

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as the main points of consideration when deciding the housing location (Yi and Lee, 2010). As seen in Figure 4-9, Gangnam-gu and CBD are the most popular regions where many companies are located, and Gwanak-gu is also shown to have the highest proportion of solo living; there are many university students coming from other cities, and young single households whose economic base is weak, because the area seems to have good accessibility to the city centre and a higher proportion of cheap multi-family housing. In contrast, expensive multi-family housing and officetel have been developed in Gangnam-gu (Yi and Lee, 2010, Lee and Yang, 2012). Other commercial and business regions in Seoul such as Seocho-gu, Yeongdeungpo-gu, Jung-gu, Jongno-gu, Gwanak-gu, Mapo-gu, and Dongdaemun-gu are also highly preferred areas by the young singletons (Ibid). The conspicuous feature related to the distribution of the singletons in Seoul is that the areas are spread out along the Subway Line 2, and this geographic pattern has been called the *Single Belt*, which goes through the central areas including CBD, GBD, YBD, and Gwanak district (see Figure 4-10) (Byun et al., 2015).
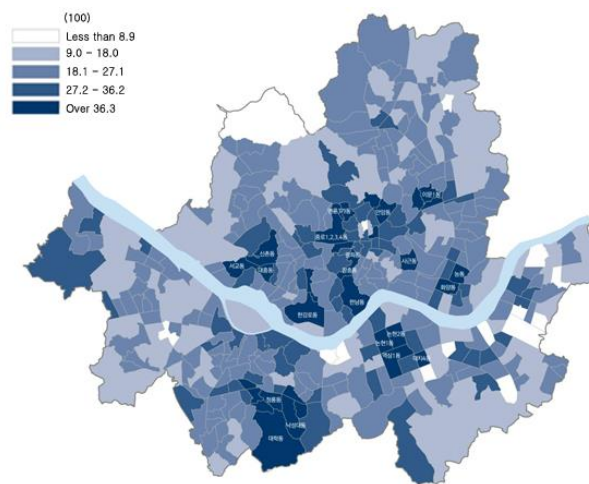
Figure 4-9 The Distribution Density of Single Person Households in 2010 of Seoul

(Source: KOSIS)
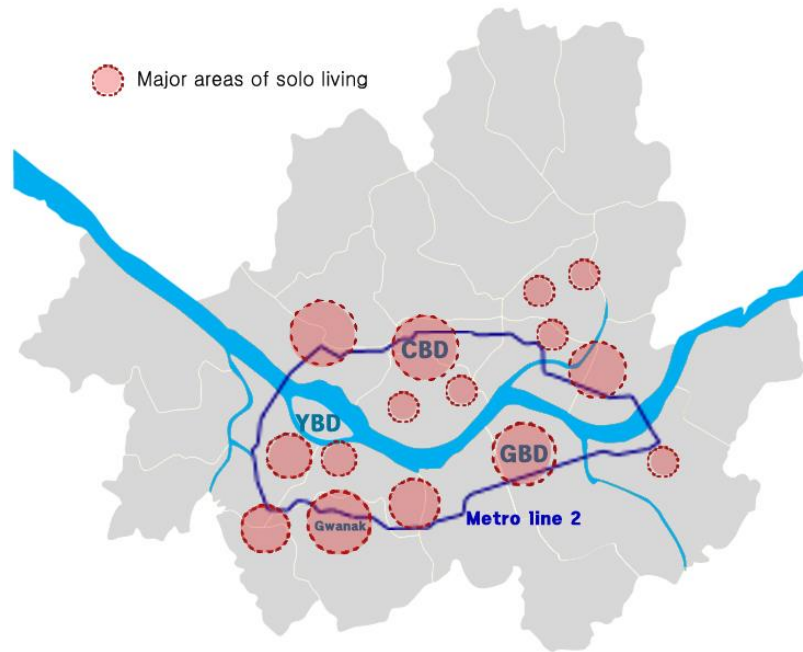
Figure 4-10 Single Belt: Link of the Major Areas of Solo Living in Seoul

(Byun et al., 2008: p. 42)

In particular, Byun (2010) categorized the areas where singletons mainly converge into six types; *university vicinity, gosichon, city centre and station area, multi-family residential area, industrial area,* and *commercial and business area*. First, the type of university vicinity is the most widely distributed one, which is adjacent to the university campus and is well connected to public transportation such as an underground station. Second, the gosichon type is found around Silim-dong area where young office workers, university students and *gosisengs* – someone who studies for higher civil service examinations – live (Park et al., 2014). In this area type, there are many libraries for gosisengs, reading rooms, and academies, and *gosiwon* – a housing type that is located in an important traffic hub and occupied by one or two people (Park et al., 2014) (see Table 4-1, p. 102). Thirdly, the city centre and station area type is mainly distributed in central areas, around underground stations, and in the sub-centre commercial

areas around the stations. In the case of the central areas, there are many zones where poor quality small houses, inns, and commercial facilities such as restaurants are mixed. This region is characterized by the age of households, including elderly people living alone. Fourthly, the multi-family residential area type is a residential area where multi-family housing and coalition studios are concentrated. Because its environment and state of housing is fairly good to live and housing prices relatively high, office workers who can afford the costs dwell particularly in the area. Fifthly, the industrial area type refers to the industrial area around Guro Digital Danji underground station where small sized houses are concentrated, clustered like 'honeycomb'. Low-income workers aged over 40s and foreign workers mainly live in the region. Finally, the type of commercial and business area is the mixed residential and commercial area, consisting of officetels and multi-family housing. Accessibility to workplace, its environment and state of the housing are relatively good and housing prices are expensive, so mainly office workers who can afford the prices live in the area.
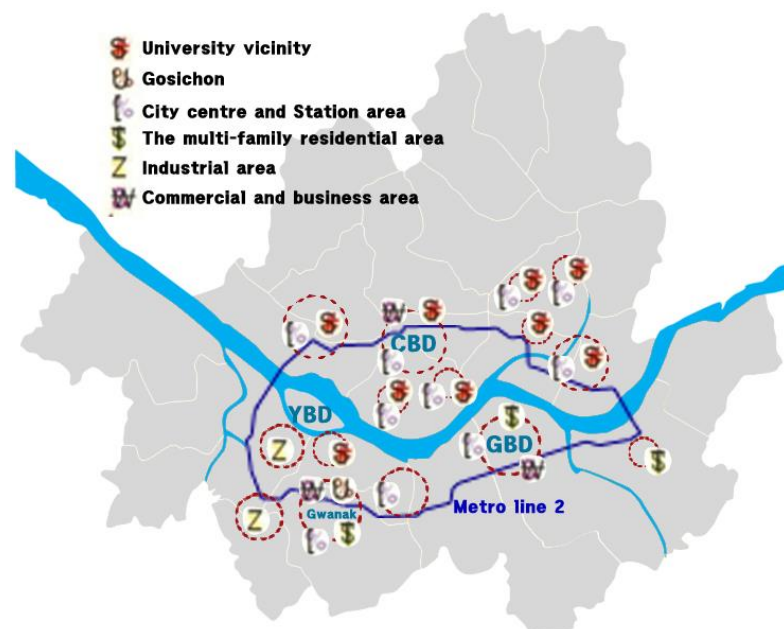
Figure 4-11 The Category of Congested Areas of Singletons in Seoul (Byun et al., 2008)

As seen in the figure 4-12 above, CBD includes mixed types of university vicinity area, city centre and station area, and integrated commercial and business area; GBD mainly includes Multi-family residential area, city centre and station area, and integrated commercial and business area; YBD includes Multi-family residential area and Around factory area; and Gwanak district includes Gosichon, City centre and Station area.

4.3.3   Economic Aspects

Economic issues and employments of the single person households in Seoul have been significantly important issues for both the households and the local economy because the issues have been highly associated with the poverty problem of single person households (Byun et al., 2008), and the growing number of young professional singletons have been a major consumer group in the economic market (Byun et al., 2015, Lee, 2013d). In this context, this section explores the characteristics of their employment and the emerging market targeting towards the young singletons.

Jobs and households economic structure

According to Byun (2010), 61.1% of the singletons had an occupation; the employment rate of the young working-aged singletons aged in their 30s was the highest with 83.7% while the rate of the elderly solo living groups (60s and 70s) was extremely low (32.8% and 8.3%

respectively); the rate of white-collar jobs such as experts and office workers were much higher than other types of occupations whereas the rate of manual labor and manufacturing business job was quite low. These features seemed to be highly associated with the rise of young professional singletons in Seoul based on the high percentage of the employment rate among the younger groups and their occupation types which required highly skilled and equipped workers. With this tendency as well as the rise of gold singletons who are high incomers compared to other singleton types, earning over 40 million a year (KEIS, 2009), commercial companies have started to focus on this emerging population, creating new types of markets (Lee, 2013d, Paik, 2014).

Emerging New Markets for Singletons

With the dynamic increases in the young single person households in urban areas of South Korea, their unique lifestyle, sense of economy, and economic values have drawn a lot of attention from a wide range of industries and markets (Byun et al., 2008, Byun, 2010, Koh, 2014). According to a SERI (Samsung Economic Research Institute) report by Ahn (2012), the majority of young and professional singletons, also called gold singletons, are white collar workers who have sufficient money to spend, and tend to spare no expense in taking good care of themselves and investment for enjoying their life; they generally show a present-oriented consumption propensity rather than a future-oriented consumption habit such as saving; they pursuit efficient and convenient consumption activities such as time saving; and their purchasing power is already outpacing that of other generations.

Within this context, several industries have recently shown significant growth, reflecting the consumption pattern and demands of this rising population (Lee, 2013d, Paik, 2014, Koh, 2014). Firstly, the convenience store has rapidly grown over the decade. As seen in Figure 4-12, the total sales and number of the convenience markets have approximately doubled between 2007 and 2011 (Korea), and particularly in Seoul, the number of convenience stores in Seoul has increased by 85.7% from 2291 in 2005 to 4254 in 2010 (SI, 2013, Lee, 2013d). The convenience store which is open 24 hours a day is the core of singleton economy because in the store they can always easily purchase not only simple meals such as sandwich, hamburger, and kimbab, but also daily necessities and books (Koh, 2014). In this circumstance, among the products in the convenience store, the sales of HMR (Home Meal Replacement) (Figure 4-13), a kind of ready-to-cook meal, have steadily increased (SI, 2013).
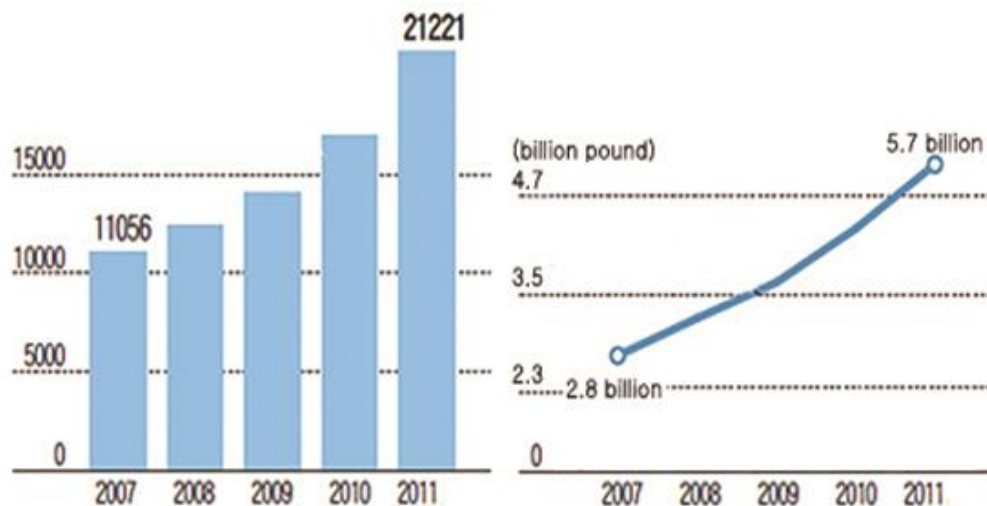
Figure 4-12 The Increasing Number of Convenience Store and its Sales

from 2007 and 2011 (Source: KOSIS)

Figure 4-13 Convenient HMR (Home meal replacement) (Yumi, 2013)

The second significantly grown industry to keep the pace with the rise of singletons is parcel service (Lee, 2013b). The total sales of parcel service market have increased three times between 2006 and 2012 (The Statistics Korea, 2015)(Figure 12), and particularly the needs for small parcel services aimed at the single person households have increased in order to facilitate their consumption pattern effectively, pursuing convenience and saving time (Lee, 2013b).
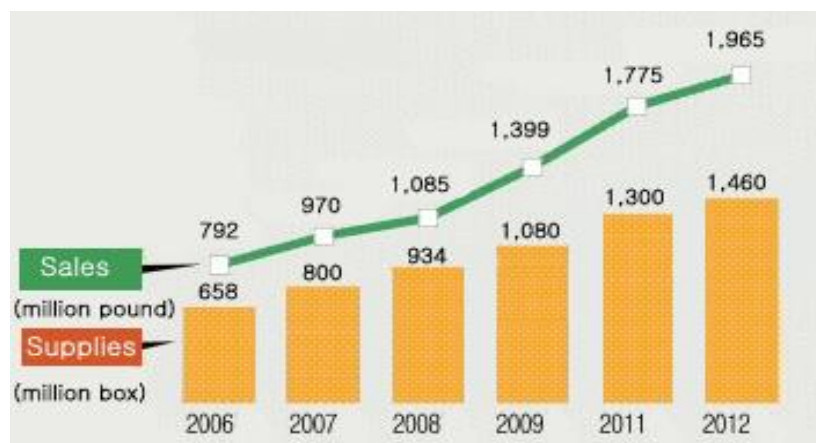
Figure 4-14 The Growth of Parcel Service Market in South Korea from 2006 to 2012

(The Statistics Korea, 2015)

Thirdly, the industries of small sized-household items, furniture, and white appliances have

grown in order to cater for the rising young singletons' lifestyle and their housing conditions (Byun et al., 2008). Because the size of the houses has become smaller (housing issues for the single person households in more detail in section 4.4), products customized into the small-sized housing including household appliances and furniture have been booming (Koh, 2014). This market has prospered thanks to products which give high performance for their prices despite their small size such as an electric rice cooker for 2~3 people, a mini electric washing machine, furniture for one person, and a small-sized dehumidifier, now available in the market (Koh, 2014, Ahn, 2012) (See Figure 4-15). According to Hanssem, one of the famous Korean furniture companies, the three key words 'mini', 'folding', and 'multi-function' are significant elements for improving efficiency of small housing spaces for single person households (Lee, 2013d). Consequently, the space of housing for singletons has become smaller and more effective (Lee and Yang, 2012), and many industries related to furniture as well as house builders have focused more on the singleton's lifestyle and the new market (Koh, 2014, Ahn, 2012).

Figure 4-15 Small Sized Household Appliances for Single Person Households

(Lee, 2013d)

The rise of single person households has significantly impacted not only on the socio-

economic issues, but also on the built environmental and housing sectors in the Seoul context (Lee, 2012b). Next section will particularly explore the issues of residential environments including socio-economic issues and architectural design aspects.

4.4   Housing Environment of the Young Professional Singletons in Seoul

During the property boom in Seoul, also called the apartment boom, the housing price has significantly surged and medium or large sized-apartments have been dominant in the Seoul housing sector (Lee and Yang, 2012). In this situation, the rapid rise of single person households in Seoul - increased by a factor of ten between 1980 and 2010 - has massively impacted on the traditional housing market (Lee, 2012a). This section explores the rising solo population's residential characteristics and the singleton housing market situation, governments' efforts to keep pace with the phenomenon by supplying housing in the sector, and limitations of the newly supplied housing type for the singletons.

4.4.1   The Residential Characteristics of Singletons in Seoul

The Rise of One-room Housing Type

The increases in the single person households have brought about significant changes in the housing sector in Seoul. One of the features in the housing sector was the rapid increased

demands of *one-room* (Byun, 2010, Lee and Yang, 2012, Yi and Lee, 2010, Kang et al., 2011).

The term "one-room" is not an officially defined concept, but generally refers to a single room with a toilet and the kitchen, distinguishing it from other housing types such as apartments. Thus, 'one-room' can be classified as a kind of multi-households housing, business facility like officetel, or neighbourhood facility (Byun et al., 2008) (see Table 4-1). In spite of the depression of housing and real estate market during the global recession caused by the subprime mortgage crisis in 2007, the demands for small sized houses that one person households prefer are steady, while the supply of medium-large sized apartments has constantly decreased. According to a report about the residential situation of single person households in Seoul conducted by Seoul Institute in 2010, multi-households housing type was the most common housing lived in by Seoul singletons, aged in their 20s ~over 60s (54.9%) (Byun, 2010). This is because many singletons lived in the one-room of the housing type (Ibid). In addition, the rate of living in officetels and gosiwon, which are one-room, had also increased over the past decade (The Seoul Research Data Service). In particular, the provision of officetel which is a building, mainly for business space which can provide room and dining (see Table 4-1) had sharply increased, and the building permit areas of the offecetel was 4,332,000㎡ which was increased by 50.7% compared with the previous year. Also, the size of initiated and completed areas has increased by 44.8% and 14.8% respectively in the same period (Lee, 2013d).

Table 4-1 Definitions, Images and Characteristics of Housing Types in the Context of South Korea

Type of housing	Type of housing							
Type of housing	Housing						Quasi housing	
Type of housing	Detached housing		Multi-unit housing				Quasi housing	
Detailed type	General detached house	Multi-household housing	Apartments	Terraced house	Multi-family housing	Accommodation	Officetel	Gosiwon
Image								
The criteria of Building law	A house that a family can dwell independently, and this housing type has not limitation of floorage.	A housing that the total floorage is under 600m^2, and it has less than 3stories and 19 households	A housing which has more than 5 stories for residency	A housing that the total floorage of a building is over 660m^2, and it has less than 4 stories	A housing that the total floorage of a building is below 660m^2, and it has less than 4 stories	A multi-unit housing type for students and workers, having communal kitchen. Each unit is not an independent living facility	A building, mainly for business space which can provide studio flat, dining and toilet. Its area for exclusive use is limited below 85m^2	A multi-unit housing type, providing accommodations, toilet except dining. The total floorage of a building is below 1000m^2
Related solo living housing		One-room, Share house	Small APT, ULH including one-room	ULH	One-room, ULH	Accommodation, Share house	Small officetel (one-room)	One-room

Source: (National Law Information Center)

The Rent Boom and the Affordability Problem

The second characteristic of the singleton housing sector is the rapid increases in monthly

housing rent as well as the problem of the rise of rent poor singletons. According to a database

compiled by The Seoul Research Data Service, the rate of monthly housing rent among the solo

dwellers in Seoul has significantly surged since 2010, and it reached up to 64% of total housing

types of the population in 2012, and 81% of all lease types if Jeonse[1] is also included (Figure

4-16).
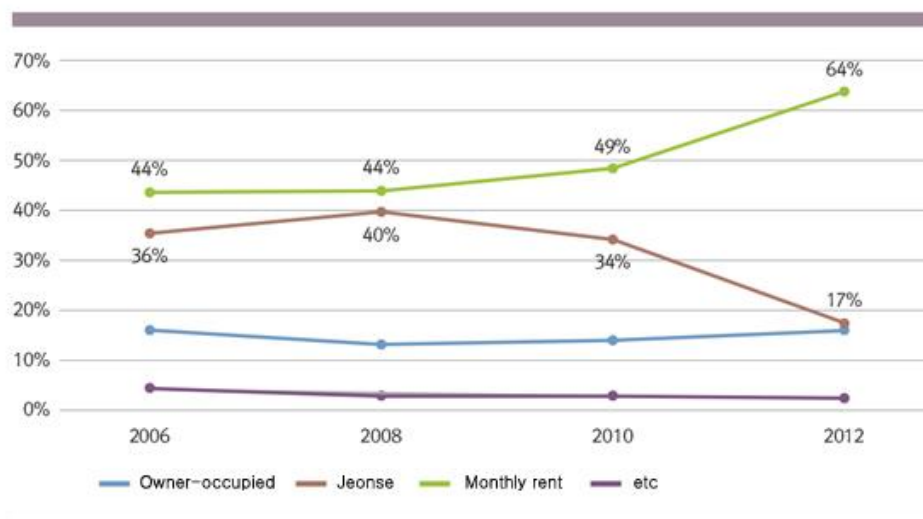
Figure 4-16 The Residence type of single person households in Seoul from 2006 to 2012

(Source: KOSIS)

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[1] It is a kind of a real estate term, and only used in South Korea. The term refers the method which housing is
leased. The tenant does not pay the monthly rental cost but gives a large amount of deposit to the landlord when
the leased is signed. Generally, the amount of the deposit is from 50% to 80% of the housing's market value,
and the period of the lease is 2 years. (Source:NLIC)

In this situation of focusing on the rental market, many Korean scholars (Byun, 2010, Byun et al., 2015, Lee, 2012a, Lee, 2012b) said that the majority of single person households suffered from the affordability issue. From the report surveyed by the Seoul Research Data, the singletons' RIR has steadily increased between 2006 and 2012 (Figure 4-18); the figure has been higher than average RIR of Seoul citizens (25.5%) and 48.4% of the respondents said they found residential costs burdensome.
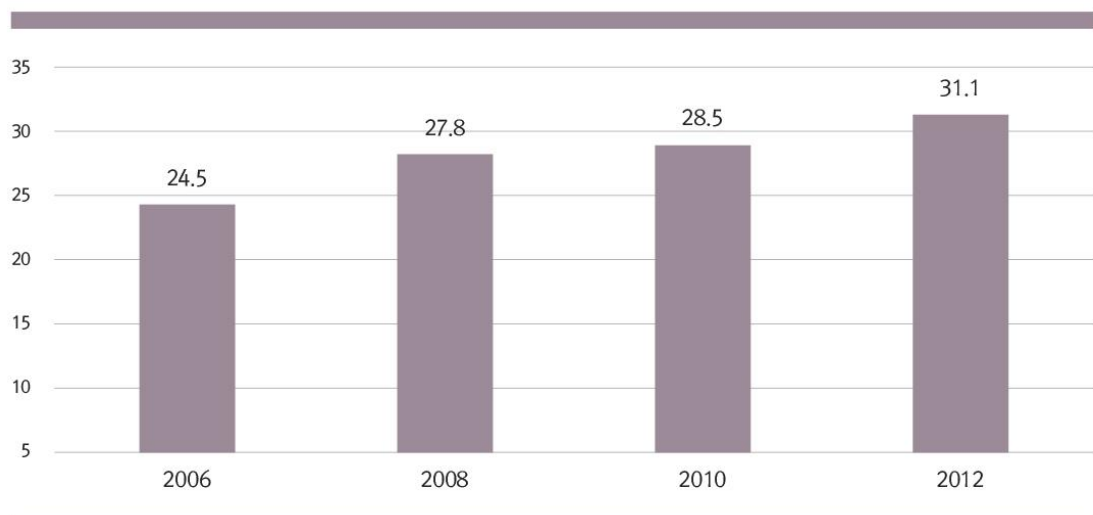
Figure 4-17 RIR of Single Person Households in Seoul from 2006 to 2012

(Source: KOSIS)

Poor quality housing

Many commentators (Byun et al., 2015, Lee and Yang, 2012, Yi and Lee, 2010) maintained that a large number of single person households in Seoul have lived in poor quality housing environments; in particular, as seen in Figure 4-18, approximately 73,000 single person households in Seoul lived in poor quality housings which were below the national minimum

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housing standard in terms of the minimum size of housing, essential facilities, housing structure, quality of housing environments (The Seoul Research Data Service), which accounted for 15.3% of the total number of single person households in Seoul. The figure was much higher than the average values of 9% in all type of households in Seoul and 7% of households with more than three people (Ibid).
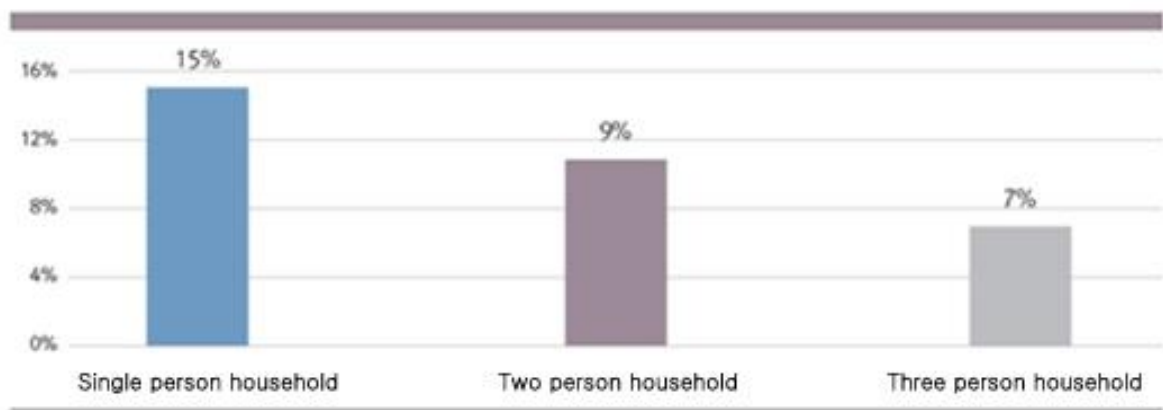
Figure 4-18 The Rate of Poor Quality Housings, which were below the National Minimum Housing Standard, in Seoul of 2012 (source: KOSIS)

Aware of the circumstances, the government has tried to keep the pace with the rise of single person households and the changes in housing sector by implementing a new housing system, Urban Lifestyle Housing (Ministry of Land, 2009). The next section will explore the newly supplied housing type and its limitations.

4.4.2   The Emergence of Urban Lifestyle Housing

To deal with the sharply increasing housing demands of one person households, and in order to keep pace with an emergence of a new housing culture, 'Urban Lifestyle Housing' system was introduced in May 2009 (Yoo and Shim, 2010, Ministry of Land Infrastructure and Transport, 2009). The Urban Lifestyle Housing (ULH) is a kind of cheap and fast-supplied multi-unit residential building which has less than 300 households; is characterized by relaxed standards of housing construction and community & service facilities (Table 4-2); and is supplied through a simplified procedure, mainly in order to keep the pace with the sharp increase in one or two households in city centres and supply affordable housing to the population (Cho, 2011, Lee, 2012b).

As seen in Table 4-3, the ULH system is divided into three types; one-room, complex multi-family housing, and complex terraced housing (Ministry of Land Infrastructure and Transport, 2009). First, 'one-room housing' consists of dwelling units which are capable of independent living. The size of private dwelling unit per household is 12~50m², including the toilet and the kitchen. A dwelling unit cannot be located in the basement. Second, 'complex multi-family housing' refers to a kind of multi-family housing of which the size of each private dwelling unit per household is 85m² or less (residential floors lower than four storeys, gross floor area under 660m²), and building one additional floor is possible through the deliberation of the architecture committee. The third one is the complex terraced housing; the size of each dwelling unit in this type of terraced housing is the same as the size of complex multi-family housing unit (less than

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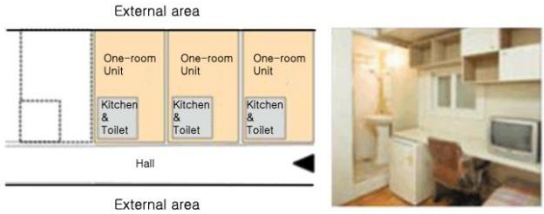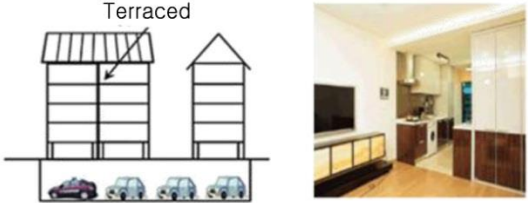
85m^2). This housing type is also open to the possibility of building an additional story through the deliberation.

Table 4-2 Deregulations of ULH Compared with General Multi-unit Housing

Source: (Cho, 2011, Lee, 2012b)

		General multi-unit housing	Urban Lifestyle Housing	Regulation
Subsidiary Facilities	Access road	- More than 6m in width (Less than 300 households)	One-room type: 4m in width (less than 660m^2 of total floor area of the building)	Act 25
	Concierge	- 10m^2 per 50 households + 500cm^2 per household	Deregulation	Act 28
	Landscape area	- Make it as much as 30% of the housing site	Deregulation	Act 29
	Direction sign	- A road sign, notice board, and zip code	Deregulation	Act 31
	Emergency water supply facility	- Installation of water tank and underground pumping station	Deregulation	Act 35
Service Facilities	Playground	- 3m^2 per 50~100 households - 300m^2 (over 300 households) + 1m^2 per household	Deregulation	Act 46
	Commercial facilities	- 6m^2 per household	Deregulation	Act 50
	Hall for the elderly	- 40m^2 (100~150 households) - 40m^2 (over 150 households) + 0.1m^2 per household	Deregulation	Act 55

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Table 4-3   Three Types of Urban Lifestyle Housing

ULH	Size	Parking a household	Detailed standards	Image
One-room type	12~50m^2	0.2~0.5	- Each residential unit is capable of independent living, equipped with kitchen and toilet in the unit - A dwelling unit cannot be located in the basement	
Complex multi-family housing type	Less than 85m^2	1	- Gross floor area: under 660m^2 - Lower than 4 stories (residential floors) - One more floor can be added through the deliberation of the architecture committee	
Complex Terraced housing type	Less than 85m^2	1	- Gross floor area: over 660m^2 - Lower than 4 stories (residential floors) -One more floor can be added through the deliberation of the architecture committee	

Source: (Ministry of Land   Infrastructure and Transport, 2009)

Since the implementation of the ULH system in 2009, the supply of ULH has significantly increased in Seoul, reaching a total of 71,790 in 2012 (Lee, 2013a). In particular, the supply of ULH has focused on the small sized one-room type housing (Lee and Yang, 2012, Lee, 2012b). Among the supplied small houses sized under 40m^2 in Seoul, the percentage of the Urban Lifestyle Housing has increased significantly to 89% by the end of 2012 from 12% at the end of 2010 (Figure 4-19). Also, the residential types of ULH were supplied mainly in residential areas and station influence areas within the central areas in Seoul (Figure 4-20); young professionals who were middle incomers were mainly living in the ULH by monthly rental, and the majority of the single person households tended to opt to live in the housing type mainly due to convenient public transportation and good proximity to the workplace or university campus (see Figure 4-21) (Lee, 2012b).
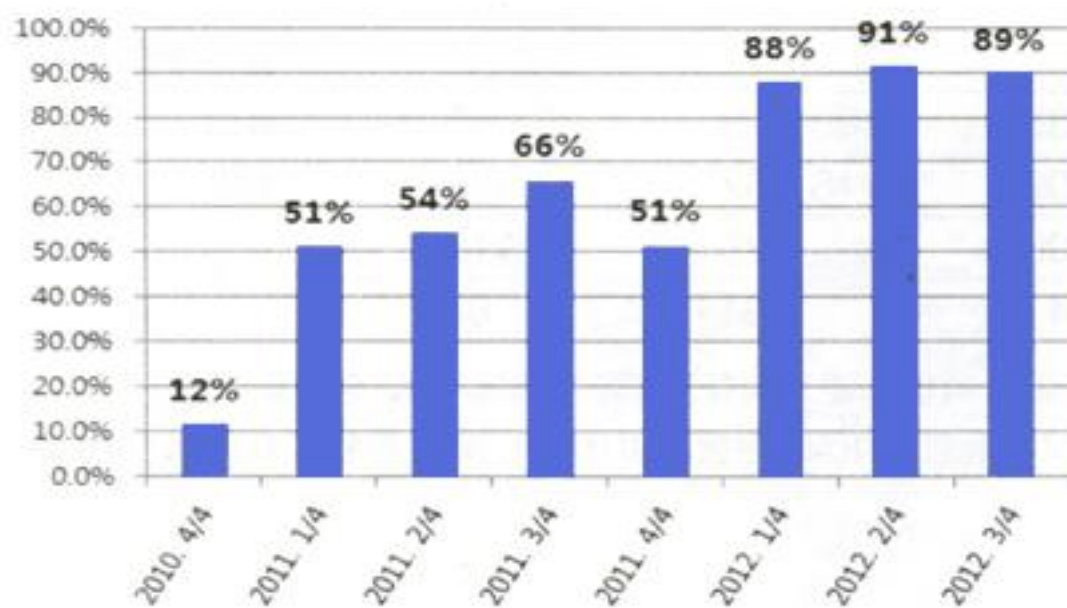
Figure 4-19 the Rate of Supplied ULH of Total Supplied Houses in Seoul from 2010 to 2012
(Source: Ministry of Land, Transport and Maritime Affairs)
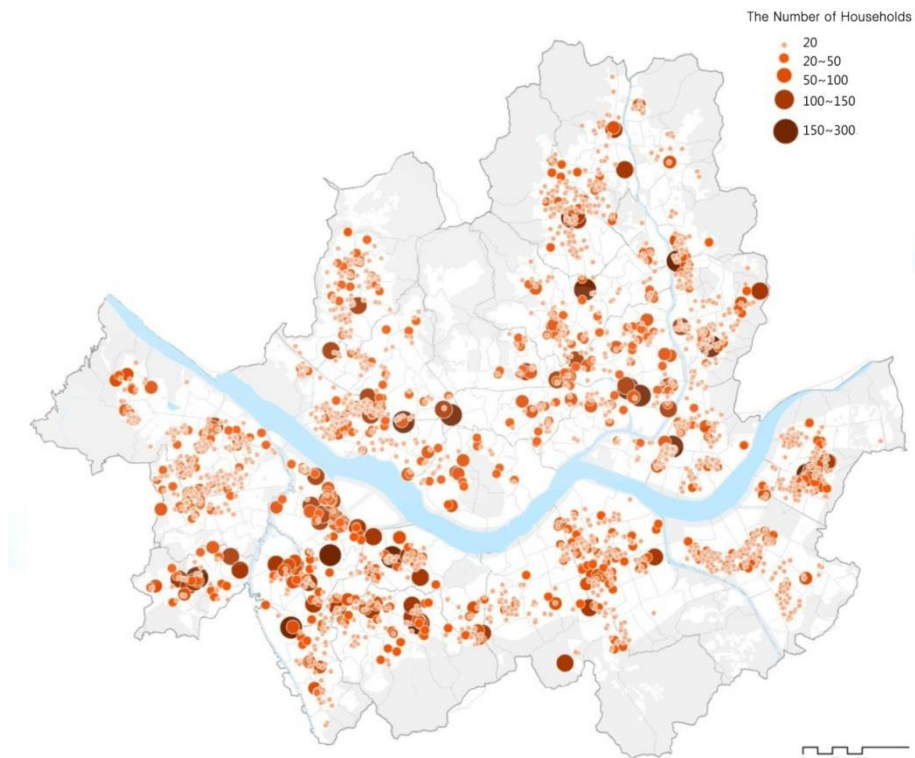
Figure 4-20 Distribution of ULH in Seoul (Lee, 2012)
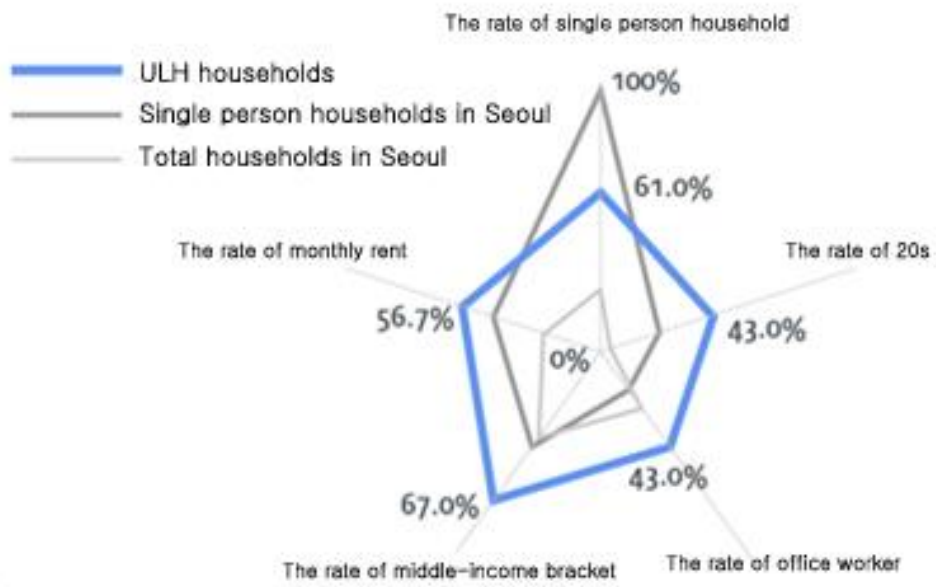
Figure 4-21 Factors of ULH Residents in Seoul (The Seoul Research Data Service)

4.4.3   Limitations of the ULH

Through the Urban Lifestyle Housing, the housing supply for the rapid growth of singletons has been improved in the Seoul context (Lee, 2012b). However, the housing system and residential types have shown several limitations such as oversupply, expensive rental cost, and poor design quality of the housing.

Biased Supply: Focusing on the One-Room Type of ULH

The ULH has been excessively biased in that the small sized one-room type housing is overly emphasized (Seoul Metropolitan Government, 2013, Lee, 2012b). As seen in Figure 4-22, the one-room housing type whose area for exclusive use is $30m^2$ or less accounts for 81% of the total number of approved household while the complex multi-family housing type (sized $50m^2$ or more) accounts for only 7% (Lee, 2012b). This state has been brought about mainly by the market-driven situation: the one-room type ULH could create many more housing units than complex multi-family housing in the same area, which would in turn yield greater profit for investors (Seoul Metropolitan Government, 2013).
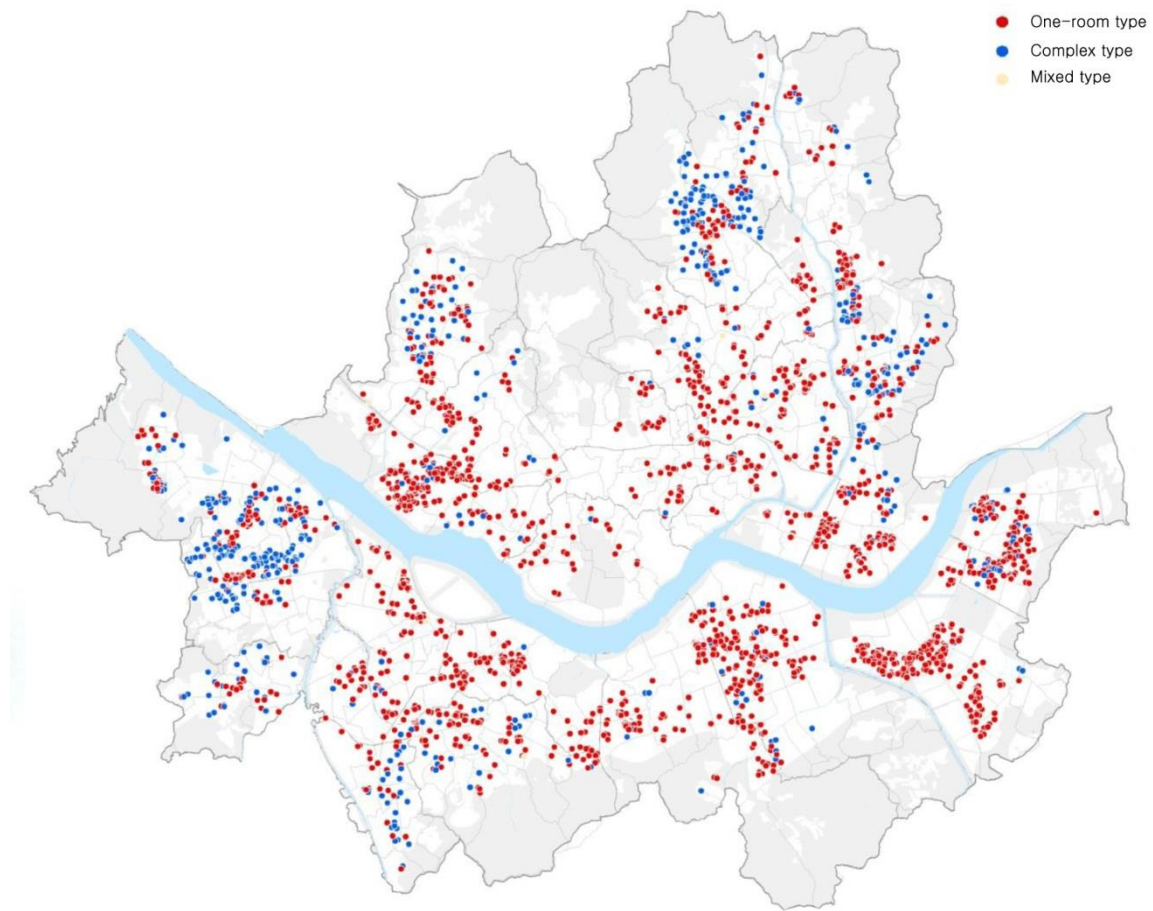
Figure 4-22 Distribution of ULH in Seoul by Types including One-room, Complex and Mixed (Lee, 2012)

With the massive supply of the one-room type ULH in Seoul, it can be expected that the supply of small-sized house mostly meets the quantitative demand of the single person households in Seoul (Lee, 2013a). In Seoul in 2010, the number of singletons who lived in a housing sized under 40m^2 was approximately 500,000; in the same period of time, the number of the small sized (40m^2 or less) housing in which the singletons lived was around 240,000; and the number of residential quasi dwellings such as gosiwon and officetel was about 250,000 (Lee and Yang, 2012). Furthermore, during the period between 2011 and 2012, the supply of ULH

was over 70,000, most of which were one-room type housing (Jaisoo, 2013), and this number of supply exceeded the number of annual average increase in single person households in Seoul, namely 35,000 (Lee, 2013a, Seoul Metropolitan Government, 2013). In this situation, the quantitative demands for the single person households were mostly fulfilled, so the next concern would be with the excess supply upon building additional small houses.

The Affordability Issue

One of the major purposes of ULH is supplying affordable housing to one or two person households in urban areas. However, the main housing type of ULH has higher prices (mainly rental prices) than other small sized housing types, resulting in an economic burden to solo dwellers. As seen in Table 4-4, the average monthly rental price of ULH was 672,000 won which was much higher than other groups' rental price except the high income group's; the RIR (Rent to Income Ratio) of ULH residents was 29.9, which is higher than the average RIR of the total number of households in Seoul (28.5), let alone that of the middle-income group in Seoul (20.2) (Lee, 2013a). In this situation, low-income class singletons who account for over 50% of the total number of singletons in Seoul found it hard to afford the ULH rental price, and even the middle-income bracket who were main residents in ULH (66.7% of total dwellers of ULH in 2010) seemed to feel an economic burden from the price (Lee, 2013a).

Table 4-4 Average RIR in Seoul, RIR by Income Level and RIR of ULH Residents in Seoul

Index	Seoul	Low income	Middle income	High income	ULH residents
Number of households (%)	100.0	64.5	32.0	3.4	–
Monthly income (£)	878	585	1,464	3,426	1,318
Monthly rental cost (£)	250	203	295	562	393
RIR	25.6	33.3	17.5	13.0	26.5

Source: (Ministry of Land, Transport and Maritime Affairs, 2010)

Poor quality housing environment

The poor residential qualities of ULH have emerged as a significant issue in terms of architecture, housing design and residential environment aspects. In addition to the limitation due to the biased supply of one-room ULH type (80% of the supplied ULH in Seoul of 2012), the size of the housing type in which the singletons lived was too small to live. While the ULH one-room housing means a small house sized between 12 and 50m^2, the supplied one-room houses are mostly micro housing (30m^2 or less). The number of the housing whose area of exclusive use space is 14~30m^2 was 108,812 households in 2012, which accounted for approximately 70% of the total number of the ULH in Seoul. Furthermore, even the number of the housing sized 14m^2 or less approached 30,000 households. In contrast, the one-room housing sized between 30 and 50m^2 was only 24,000 households, accounting for 15% of the total (Lee, 2013a). This concentration on micro housing type has mainly been caused by the

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market-driven development, only focusing on business values and maximising profit from housing rent (Lee, 2012a). The micro residential unit has mainly resulted in lack of storage space, engendering aspirations of the residents for improving space efficiency in the housing (Lee, 2013a).

The development of ULH, concentrating on housing rental profits without sufficient consideration of the quality of housing environment, has also brought about various shortcomings such as the waste disposal problem, lack of storage space, poor lighting and ventilation conditions, and deficient car parking space (see Figure 4-23) (Seoul Metropolitan Government, 2013). This state is not only due to the market-driven development, but also the deregulations for service and community facilities when constructing ULH (Lee, 2012a, Lee, 2013a).

Figure 4-23 Poor Qualities of ULH Residential Environments (SMG, 2013)

With the development of ULH that concentrated on the quantitative expansion while neglecting the quality, various side effects have appeared. Vacant and unsold ULHs have occurred continuously caused by the oversupply. In addition, the poor quality of housing environments, particularly in terms of deficient consideration on community space and lack of consideration of human relationship with local environments have been occurred. These socio-relationship issues are explored in the next section.

4.5   Social Isolation and Sustainable Community

Given the trend of significant rise of solo dwelling in the city centre of Seoul, the market-driven housing sector focusing mainly on small-sized one-room housing development without consideration on community space in the residential building can lead the singletons to greater social isolation and undermining mental health, resulting in suffering from loneliness and addiction to alcohol (You et al., 2011a, Byun et al., 2008). Moreover, some singleton groups such as women and the elderly are more vulnerable to crime, so there may be a greater demand for social support services and police protection (Byun et al., 2008). In addition to the lack of human relationship in the residential environment, the community issues within the local context have also emerged, especially the relationship between the newly grown solo population and local residents who have lived in the area for long (Yang and Lee, 2013, Kang et al., 2011). With the emerging aspirations for taking socio-relationship issues into account, both the private and public sectors have tried to deal with the issues through property sharing and an urban regeneration scheme respectively (Lee, 2014).

4.5.1 The Emergence of Share house in Seoul

One of the new emerging industries which are associated with the rise of singletons and their lifestyle is *share house*. 'Share house' refers to a kind of house sharing where each sharer can use a private bedroom while sharing the living room, kitchen, and bathroom (Jang, 2014). The sharing residential type has already been common in western countries such as UK and Australia (Steinführer and Haase, 2009), but in South Korea the number of singletons who live in the share house has recently been increasing around university campuses and central areas in cities (fnnews, 2013). The trend of living together among the singletons has emerged mainly against the existing housing situation such as overly small sized housing units, expensive rental costs, the lack of human relationship with other tenants and deficient community space in the housing environment (Jang, 2014). In particular, it was hard for them to endure loneliness and anxiety for the future, and thus shared housing was an appropriate residential option for them to overcome economic and emotional problems (Byun et al., 2008).

With the aspirations for shared housing, the business of share house has started since 2012 mostly by private and start-up companies such as WOOZOO and ROOT IMPACT. The companies usually renovated old multi-family houses into share houses by repair and redecorating. One of the advantages of the share house is cheaper dwelling cost than normal rental houses. Also, dwellers in the house can enjoy wide spaces including the living room and the garden where people would not be able to use if they lived in one-rooms (Kyungmin, 2013). Moreover, the residents can have housemates; living with housemates can help them to relieve

the feeling of loneliness and also solve various security problems (Sysop, 2013). Consequently, the share house has been an appropriate housing alternative for the singletons to solve economic and emotional difficulties in the context of Seoul.

4.5.2 A Sustainable Community through the Urban Regeneration Scheme in the Seoul context

The market-driven development of ULH in Seoul has been dominant in the singleton housing market and too many of the housing type have been constructed in a short period time without sufficient consideration on the local environment (Seoul Metropolitan Government, 2013). There are no means of reining in such development practice because of the deregulation on the ULH system. In this situation, conflicts between the young incoming residents gentrifiers and local residents might occur due to differences in lifestyles, noise problems, and overloads on public infrastructures (Lee, 2013a). Practically speaking, the local community participation of young singletons who are in their 20s and 30s and mainly living in ULH was low (Byun et al., 2008). However, according to a report by Byun et al. (2008), 43.9% of the interviewed young singletons were interested in the region they were living in, and the rate was twice as much as the rate of the answer 'be indifferent to the region' (21.1%). These findings suggest that while many solo dwellers in Seoul felt lonely due to the social isolation in the residential environment that was constructed without consideration for community issues, they were highly likely to be interested in the local community and neighbourhoods. They do not have enough chances to interact with the community members.

The Urban Regeneration Plan

With the socially disconnected situation, the central government and Seoul Metropolitan government have tried to improve upon it through a Korean version of urban regeneration plan. Unlike global cities such as London, Vancouver, and New York which experienced an obvious urban decline and then a significant urban regeneration process, Seoul and other big cities in South Korea have not experienced the visible urban downturn but are recently experiencing development stagnation. In the Korean context, the urban regeneration plan has mainly been for the 'age of austerity' since 2010s, mitigating and adapting to the slow economic growth and decreases in urban development demands, and focusing on sustainable urban development.

In March 2015, Seoul metropolitan government announced *Seoul Regeneration Master Plan* in the same vein with the *Urban Regeneration and Assistance Act (Urban Regeneration Act)* that was passed in the National Assembly in June 2013. The Seoul urban regeneration master plan has five visions as follows (Seoul Metropolitan Government, 2013):

> *1. Local neighbourhoods-focused regeneration, considering identities of the local context*
>
> *2. Not the traditional 'Demolition and New construction' redevelopment, but 'Customized Regeneration', considering each area's characteristics*
>
> *3. The whole process of regeneration plans to be carried out with local residents and communities*
>
> *4. Pursuing sustainability*

5. Anticipative investment in the public sector by Seoul Metropolitan government for revitalization of local economy

One of the major visions of the Seoul regeneration scheme: human- and community-focused urban redevelopment, restoring local communities and neighbourhoods and creating sustainable communities could be a significant key to improve the social disconnection of singletons with their local environment. Also this approach to the urban development could increase the participation of the singletons into local events, resulting in social inclusion. Although the Seoul regeneration scheme does not directly target the significantly risen young solo dwellers in the city, the rapidly increasing solo population who accounted for about 25% of the total households in Seoul of 2012 has to be considered in the regeneration plans (Lee, 2014). Thus, a detailed investigation on the socio-relationship situation of singletons in Seoul and further research on human relationship between the urban regeneration scheme and the solo dwelling trend are necessary for improving the housing environment of the singletons.

4.6   Conclusion

This chapter has firstly explored the historical development issues in Seoul, and then outlined the recent trend of the rise of single person households in Seoul and their characteristics in demographic, geographic, economic, social and housing environmental aspects. The chapter has particularly shown the housing environmental issues of young professional singletons who are major contributors to the solo dwelling trend in Seoul; since 2009, quantitative demands of housing for the singletons have been sufficiently met by the supply of Urban Lifestyle Housing;

however the market-driven ULH development has led to poor housing environment quality in terms of affordability, housing design, and socio-relationship aspects. Faced with the limitations of ULH for the young single person households, aspirations for new housing alternatives and consideration for sustainable urban design for the rapidly grown young solo dwellers have surged significantly. In addition, there has surfaced the need for an in-depth investigation on shared housing - a housing type which has recently emerged in South Korea in order to meet lifestyle aspirations of the singletons and to improve the poor socio-economic aspects of existing housing types such as ULH.

The chapter 2 and 3 explore the wider sociological, cultural economic and built environment trends in city centres of major big cities such as the rise of city centre living and young and professional singleton, limitations of the existing residential environment for the population and aspirations for the new housing environment in the central area. Armed with the broader city centre issues the research has concentrated on creating the specific form in the Seoul context. The next chapter outlines a methodological framework for field researches in Seoul, considering the major city centre issues, presenting essential research questions and identifying why the research methods were chosen and how they were carried out in the target sites.

CHAPTER 5

METHODOLOGY

5.1 Introduction

The research discussed in the literature review chapters examines the growth of single person households in city centres and the relationship between the sociological trend and built environmental phenomenon, paying particular attention to the housing environment issues for the singletons in the central areas. The social and built environmental issues were then explored in the Seoul context, investigating solo housing trends and identifying its limitations. This chapter presents the methodological framework for the research, addressing important research questions raised by the reviews of the literatures and presenting research methods.

The chapter begins with a summary and analysis of the literature review in order to raise the main research issues, objectives and essential questions. The chapter then shows why the mixed methods as a methodological strategy were chosen and how the relevant methods including questionnaire survey, in-depth interviews, and site visits were carried out in Seoul in order to find answers for the research questions. In addition, the analysis methods of the collected data from the mixed researches are explained.

5.2 The Research Questions

This section includes an explanation of how the major research questions were raised and investigated. The reviews of relevant literatures, particularly in the context of Seoul, reveal that few researchers had dealt with the issue of the rise of young professional single person households. While there had been many relevant researches about the rise of single person households, they mainly focused on elderly single person households and their characteristics. No relevant studies had been conducted on the sociological trend from housing environmental perspectives and considering the young singletons' residential aspirations. Thus, the important research questions for bridging the research gap were identified based on an analysis of the reviews of the related literatures.

5.2.1 Key Features of the Literature Review chapters

Drawing on the literatures, three main themes were covered: the rise of young professional singletons and their solo living trend in the heart of global cities, the issues of residential environments for the singletons, and these trends and issues in the context of Seoul (see Figure 5-1, p. 125). In the first literature review of the city centre living trend (Chapter 2), significant sociological features were explored: demographic shifting to city centre; the rise of solo living; emerging singleton economy; a new type of human relationship (weak relationship); and the rising importance of ICT. Having identified the key features, the city centre living trend literature can be summarized in the phrase 'the rise of young and professional single person

households in the city centre'. Chapter 3 explored the main points of built environment issues in the city centre: urban renaissance; the property boom; affordability crisis; demands for improving poor quality housing environments; and the rise of micro sized housing and its limiatations. Based on these important points, emerging new housing alternatives for the young professional singletons such as micro house were shown to be a crucial point of the built environmental issues in the city centre. Chapter 4 identified the following major issues about the social and built environmental features in the Seoul context: the rise of single person households in central areas; emerging housing alternatives for the singletons such as Urban Lifestyle Housing and share house; and the limitations of the emerging alternatives. The most important feature of this literature review was highlighting the need for the improved housing environments for the young professional single person households in Seoul, considering their residential aspirations, which is also the main key issue of the thesis.
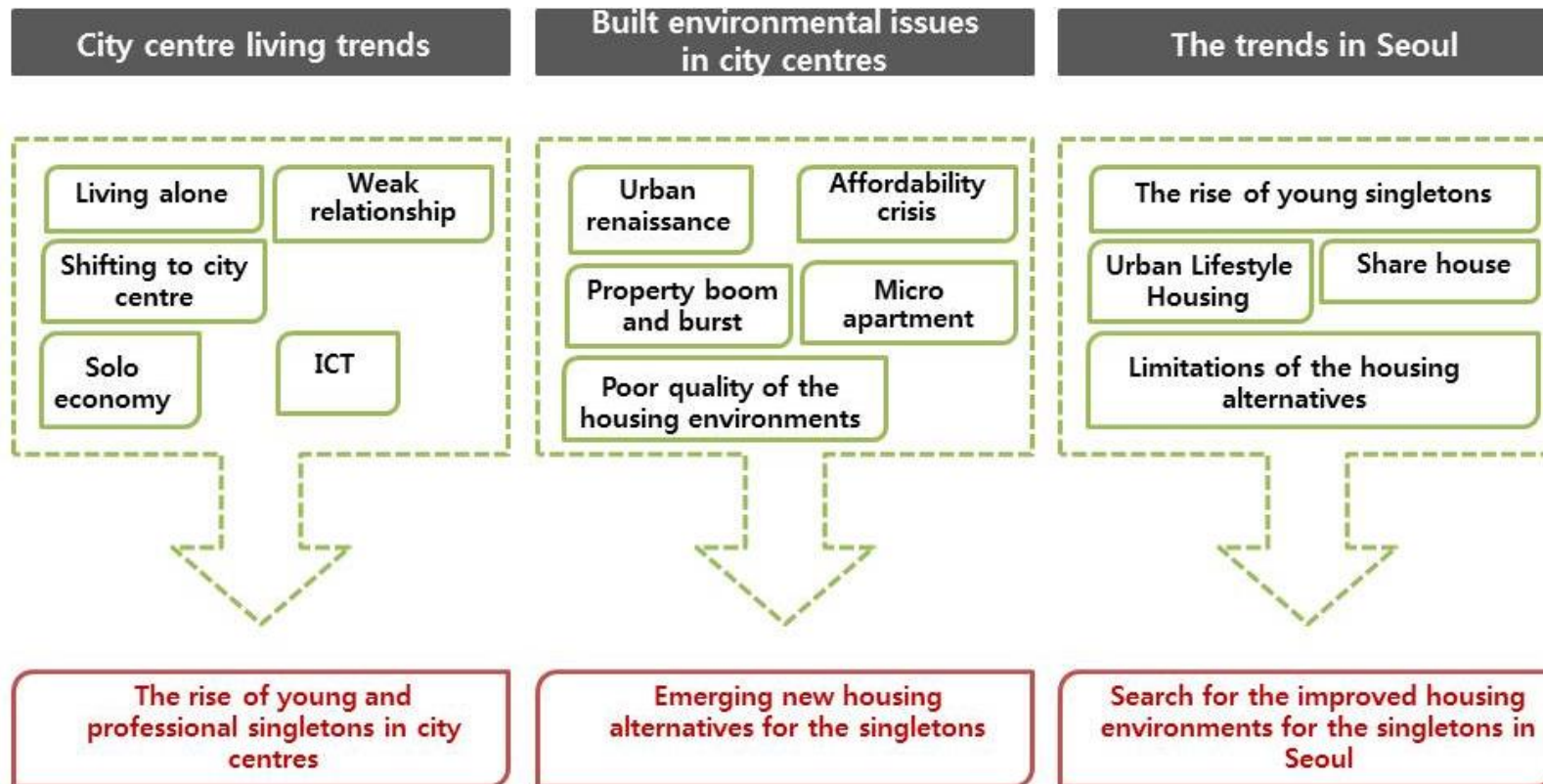
Figure 5-1 Key Features and Main Points of Literature Reviews

5.2.2 Analysis of Literature Reviews

Drawing on the key features found from all the relevant literatures, three major issues were identified that were mainly related to the young and professional singletons: human relationships, housing design, and economic aspects. It was important to focus on the intersection of the three literature reviews in order to figure out the major issues in the research. The keywords in the intersection are 'living alone', 'city centre', 'global recession', 'creative class', 'improving design qualities', 'rental housing', 'share house', 'micro house', 'weak relationship', 'SNS', and 'single economy' (Figure 5-2).
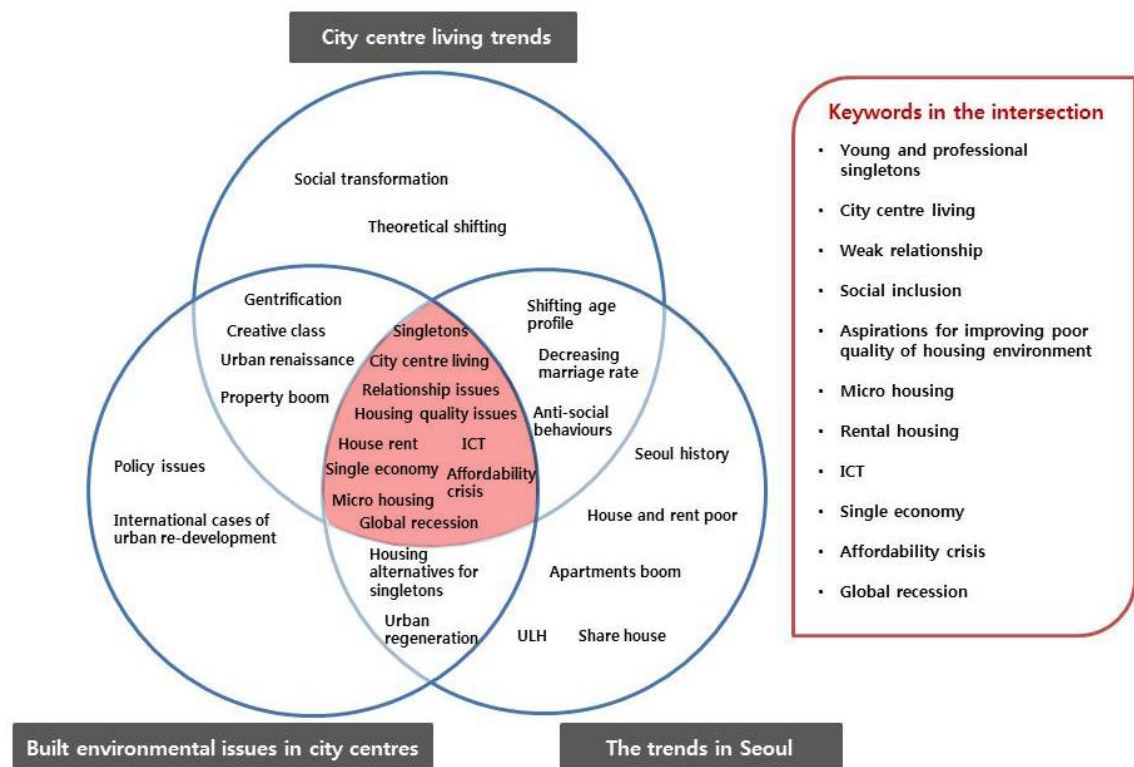
Figure 5-2 Diagram of the three Literature Reviews

Human Relationships

The first important issue that emerged from the analysis of the intersection was communication and human relationship among the young single households who lived in city centre, as revealed by the features such as 'Weak relationship', 'Social media', 'Social inclusion' and 'Share house'. The changes of values and technological development have influenced the lifestyle of the young singletons, especially on their methods of the relationship; they tended to concentrate on their own life, and the strength of relations to neighbours or local communities has been weakened, as noted by Florida:

"sure, people wanted community. But they didn't want friends and neighbors peering over the fence into their lives…….they prefer weak ties to strong."

(Florida, 2002, p.268)

According to Florida (2008), this weak relationship among the young and creative people in urban areas is important to them because they could easily meet new people and absorb new ideas from the people rapidly, and this phenomenon has been accelerated by the development of social media such as Facebook. On the contrary to this, some scholars (You et al., 2011a, Herttua et al., 2011b, Byun et al., 2008) have maintained that strong relationship among the single person households was important for them to overcome limitations that result from the changed socio-relationship method or socially isolated circumstances, such as loneliness. Share house is a good example of a housing type which was able to bring about the strong human

relationship among dwellers (Jang, 2014). This housing type is an emerging housing trend in South Korea, and it is regarded as an alternative of existent housing types for single person households (fnnews, 2013). Living together with people who have similar hobbies, ages, and occupation would create in-depth relationship (ibid). In addition to the human relationship issues in the context of inner residential environment, the relationship between the growing number of the young singletons and local communities was regarded as a significant issue in terms of social isolation of the singletons, conflicts between the groups, and making sustainable community (Seoul Metropolitan Government, 2013, Lee, 2013a). While the young singletons in Seoul were highly likely to take an interest in the local society and neighbourhoods, they did not have enough chances to interact with the community members (Byun et al., 2008). In this situation, the human relationship issues including not only between singletons' individualism and community spirit, but also between the newly increased solo population and local residents were regarded as important issues in the research.

Design quality of housing

Second, demands for new and improved housing and design qualities in single person housing were also significant issues based on the keywords: 'smart & micro house', 'share house', and 'rental house'. Accompanied by the rapid surge of young and professional single person households in the heart of big cities, the existing city centre housing sector, of which a large proportion was built during the property boom, has shown poor housing quality such as uniformly applied housing unit design, excessively expensive rental price, ignoring

sustainability and community facilities, and urban isolation (Byun et al., 2015, Lee and Yang, 2012, Yi and Lee, 2010, Haughton, 2010, Punter, 2010a, Simmons, 2009, Hall, 2013, CABE, 2007). In this context, new alternatives for housing have emerged such as share house or micro housing (Christie, 2013, Jang, 2014). While these housing types had something in common, namely that aspiration for the housing types was fundamentally caused by high housing expenses in city centres (Shepard, 2012, Jang, 2014), the method by which each housing handled the problem was different. Unlike share house, which was sharing dining and living space in the same house, the solution of the micro house was more practical in that it aimed to achieve the maximum efficiency in the minimum space (FAST COMPANY STAFF, 2012). In global cities such as Tokyo and London, micro house has recently been emerging as an alternative for singleton's housing. In case of Seoul, share house was just a fledgling phenomenon, and the demands for the small and high efficiency houses were increasing. In this situation, it is meaningful to investigate the current situation of emerging share housing in Seoul and understand real experiences of the residents in the housing type, as well as examine the young singletons' aspirations for the micro housing types in Seoul context.

Economic aspect

Finally, the economic aspects related to young and professional solo dwellers in city centre were regarded as important issues, based on the related keywords such as 'single economy' and 'unemployment crisis after global recession'. An economic burden to younger generation seemed to be worsening, despite the exertion of overcome the global recession all over the

world (Gilbert, 2015, Holmans et al., 2008). This research has considered current economic hardship of the young singletons' city centre living, such as the affordability crisis (Gilbert, 2015, Holmans et al., 2008, Verick and Islam, 2010). In addition, paradoxically, the young singletons' spending power has been increasing, and many companies are focusing on their purchasing power (Lee, 2013d, Paik, 2014, Klinenberg, 2012). It also seemed to be necessary to consider the wallet power of the young and professional singletons as a significant economic driver for revitalization of local economy in the Seoul context, alongside considering the socio-relationship issue such as making sustainable community and urban regeneration issues in Seoul.

  Drawing on the analysis of literature reviews, the research intends to approach the main issue of the thesis – young and professional single person households in Seoul and improvement of their housing environments – through three major perspectives: Human relationships, housing design, and economic aspect (see Figure 5-3 and Figure 5-4).

Figure 5-3 Three Important Approaches to the Research

Major issues	Relationship	Housing design quality	Economic issues
Key words	'weak relationship', 'ICT', 'Social inclusion'	'Micro house', 'Improving housing design quality', 'Rental house'	'Single economy', 'Affordability crisis', 'Global recession'
Content	'Privacy' vs 'Communication'	What's the improved housing design for the singletons?	Economic considerations for the singletons

Figure 5-4 Analysis of Literature Reviews

5.2.3 The Research Objectives and Questions

The research objectives and main questions, related to human relationships, housing design, and the economic aspect, are set out through the analysis of the literature reviews.

Based on the analysis, three research objectives are set out as follows:

- To understand the nature of human relationships amongst single person households in Seoul and particularly the balance between desires for privacy and communication in their housing situation

- To explain single person households' experience of their current housing types and how their lifestyles shape the potential for the design of new housing and neighbourhoods

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- To understand how wider economic circumstances for young professional single person households influence their living habits and the implications this raises for future development and approaches to city place-making

Thus, the essential research questions are:

Q1. How can stakeholders such as urban planners, designers, policy makers or architects, related to the housing issues for young singletons, make an appropriate balance between 'personal privacy' and 'communicating with neighbours' in the residential environment?   (Human relationships)

Q2. What is a well-designed housing environment applied to aspirations of the singletons?   (Housing design)

Q3. What kinds of economic considerations are important in order to improve the quality of housing environments for singletons in both personal and local contexts?   (Economic aspect)

Why are the main questions important for the research? Through the literature reviews, not only the importance of community space and human relationships with neighbourhoods but also the poor quality of housing environment neglecting the relationship aspects were already shown. On the other hand, young singletons tended to seek individualization and put emphasis on personal privacy. In the circumstances, it is necessary to investigate preferences of young

professional singletons in Seoul regarding the level of the relationship with neighbourhoods in the context of residential building and local areas. This is the aim of the first main question, and several sub-questions are also raised for the purpose in detail: Is the communication with neighbourhoods necessary for single person households? Which one is more important between 'privacy' and 'community' to the single person households? What kind of community space do the singletons want to have in the residential building? And how could the human relationship between the young professional singletons and local neighbourhoods is improved?

Many scholars have noted the poor quality of housing environments for the newly surged single person households in city centres, and even the housing alternatives such as ULH and micro apartments have shown the limitations in terms of housing design qualities such as lack of community space and space efficiency (particularly in ULH cases). Thus, the second main question is to examine the current situation of housing design, and the singletons' aspirations for improvement of the design issues. Sub-questions of the second main questions are as follows: Which aspects of housing design are weak points that need to be addressed? What kinds of aspirations related to design do the young singletons have for the housing environments? What kind of housing furniture is suitable for satisfying residential aspirations of young singletons? And can the housing with applied ICT be a good alternative for the young singletons?

The last main question is intended to figure out economic considerations for the housing environment issues, both in personal aspects such as dealing with the affordability crisis and in

the local context such as finding methods of revitalizing the local economy and promoting integrated communities between the singletons and local residents. Sub-questions of the last major question are: How does economic burden shape the young professional singletons approach to houses/living areas choices? And what kinds of amenities are needed for the young singletons, reflecting their lifestyle, improving the human relationship with local residents and invigorating the local economy? The main and sub questions are tabulated as seen in the Table 5-1.

Table 5-1 The Research Main and Sub Questions

Major Issues	Human Relationships	Housing Design	Economic Issues
Main questions	How can stakeholders such as urban planners, designers, policy makers or architects, related to the housing issues for young singletons, make an appropriate balance between 'personal privacy' and 'communicate with neighbours' in the residential environment?	What is a well-designed housing environment applied to aspirations of the singletons?	What kinds of economic considerations are important in order to improve the quality of housing environments for the singletons in both personal and regional context?
Sub questions	1. Is the communication with neighbours necessary?	1. Which aspects of housing design are weak points which have to be developed?	1. What do the young professional singletons think of the economic burden of the housing cost?
	2. Which one is more important between 'privacy' and 'communication'?	2. What kinds of aspirations related to design aspects do the young singletons have for the housing environments?	2. What kinds of amenities are needed for the young singletons, reflecting their lifestyle, improving a human relationship with local residents and invigorating local economy?
	3. What kind of community space do they want to have in the residential buiding?	3. What kind of furniture do they want to have?	
	4. How to improve a human relationship between the young professional singletons and local neighbourhoods?	4. Can the housing applied ICT be a good alternative for the young singletons?	

5.3   Research Design

This section shows the methodology chosen for this research in order to provide appropriate data to answer the main questions as well as achieve the objectives; it presents how apt research methods were chosen for the purpose, and demonstrates how they work.

5.3.1   Mixed Method Study as a Research Strategy

There are many methodological strategies such as quantitative approaches (experimental design and survey research), qualitative approaches (narratives, ethnographies, phenomenologies, grounded theory and case studies), and mixed methods approaches (triangulation, sequential and transformative procedure) (Creswell, 2013). From these, mixed methods study was chosen as the best means of answering the essential research questions about the current residential situation of young professional singletons in Seoul, their satisfactions of the issue, housing aspirations, and the potential housing alternatives for them.

In this research, the philosophical assumption of the researcher is a pragmatic paradigm, which regards problems as the most important issue, rather than methods; with the pragmatic knowledge claims, researchers use many approaches to understand the problems (Creswell, 2013). According to Cherryholmes (1992), Murphy and Rorty (1990), and Creswell (2003), there are seven fundamental tenets of the pragmatism as follows (Creswell, 2003, p.12):

1. Pragmatism is not committed to any one system of philosophy and reality.

2. Individual researchers have a freedom of choice.

3. Pragmatists do not see the world as an absolute unity.

4. Truth is what works at the time; it is not based in a strict dualism between the mind and a reality completely independent of the mind.

5. Pragmatist researchers look to the 'what" and "how" to research based on its intended consequences-where they want to go with it.

6. Pragmatists agree that research always occurs in social, historical, political, and other contexts.

7. Pragmatists believe (Cherryholmes, 1992) that we need to stop asking questions about reality and the laws of nature.

Drawing on the basis of pragmatic paradigm, the research put importance on paying attention to the problems of housing environmental issues for the singletons in Seoul, and then used mixed methods to attain data to solve the problems.

As a methodological strategy for the inquiry, triangulation mixed methods design was chosen for the research, which means obtaining data by using two different methods such as qualitative and quantitative methods (Jick, 1979). This type of mixed methods design has gone by diverse names such as simultaneous procedure (Morse, 1991), concurrent procedure (Creswell, Plano Clark, et al., 2003), and convergence model (Creswell, 1999). Regardless of the name, the triangulation research design has been the best-known methodological approach for mixing methods, and this approach involves conducting data collection in both quantitative and qualitative ways, analysing them during the same period of time in the research process, and then converging the outcomes from the two analyses into a synthesis (Creswell and Clark, 2007). The basic process of triangulation mixed methods design can be seen in Figure 5-5 below.
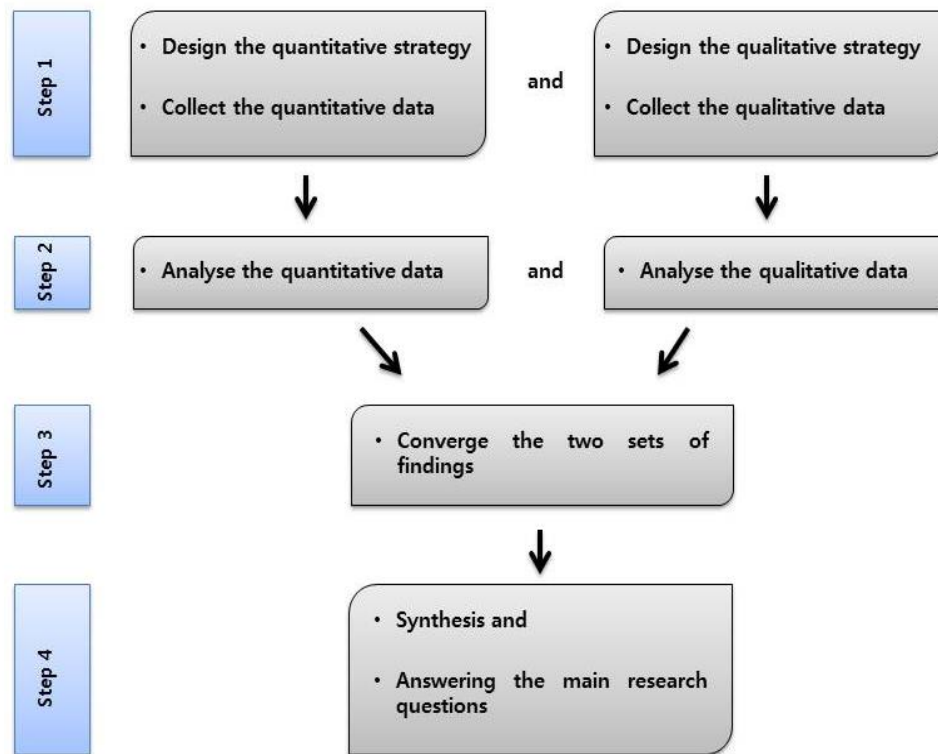
Figure 5-5 The Basic Procedure of a Triangulation Mixed Methods Design

Some people might say that the pluralistic approach using the both quantitative and qualitative methods is untenable because each method has a different and incompatible paradigm (Kuhn, 1970). The triangulation mixed methods strategy, however, is an appropriate methodological strategy on the research main issue: young and professional singletons in Seoul and improved housing environments for them. The main topic is a complex social trend, including architectural, economic, cultural, demographic, geographic and psychological aspects. Thus, approaching the main issue by only one research method has limitations (Greene et al., 1989), and one method can complement another method which, if on its own, might miss

detailed information and provide biased outcomes (Creswell, 2013, Greene et al., 1989). For example, the empirical research approach can complement the dispassionate numerical information from the quantitative research with detailed information or reduce the possibility of distorted results (ibid). By using this design, the researcher can effectively collect both types of data simultaneously during the research and then merge the data for the synthesis (Creswell and Clark, 2007). Thus, the research chooses the mixed methods strategy in order to understand comprehensively the situation of young single person households in Seoul, and to discover their individual thoughts for housing environments.

5.3.2   The Research Methods and the Methodological Framework

Research methods are categorized into two types: an outcome-driven quantitative method and a process-driven qualitative one (Yin, 2003). There are many diverse research methods: documentary analysis, sampling, questionnaire, observation, interview, focus group, site visit, and narrative. (Ibid). In this research, questionnaire survey is chosen as the quantitative method, semi-structured in-depth interview, and site visits as the qualitative method, and documentary analysis to underpin both methods.

Armed with the philosophical basis, strategies and methods for the research, a methodological framework was set up, as seen in Figure 5-6 (p.142), to investigate the situation of young and professional single person households in Seoul and suggest effective housing alternatives for the singletons. The research used both quantitative and qualitative methods in order to find

answers to the three main questions in the perspectives of human relationships, design quality, and economic aspect. Of the core questions, the first main question is about social relationship issues of the young singletons and the balance between personal privacy and communication in the context of their housing environments. In investigating these issues, it is significant to understand their residential experiences by directly hearing their thoughts and opinions; in particular, the empirical approach is crucial for examining the current situation of the share house which is a recently emerging housing type in Seoul. In the case of the second question on housing design qualities, the research aims to figure out the singletons' satisfaction of living spaces, information about residential environments, space usage patterns, and furniture in the housing. The research not only conducted the quantitative survey but also carried out site visits of the share houses and the one-room housing as well as in-depth interviews with the residents in order to understand their housing experiences, investigate the design qualities of housing environments, and figure out their aspirations for improving housing design qualities. Finally, in order to answer the question related to the economic aspect, a quantitative survey was conducted to figure out the singletons' consumption pattern, housing price level, and the situation of local amenities for them. In-depth interviews were also carried out for answering the questions related to economic aspects in order to hear specific and personal opinions on the affordability issues and local community-based economic revitalization. In addition, documentary analysis had been conducted for all the three research questions and this method particularly helped to gather up-to-date information about the main research issues by reading newspapers. Thus, using both quantitative and qualitative methods in the research can improve overall research qualities and compensate limitations of each research method. The relationship between the main research issues, questions and research methods is shown in Table 5-2.

Table 5-2 The Research Questions and Methods for the Research

Research Methods / Research questions	Questionnaire survey	In-depth interview	Site visits	Documentary Analysis
Relationship between personal privacy and communication with neighbours (Human relationships)	◎	◎		◎
Improved design quality of housing environments (Housing design)	◎	◎	◎	◎
Economic considerations (Economic aspects)	◎	◎		◎
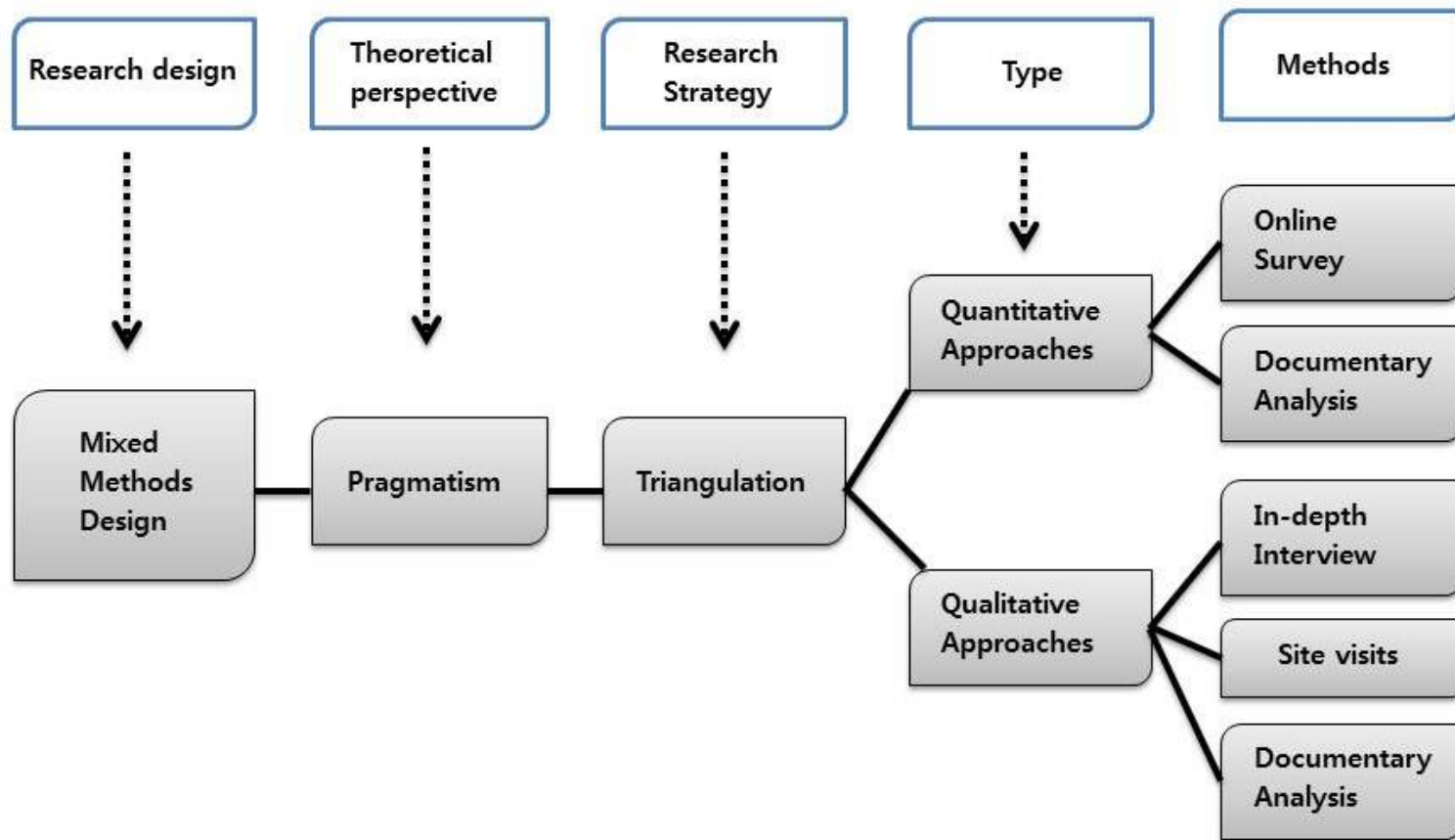
Figure 5-6 The Methodological Framework

5.4　Mixed Method Studies

5.4.1　The Scope of the Methods

The research aims to investigate the current situation of young and professional single person households who are living in Seoul in the perspectives of social, housing-environmental and economic aspects; to figure out the limitations of the environments; and to suggest improved housing alternatives considering residential aspirations of the singletons in the Seoul context. The research used the triangulation mixed methods including a questionnaire survey, semi-structured in-depth interviews, and site visits for answering the essential research questions. There were common scopes of the research for all of the methods: region, housing types, and targeted group.

The Regional Scope

The targeted site for the mixed method studies was the whole of the Seoul metropolitan area. As seen in Chapter 4, the solo living trend has been significantly dominant in Seoul, where whose 850,000 single person households represent 24.4% of total households as of 2010 (The Statistics Korea, 2010); this tendency has been as considerably noticeable as the trend in other industrialised countries such as the US, and Japan (Economy Insight, 2015). Seoul has mainly driven the trend among the cities in South Korea, bringing forward a large number of diverse

socio-cultural, built environmental, and economic issues (Byun, 2010, Lee, 2014). Thus, it is necessary to focus on the context of Seoul and single person households in the area in order to examine the dynamic social trend in one of the most industrialised countries: South Korea.

Housing Types for the Singletons

As seen in Figure 5-7, the types of housing in South Korea are classified into two categories: 'housing' and 'quasi-housing' which refers buildings other than housing and the attached land, being available to use residential facility (National Law Information Center). The 'housing' then is divided again into 'detached housing' and 'multi-unit housing'. Detailed housing types are 'multi-household house', 'apartments', 'terraced house', 'multi-family house', 'accommodation', 'officetel', and 'gosiwon' (National Law Information Center). In addition to these official housing types by the Building Law in South Korea, one-room, share house, and urban lifestyle housing are widely recognised as housing types. The one-room type can cover all types of the housing except accommodation type (Byun et al., 2008); share house can include multi-household house, apartments and accommodation (Jang, 2014); and ULH includes apartments, terraced house, and multi-family house (Lee, 2013a). Single person households are able to live in all the types of housing, and the housing types specifically for singletons are one-room, share house, small apartment, Urban Lifestyle Housing, accommodation, officetel, and gosiwon. The research intends to conduct the investigation of the housing for single person households in Seoul across all the housing types (see Table 5-3).

Table 5-3 Housing Types in South Korea

Type of housing		Detailed type	The criteria of Building law
Housing	Detached housing	Multi-household house	A housing that the total floorage is under 600m² ,and it has less than 3 stories and 19 households
	Multi-unit housing	Apartments	A housing which has more than 5 stories for residency
		Terraced house	A housing that the total floorage of a building is over 660m² and it has less than 4 stories
		Multi-family house	A housing that the total floorage of a building is below 660m² and it has less than 4 stories
		Accommodation	A housing type for students and workers, having communal kitchen, and it is not private housing type
Quasi housing		Officetel	A building, mainly for business space which can provide room and dining, and its area for exclusive use is limited below 85m²
		Gosiwon	A building, located in an important traffic hub, and for one or two people living

Source: NLIC

The targeted group: Demographic characteristics

As seen in Chapter 4, the rise of young professional singletons who are between their mid-20s and late 30s has been noticeable in Seoul (KEIS, 2009) and the demographic group has been a major contributor to the solo living trend (Yi and Lee, 2010). The young singleton group recently began to attract the attention of scholars. According to a report about single person households in South Korea, conducted by LHI in 2012, this young generation is called 'single nomads'; the group members are mainly office workers in their 30's who are in the middle-

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income bracket; their residential mobility is frequent due to hobbies and jobs; they are called 'short-term singletons' because they have a marriage plan if possible, although they relish the single life; they tend to live in 'officetel' or 'ULH' located in station areas, or live in 'one room' in cheaper housing regions than the station influence areas. Also, because they put great emphasis on convenience, they prefer to live in a well-connected area with many amenities (Table 5-4) (LHI, 2012). Drawing on the increasing attention to the young singleton group, the research intends to focus on young single person households who are in their 20s and 30s, live within the Seoul metropolitan area, and have an occupation.

Table 5-4 Characteristics of Single Nomad in South Korea

	Demographic aspect	Housing	Life style	Housing needs
Single nomad	- 30's - Service/office worker - Service/office worker - Short-term single life	- Station/residential area - Officetel, one room, small apartment	- Leisure and healthy life - Individuality and diversity - Individualism - Residential mobility⬆ - Spending without considering the future life life	- Station area/good transportation - Temporary residence - Amenities

Source (LHI, 2012)

Based on the scopes of the mixed methods study, the following section explains the process of both quantitative and qualitative methods for the research.

5.4.2   The Research Process

Documentary Analysis

In order to examine the up-to-date state and wide range of perspectives of the project, official documents, newspapers and many researches were analysed for the period between June 2012 and February 2016 continuously. The documentary analysis was conducted through diverse sources including official papers from the central and Seoul Metropolitan governments, relevant websites and social media, newspapers and statistical data, and relevant research studies. The reports published by Seoul Institute were helpful because there was ample information about the single person household issues in the Seoul context, including relevant socio-demographic, housing and economic factors. Also, the materials by Seoul Institute were very reliable because they were policy reports for the Seoul Metropolitan Government, based on accurate statistical data derived from the National Statistics Office in South Korea and in-depth studies by experts and researchers. Thus, the materials gave an insight into the current situation of young and professional singletons in Seoul and their housing environmental issues. They were also helpful for designing the questionnaire and a framework of the semi-structured in-depth interviews. Efforts were made to select and analyse as many relevant materials and websites as possible (mentioned above) in order to avoid 'biased selectivity' (Yin, 2003, p.86).

Online Survey and Questionnaire

    The research conducted a quantitative survey for the objective study of the single person households in Seoul. For effective research, the survey was conducted by the doctoral researcher and 'Research Plus', a research company in Korea. The questionnaire was fully drawn up by the researcher, and the company's role was restricted to conducting an online survey of 160 targeted participants by using the questionnaire. One of the important reasons of collaboration with the research company was their high-quality sampling ability. The number of their online members who were potential participants in the survey is 154,415 (Research Plus, 2013). The company had been recruiting for the pool through more than 100 sources of alliances such as online (Facebook, E-bay, Naver, Daum, Overture, Kyobo, KCP, Maxxcard, and Hezoun), mobile (Starpl, Goldenax, and Hezoun) and offline channels (display screen advertisement at convenience stores and free leaflet advertisement) (see Figure 5-7). Therefore the samples elected by the company could represent the population well. The second reason was for their professionalism. They had successfully conducted a diverse range of surveys and researches with their clients such as Seoul Metropolitan Government, public institutions, the press, and major companies such as Samsung and Hyundai. Through this collaboration, the research efficiently collected data based on reliable sampling, and had a high-quality outcome.

Figure 5-7 Sources of Sampling for the Online Survey by Research Plus

The company used the purposive quota sampling method. They randomly chose over 5,000 participants who fit the requirements – single person households, who live in Seoul, are aged in their 20s and 30s, and have a job - in their online members and requested to them to take part in the web-based survey system. The company finally obtained 160 of meaningful survey data, excluding inappropriate survey data with incomplete information or logic errors. The online survey was conducted during August 2014.

Figure 5-8 Characteristics of the online survey conducted by Research Plus

A design of the questionnaire for the online survey, based on the documentary analysis, main research issues and essential questions, was prepared in July 2014. It consisted of four parts: characteristics of the housing where the singletons currently live, satisfaction of the residential environments, life pattern, dwelling motivation and communication issues, and residential aspirations of the singletons. As seen in Figure 5-9 and Figure 5-10, each part was designed to provide appropriate data to answer the main and sub-questions. The first part probed the housing design issues in order to understand the targeted group's residential conditions and reasons to choose the housing. The second part was designed to discern limitations in housing design aspects and economic considerations. The third part was on the relationship issues and the

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residential design aspects in order to gather data for better architectural space planning as well as to attain information about the socio-relationship state of the singletons. The final part was also designed to get both the human relationship and design issues for understanding their aspirations for improved housing environments. Appendix 1 shows the content of the questionnaire.

Part	A		B	C		D
The realm of an investigation	The characteristics of the housing where the singletons currently live		The satisfaction of the residential environments	Life pattern and dwelling awareness		Residential aspirations of the singletons
	The specific situations of the housing	The experiences of the residence		Life pattern	Dwelling awareness	
Related Sub-questions	Housing design ①②③④	Housing design ④	Housing design ② Economic aspect ①②	Housing design ①	Relationship ①②	Housing design ②④ Relationship ③
Application of the result of the investigation	• Understand current residential conditions of the singletons in Seoul	• Storage space planning • Understand the reasons why the residents chose the house	• Architectural space planning • Understand the factors of the singleton housing development	• Architectural space planning based on the life pattern of the residents	• Architectural space planning • Share house issues • Social inclusion issues	• Architectural space planning • Understand the factors of the singleton housing development

Figure 5-9 Questionnaire Design Based on the Main Research Questions

Major issues	Relationship	Housing design	Economic aspect
Sub-questions	① Is the communication with neighbourhoods necessary for single person households? ② Which one is more important between 'privacy' and 'community' to the single person households? ③ What kind of community space do the singletons want to have in the residential building? ④ How could the relationship between the young professional singletons and local neighbourhoods be improved?	① Which aspects of housing design are weak points that need to be addressed? ② What kinds of aspirations related to design aspects do the young singletons have for the housing environments? ③ What kind of furniture is suitable for the housing for satisfying residential aspirations of young singletons? ④ Can the housing with applied ICT be a good alternative for the young singletons?	① What do the young professional singletons think of the economic burden of the housing cost? ② What kinds of amenities are needed for the young singletons, reflecting their lifestyle, improving a relationship with local residents and invigorating the local economy?

Figure 5-10 Research Sub Questions

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Interviews with Key Stakeholders

As a qualitative investigation, in-depth interviews were carried out in order to find answers of core issues that were revealed from the analysis of the quantitative survey and the main questions. A framework of the semi-structured in-depth interviews was designed, based on the analysis of relevant documents and literature reviews. Interviewees were categorized into the three main groups: the singletons who live alone in a house, the singletons who live in a share house or have experiences of living in the housing type, and relevant experts such as architects, urban designers, furniture designers, researchers, government officers, representatives and managers of housing companies, and investors and developers in the housing sector. The interviewees of singleton residents were chosen, through the snowball sampling method, and online communities, based on the demographic scope of the singletons. Interviewees among professional experts were selected with a view to reflecting diverse perspectives to the singleton issues, which included the private and public sectors, and architectural design and academic aspects. The number of the interviewees was 55 (consisting of 44 singletons and 11 experts) and the interviews were carried out face-to-face between September and November 2014. In Appendix 3, a list of all the interviewees including singletons and experts and other detail such as the time schedule of the field trip are provided.

In terms of the questions of interviews, different questions were designed for different kinds of interviewee groups: the solo dwellers, the singletons living in share house, one-room focused housing companies, share house companies, and relevant experts. The interview questions were

meticulously examined many times through pilot interviews, supervision and discussion, in order to avoid 'poorly constructed questions' (Yin, 2003, p.86). The pilot interviews were carried out in December 2013, with 10 young single person households who lived in Seoul. Based on the experiences of pilot interviews, supervisions, and ensuing modifications, the preparation of the interview question design was completed. Appendix 4 shows the list of semi-structured interview questions for all the types of interviewee groups.

In terms of the recruitment of the interviewees, the researcher used the snowballing method, the street intercept method, and the online contacting method through web-based communities. For obtaining the sample of the targeted group, the author first used the chain sampling method in a human network, asked them whether they knew anyone else who fitted the scope of research for participation on the interview, and requested for the contacts of the additional potential interviewees. This way of recruiting was also used for attaining samples of professional experts, and sometimes the researcher's experiences of working for Seoul Institute and architecture firms in Seoul was very helpful for contacting the interviewees of professional expertise. Online-based approaches to contact the interviewees were also taken through social media and online communities. For example, as a member of the online communities such as 'Community for Single person households in Seoul', the researcher established contact with the community members who fitted in the scope of research, and sent an online message to ask for participation. A great deal of time and efforts was put into the recruitment, which took over four months from August to November 2014.

Based on the preparations, 55 interviews were conducted during the fieldwork in Seoul from September to November in 2014. The interviews took place at different places depending on the location of the interviewee's workplace. They were usually conducted after 7 pm because the majority of interviewees were office workers and lasted approximately from 40 minutes to one hours, the shortest being 25 minutes and the longest 4 hours. All the interviews were recorded with the consent of the interviewees, and data from the interviews were kept as digital audio files supported by notes.

Site visits

Some interviews were conducted accompanied by site visits. The main purposes of site visits were to investigate the current residential environments for the targeted single person households and to find out how effective share houses could be for the singletons' life in comparison with one-room housing. The research initially intended to make two site visits, in WOOZOO and MAI BAUM (see Figure 5-11 and Figure 5-12). WOOZOO is a brand promoting share house as a new concept, trying to solve problems of the current housing type for one person households and setting the new housing trend (WOOZOO, 2011). MAI BAUM is a housing brand for one or two person households conducted by architecture firm Soomok Design Group; it is a kind of Urban Lifestyle Housing and a quite practical multi-household housing type mainly composed of one-room.
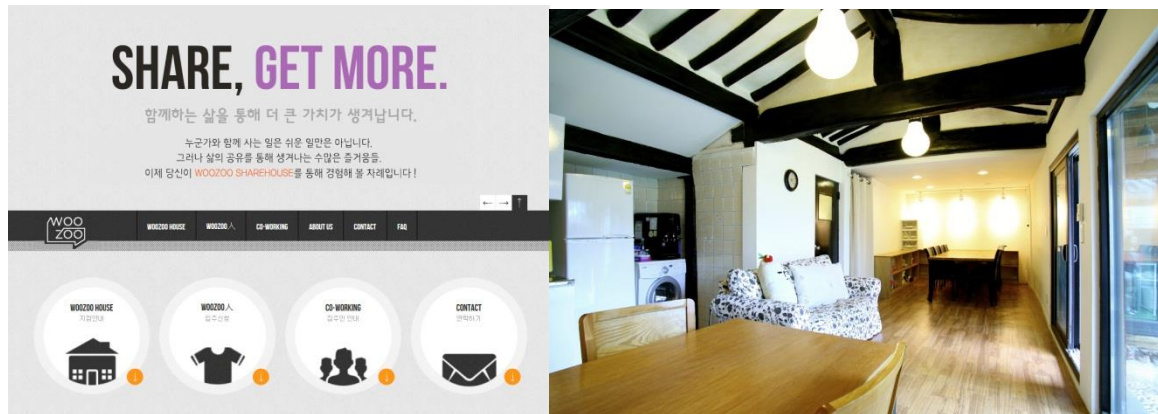
Figure 5-11 WOOZOO Share House Website Main Page and WOOZOO Share House 3
(Living Room Scene) (Source: www.woozoo.kr)

Figure 5-12 MAI BAUM Website Main Page and MAI BAUM BANGBAE

(Source: www.soomok.com)

However, the requests for visiting both of these sites were rejected by the companies, because of protecting the dwellers in the housings and their privacy. In particular, as WOOZOO had attracted significant attention from the mass media and press, requests for housing visits and interviews had increased too much, resulting in infringing the residents' privacy. Instead of WOOZOO and MAI BAUM housings, site visits were carried out at RICHEVER and D-WELL

housing with introductions from the manager of WOOZOO and an interviewee respectively (see Figure 5-13 and Figure 5-14). First, the housing project 'D-well', conducted by the social enterprise Root Impact and located in seoungdong-gu, Seoul, aims to create a synergic effect by living together in a community-focused house that is mainly focused on communication among dwellers. The site visit at D-well housing was conducted in October 2014, and the in-depth interview with a manager of the housing and residents also were carried out on the same day. Second, RICHEVER is a brand of a residential building for single person households, consisting of 110 one-room units and located in yeungdeungpo-gu, Seoul. The site visit at RICHEVER was also conducted in the same month, accompanied by interviews with the chairman of the housing and five residents. Through the site visits, photos and documentary materials were collected, and all the data were digitised.
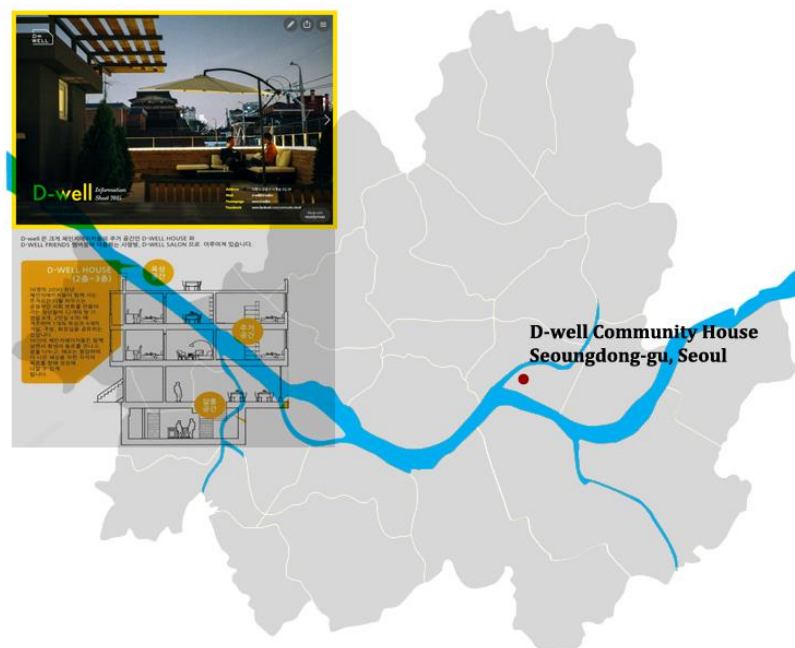
Figure 5-13 D-well Website Main Page, Building Section and Location of the house

(Source: www.d-well.in)

Figure 5-14 RICHEVER House, a Residential Unit and Location of the Housing

With respect to the storage of the collected data during the time spent in Seoul for the field research, all the data from both qualitative and quantitative researches were encrypted on a secure laptop, and paper data was kept in a locked and secure location. After returning to the UK, paper data have been stored in a locked filing cabinet, and electronic data on a password-protected personal computer, kept in a secure location.

5.5 Analysis of the Collected Data

All the data from the fieldwork was reviewed, summarised and analysed from November 2014 to June 2015. The researcher focused on the answers of questionnaire and interviews, mainly related to the main research issues, and any unexpected facts or opinions were also

importantly picked out.

5.5.1   The Quantitative Analysis Method

In terms of the quantitative data analysis, the data were structured by each survey question with suitable levels of measurements as follows: (The Pell Institute)

- *Nominal - data has no logical order; data is basic classification data*
- *Ordinal – data has a logical order, but the differences between values are not constant*
- *Interval – data is continuous and has a logical order, data has standardized differences between values, but no natural zero*
- *Ratio - data is continuous, ordered, has standardized differences between values, and a natural zero*

The nominal measurement was used for questions requiring yes or no; the ordinal measurement was used for the questions about selecting one of housing types, residence types, and facilities; the interval one was used for questions related to satisfaction; and ratio measurement was used for all the other questions in the questionnaire.

After identifying the levels of measurement, the data were tabulated for the different variables such as gender, age, area, housing type, residence type, education, occupation, income, and car ownership, in order to comprehensively understand the data and identify underlying patterns. In addition, correlation analysis was conducted in order to describe the relationship between two variables (Norusis, 2008). The methods of statistical data analysis were carried

out through SPSS (Statistical Package for Social Science), a computer software for a statistical calculation and analysis (Green and Salkind, 2010).

5.5.2   The Qualitative Analysis Method

In order to analysis the qualitative data, the research used 'case-oriented analysis' within the Seoul context. The empirical data were first categorized into two groups, namely 'Young single person households' and 'Relevant Experts'; then the young resident group was subdivided into two categories of 'Solo dwellers' and 'Share house dwellers' (see Figure 5-11). The solo dwellers group consists of young singletons who live alone in the house, and the share house dwellers group refers to the singletons who live in share house or have experiences of living in the housing type. In general the number of singletons who live in share house was much fewer than those who live alone in Seoul context (Byun et al., 2015), thus the scope of share house living group includes both the share house dwellers and those who have the experiences. With the categorized groups, the research conducted 'within-case analysis' and 'cross-case analysis' (Huberman and Miles, 1994).
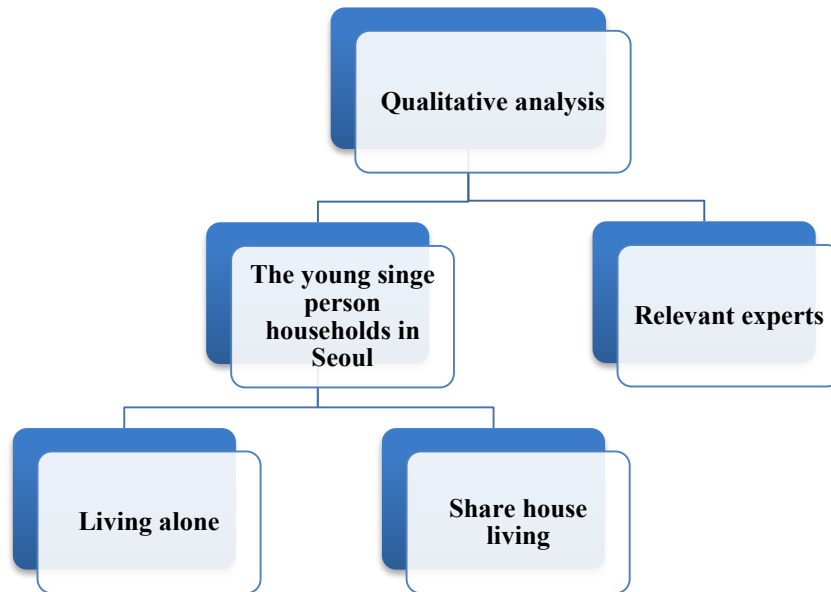
Figure 5-15 Qualitative Research Data Groups

For effective analysis, NVivo, an analytical computer programme, was used. With the programme, the research conducted a coding process for analysing the empirical data. The process included 'open coding' and 'axial coding' (Strauss, 1987:ch.3). Firstly, in the stage of 'open coding', as many nodes were created as possible to subdivide the interview data. Next, related nodes were linked to each other and converged on core key nodes through 'axial coding'. Through the process of coding, main keywords including unexpected points have emerged and the hierarchy of the qualitative data was created.

After the analysis of statistical and empirical data, synthesis was carried out in order to create a comprehensive understanding as well as responding to the main research questions.

5.6 Conclusion

This chapter has shown the main research issues and questions, explained the methodological framework and relevant methods, and then outlined analysis methods for the collected data. It has clarified that the research main points and questions were raised from the analysis of the relevant literature; why and how the methodological strategy and methods applied to the field research were appropriate for the main research issues; and how the collected data were analysed. The next chapters examine the results of both the quantitative and qualitative studies, and then converge the two sets of outcomes in order to answer the essential research questions.

CHAPTER 6

QUANTITATIVE DATA ANALYSIS

6.1　Introduction

The rise of single person households and their housing issues has been a significant social trend in Seoul since the global economic crisis in 2008. As part of the mixed methods studies, an online questionnaire survey was conducted, requesting 5,000 people to answer the questionnaire, and finally 160 samplings were retained from the appropriated target group - single person households who live in Seoul, aged in their 20s and 30s, and in employment. This outcome- driven method aimed to examine the numeric, statistical, and objective information about young professional single person households in Seoul and their housing environment issues, focusing on the three major issues in this thesis: Relationship between privacy and communication with neighbours, improved design quality of housing environment and economic consideration. In this context, the questionnaire survey was designed to obtain facts regarding the following four main points:

- The characteristics of the demographic and residential situation of the young singletons in Seoul

- The characteristics of satisfactions of solo living and the housing environments

- The characteristics of the singletons' life pattern, dwelling motivations and communication issues

- The characteristics of residential aspirations of the singletons

The collected statistical data were analysed by using SPSS with tabulation and correlation methods in order to figure out the four main points.

In this chapter, characteristics of obtained samples are firstly outlined with geographic and demographic variables. The chapter then figures out the key features in the four perspectives: the current residential situation, the satisfactions of the environment, their lifestyle, dwelling motivations and communication issues, and the residential aspirations of the singletons. The findings are examined in detail with statistical graphs, tables and charts.

6.2   The Characteristics of the Respondent Samples

Through the purposive quota sampling method, 160 samples of the targeted young singletons were attained. In the perspective of geography, the living areas of the respondents were well distributed over the Seoul metropolitan area, but, as seen in Figure 6-1, the rates of business central areas in Seoul such as GBD (9.4%), including Gangnam and Seocho, YBD (20.1%), including Youngdeungpo, Dongjak, and Mapo, and Gwanak areas (8.8%) were particularly

higher than other regions in Seoul. Although all the regions in Seoul metropolitan area are basically urbanized (Kim and Han, 2012), the distribution of the samples in the main urban centres was helpful for understanding the singleton trends in the city centre.

Figure 6-1 Seoul Map and Number and Proportion of the Respondents by Areas

The collected data were then tabulated for several important variables as seen in Table 6-1, including living area, gender, age, housing type, residence type, academic ability, occupation, income, and car ownership. Based on the variables, the data were analysed and arranged with visual images such as graphs, charts, and tables. But some variables such as education and occupation were excluded in the analysis, because the distribution of the variables was too biased; for example, about 80% of the respondents graduated from university and approximately 75% of them were office workers (see Table 6-1). The definitions and images of housing types in Korean context are added as seen in the Table 6-2, in order to clarify the relationships between the housing types and other variables. Also, some comparative units of measurement such as Jeonse and Pyeong are addressed in the beginning of this thesis (see in Glossary). The following sections examine the findings from the collected data in terms of the four main points as mentioned in the introduction section.

Table 6-1 The Characteristics of the Survey Respondents

The characteristics of respondent samples		Number	Ratio (%)
Total		160	100
Sex	Male	82	51.3
	Female	78	48.8
Age	20s	56	35
	30s	104	65
Housing type	Detached house	8	5
	Multi-households house	14	8.8
	Terraced/Multi-family house	45	28.1
	Officetel	33	20.6
	Urban Lifestyle Housing	32	20
	Gosiwon	2	1.3
	Apartment	26	16.3
Residence type	Owner-occupied	27	16.9
	Jeonse	61	38.1
	Monthly rent with deposit	60	37.5
	Monthly rent without deposit	7	4.4
	Free	4	2.5
	Other	1	0.6
Academic ability	Middle school	1	0.6
	High school	5	3.1
	College	12	7.5
	University (undergraduate)	126	78.8
	University (postgraduate)	16	10
Occupation	Office job (white colour)	119	74.4
	Professional manager	25	15.6
	Self-employed	3	1.9
	Manufacture job (blue clour)	4	2.5
	Sales and service	5	3.1
	Other	4	2.5
Car ownership	Yes	88	55
	No	72	45
Income (₩10,000) The exchange rate on Mar 13 2017	100~199 (≒ £714 ~ £1,422 a month)	19	11.9
	200~299 (≒ £1,300 ~ £2,136 a month)	56	35
	300~399(≒ £2,144 ~ £2,850 a month)	34	21.3
	400~499(≒ £2,857 ~ £3,564 a month)	26	16.3
	500~599(≒ £3,571 ~ £4,278 a month)	7	4.4
	600~699(≒ £4,285 ~ £4,992 a month)	7	4.4
	700~799(≒ £5,000 ~ £5,706 a month)	2	1.3

Table 6-2 The Housing Types in the Context of South Korea

Type of housing	Type of housing							
	Housing						Quasi housing	
	Detached housing		Multi-unit housing					
Detailed type	General detached house	Multi-household housing	Apartments	Terraced house	Multi-family housing	Accommodation	Officetel	Gosiwon
Image								
The criteria of Building law	A house that a family can dwell independently, and this housing type has not limitation of floorage.	A housing that the total floorage is under 600m^2, and it has less than 3stories and 19 households	A housing which has more than 5 stories for residency	A housing that the total floorage of a building is over 660m^2, and it has less than 4 stories	A housing that the total floorage of a building is below 660m^2, and it has less than 4 stories	A multi-unit housing type for students and workers, having communal kitchen. Each unit is not an independent living facility	A building, mainly for business space which can provide studio flat, dining and toilet. Its area for exclusive use is limited below 85m^2	A multi-unit housing type, providing accommodations, toilet except dining. The total floorage of a building is below 1000m^2

6.3 The Characteristics of the Current Housing Environments for the Singletons

This part of the questionnaire was designed to understand current housing environments of singletons in Seoul; the qualities of housing design; and reasons behind the choice of the housing types. The research outcomes were tabulated for the different variables such as gender, age, housing type, residence type, income level, whether one-room or not, and car ownership, and all the tabulated data were visualized with bar graphs. Based on the results, important findings were discovered in the perspectives of current residential conditions, motivations and economic issues.

6.3.1 The Current Residential Conditions, Motivations and Findings

The residential conditions of the young singletons in Seoul were examined through several housing factors including housing type, residence type, housing size, housing location, furniture and storage space and motivations to choose the housing.

In terms of the housing issues, they mainly lived in terraced or multi-family housing (28%), and Officetel (20.6%) and ULH (20%) also followed. The size of the housing was mainly 10 - 20 Pyeong (43.8%) and mostly located in a station area (72.5%). The housings where the singletons mainly lived were one-room type (studio type) or one-bedroom type rental housing.

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According to a report of housing development research for single person households who are aged between 20s and 60s and live in Seoul metropolitan area, conducted by LHI(Land and Housing Institutue) in 2013, Detached or Multi-households house accounted for the most (30.7%) while Officetel and Terraced/Multi-family house accounted for around 17%. Compared to the young singleton research, the preference of housing type was different. This might be because of the different aging group. Regarding the size of housing, they preferred small space (less than 20 pyeong) to wider space (over 20 pyeong), and it seemed to be highly associated with their aging group, income level and housing type they lived. Also, the young singletons were highly likely to live in a house located in a station area. It might reflect the characteristics of the young office workers, namely their preference for good proximity to the workplace and public transportation (see Appendix 2.2/A7, p. 397).

In terms of the result of the question about necessary furniture or housing items for storage, 'wardrobe' and 'storage closet' account for 60.6% and 55.6% respectively (see Figure 6-2). Particularly, the proportion of storage space for a rubbish bin was unexpectedly high. It seemed that the singletons had many worries about household waste disposal.

Finally, regarding the housing motivations, the most important three reasons to choose the house were affordable housing cost (38.8%), proximity to work (26.9%) and convenience in public transportation (14.4%). The factors such as proximity to culture and welfare facilities (0%), proximity to green space (0.6%) and service for resident life aids (0%) were relatively lesser important reasons for the singletons. (see Appendix 2.2/A7, p. 397)
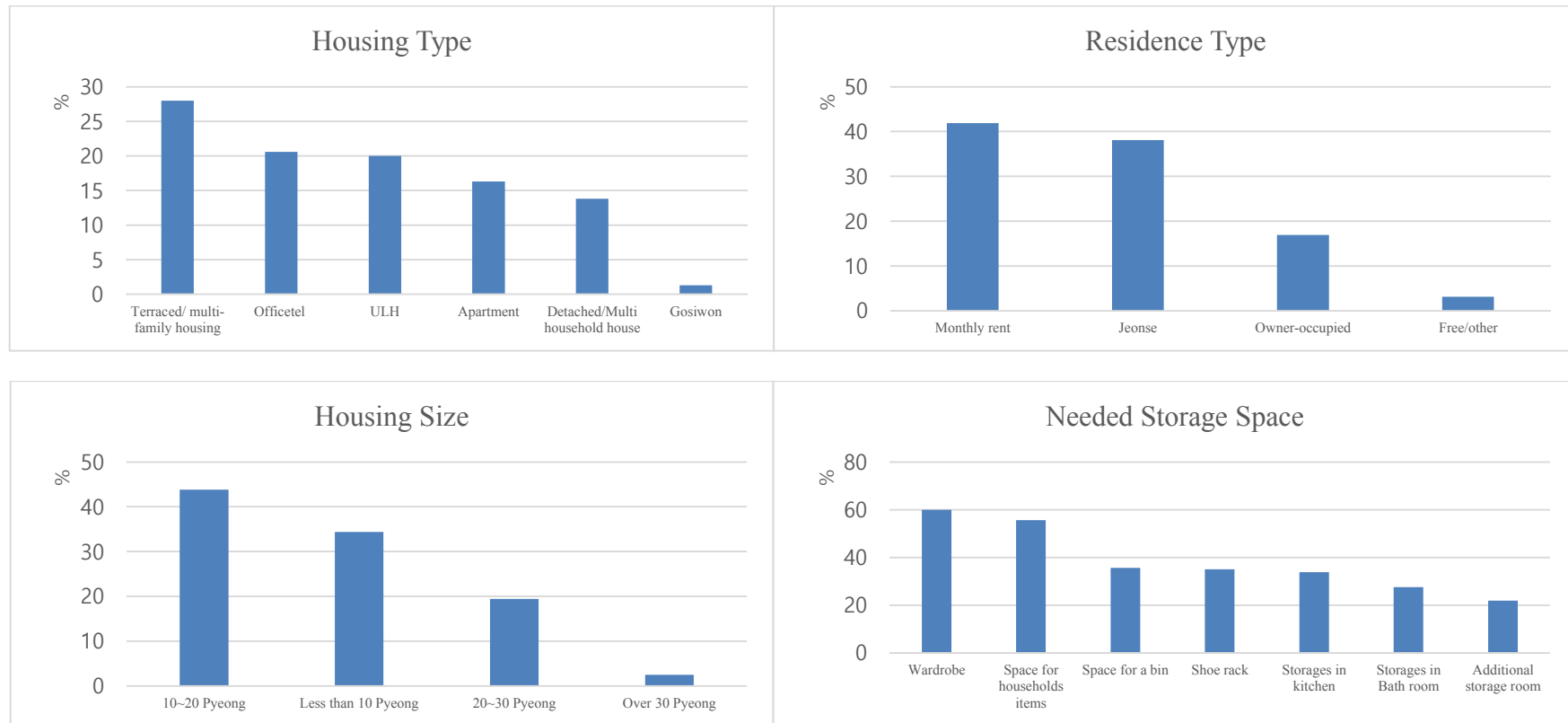
Figure 6-2 The Current Residential Conditions including Housing Type, Residence Type, Housing Size and Needed Storage Space

6.3.2   Economic Conditions

According to the result of the residence type in which the singletons mainly lived, 'Jeonse' and monthly rent made up higher percentages among all residence types (38.1% and 41.9% respectively). Thus, it was meaningful to find out economic issues related to the two residence types in which the young singletons lived. First, the average housing cost of 'Jeonse' was approximately 108 million won (£63,443). Compared to the LHI report about the characteristics of single person households in South Korea, the singletons in their 20s and 30s tended to pay a higher lease cost than that of the single person households aged from 20s to 60s (see Table 6-3).

Table 6-3 Compared between the LHI Report and 20~30s Result of the Living Cost

	LHI report (20~60s)	Author research (20~30s)
Lease cost	71,803,000 won (£42,180)	107,951,000 won (£63,443)

Source (LHI,2013)

Another visible outcome was that the number of the singletons who were aged 30s and had a 'Jeonse' on a house was three times greater than the number of singleton group aged 20s (Table 6-4).

Table 6-4 The Number of Jeonse by Age Group

Jeonse		Number
Age	20s	13
	30s	48

Second, the average cost of monthly rent was ₩434,000 (£255) and the average deposit was 18.3 million won (£10,750). Compared to the LHI report, both monthly rent cost and deposit of 20s-30s singleton group were also higher than the cost of 20s-60s singleton group. (see Table 6-5 and Table 6-6)

Table 6-5 Housing Cost - Monthly Rent Cost and Deposit

How much is your housing cost? - Monthly rent with deposit			
	Number	Monthly rent cost	Deposit
		Average	Average
Total	60	₩434,000 (£ 255)	₩18,300,000 (£ 10,750)

Table 6-6 Compared between the LHI Report and Online Survey - Result of the Living Cost

	LHI report (20~60s)	The online survey (20~30s)
Monthly rent cost	₩354,900 (£ 208)	₩434,000 (£ 255)
Deposit	₩17,497,300 (£ 10,278)	₩18,300,000 (£ 10,750)

Source (LHI,2013)

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From the outcomes of the online survey, as seen in the Table 6-7, there were noticeable results as follows; the rental cost was similar between men and women, but the average deposit of men was ₩5,000,000 higher than that of women; The lower income the singletons earned, the more likely they were to have 'monthly rental with deposit'. In addition, the lowest rent cost and deposit were for the monthly income group of 'Less than 3 million won'. For the group of '3 - 5 million won monthly income', the rent cost was the highest, and the 'Over 5 million won' group tended to spend more expense on deposit in order to reduce monthly rental fee.

Table 6-7 Housing Cost - Monthly Rent Cost and Deposit

		Number	Monthly rent cost	Deposit
			Average (₩10,000)	Average (₩10,000)
Sex	Male	30	42.5	2116.7
	Female	30	44.3	1543.3
Income (₩10,000)	Less than 300	35	38.6	1591.4
	300~500	22	51.4	2090.9
	Over 500	3	40.0	2700.0

In this section the current residential situations and economic conditions of the young professional singletons in Seoul are laid out and important findings are discovered and analysed. The next section examines the satisfactions with their residential environment and finds out key findings based on the quantitative analysis.

6.4   Satisfactions with the Housing Environments

This section identifies the satisfactions of respondent singletons regarding housing environments, particularly in six aspects: 'characteristics of the housing location', 'characteristics of the residential building', 'interior space issues', 'indoor environmental issues', 'social environmental issues', and 'economic issues'. This section then summarises and analyses the results of satisfactions.

The outcomes of the satisfactions were tabulated for the different variables as in the previous section, and all tabulated data are visualized with a bar graph. As seen in Table 6-8, the tabulated satisfaction data includes the number and percentage of satisfaction results, as well as mean value out of 5. The scale of satisfaction was classified with five options: 'Very dissatisfied', 'Somewhat dissatisfied', 'Neutral', 'Somewhat satisfied', and 'Very satisfied'.

Table 6-8 A Sample of Tabulated Satisfaction Data

Satisfaction														
		scale										unsatisfied	neutral	satisfied	
	Number	very unsatisfied		somewhat unsatisfied		neutral		Somewhat satisfied		very satisfied		%	%	%	average in 5
		N	%	N	%	N	%	N	%	N	%				
Total	160														

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The average value (out of 5) of satisfaction was calculated as seen in Figure 6-3. First, the score of satisfaction was set to range from 1 (Very dissatisfied) to 5 (Very satisfied), and then the score was multiplied by the rate of the scale (in percentage). Next, all the five multiplied figures were added up, and the resultant sum was divided by 100.

$$m_5 = \frac{\sum_{i=1}^{5} s_i p_i}{100}$$

m_5 : The mean of satisfaction

S_i : The score of scale

P_i : The rate of scale

Figure 6-3 The formula for the mean of satisfaction

6.4.1 Satisfaction with the Characteristics of Housing issues

Housing Location

In terms of housing location, the quantitative research focused on three characteristics: 'proximity to public transportation', 'commuting convenience' and 'car park use'. the average satisfactions in the three factors were 3.8 (proximity to public transportation), 3.8 (commuting convenience), and 3.2 (car parking use) (see Table 6-9). The satisfaction in car parking use was particularly lower than the other housing location issues. In addition, the singletons without

their own car tended to look for a house with good accessibility to public transportation, and it caused greater commuting convenience. Also it could be assumed that the reason why the satisfaction in commuting convenience of the singletons with car ownership was lower than those without a car would be serious rush-hour traffic jam during commuting times in Seoul (Kwon et al., 2008).

Table 6-9 The Characteristics of Location (Summary)

B2. Satisfaction - The characteristics of location (Summary)		Number	Commuting convenience	Proximity to public transportation	Car parking use
			Average in 5	Average in 5	Average in 5
Total		160	3.8	3.8	3.2
Car ownership	Yes	88	3.6	3.6	3.2
	No	72	4.0	4.0	3.2

Residential Building Issues

The research examined satisfaction in characteristics of the residential building in which the singletons lived, which is divided into two parts: 'building design' and 'security'. The average satisfactions in exterior design of the building and security were both 3.3 out of 5, and these figures suggest that the respondent singletons were somewhat satisfied with the residential building issues (see Table 6-10).

Table 6-10 The Characteristics of the Building (Summary)

The characteristics of the building (Summary)			
	Number	Exterior design of the building	Security
		Average in 5	Average in 5
Total	160	3.3	3.3

Interior Space Issues

This section divides satisfaction in interior space in which the singletons lived into six sub-parts: 'housing size', 'housing ground plan', 'interior design', 'bathroom', 'kitchen' and 'storage space'. The satisfactions in the interior space issues were overall low; particularly interior design, bathroom, kitchen and storage space issues were poor condition for the surveyed singletons (see Table 6-11).

Table 6-11 The Characteristics of Interior Space (Summary)

The characteristics of interior space (Summary)							
	Number	Housing size	Housing ground plan	Interior design	Bath room	Kitchen	Enough storage space
		Average in 5	Average in 5	Average in 5	Average in 5	Average in 5	Average in 5
Total	160	3.3	3.3	3.1	3.1	3.1	2.8

Indoor Environmental issues

This part examines the satisfaction of the surveyed singletons in their indoor environment through four sub-parts: 'ventilation', 'light', 'soundproofing', and 'cooling/heating system'. Among the issues of indoor environment, ventilation and soundproofing showed low satisfactions from the surveyed singletons as seen in the Table 6-12.

Table 6-12 Satisfaction with Indoor Environment (Summary)

Indoor environment (Summary)					
	Number	Ventilation	Light	Sound proof	Cooling/heating system
		Average in 5	Average in 5	Average in 5	Average in 5
Total	160	3.1	3.3	2.9	3.4

In particular, in terms of sound proof which showed the lowest satisfaction among the indoor environment factors, the satisfaction of 'Female' and '30s' singleton groups were low; the higher monthly income the singletons earned, the higher satisfaction they had; the smaller-sized housing they lived, the lower satisfaction they had; and a highly related result was that 'One-room' singleton group's satisfaction ratio was quite low (25.3%) (see Table 6-13).

Table 6-13 Satisfaction with Soundproof (in detail)

		Number	unsatisfied %	neutral %	satisfied %	average in 5
Sex	Male	82	29.3	39.0	31.7	3.0
	Female	78	41.0	33.3	25.6	2.7
Income (10,000 won)	Less than 300	75	40.0	37.3	22.7	2.8
	300~500	60	33.3	33.3	33.3	2.9
	Over 500	25	24.0	40.0	36.0	3.2
Housing size (Pyung, 1pyung=3.3m2)	Less than 10	55	45.5	32.7	21.8	2.6
	10~20	70	30.0	40.0	30.0	2.9
	Over 20	35	28.6	34.3	37.1	3.2
Oneroom	Yes	95	33.7	41.1	25.3	2.9
	No	65	36.9	29.2	33.8	3.0

Social Environment Issues

This section examines the satisfaction of the young and professional singletons in social environment in three sub-parts: 'neighbour intimacy in the residential building', 'the intimacy in the local area', and 'privacy'. The satisfaction level in this issues was overall low (see Table 6-14). In particular the satisfaction in socio-relationship with neighbourhoods of ULH - the recently supplied housing type in South Korea in order to keep the pace with the rapidly increasing number of single person households and their residential aspirations such as affordable housing cost - was quite low (see Chapter 4). It could be inferred that ULH system was designed without enough considerations for socio-relationship issues of the singletons.

Table 6-14 Satisfaction with Social environment (Summary)

Social environment (Summary)				
	Number	Neighbourhood intimacy in the building	Neighbourhood intimacy in the local area	privacy
		Average in 5	Average in 5	Average in 5
Total	160	2.8	2.8	3.0

Among housing types, ULH singleton group was the most dissatisfied with the intimacy with tenants (2.6 out of 5), and it was highly related that the figure of 'One-room' singleton group was also low (2.7) (see Table 6-15). This was because majority ULH in Seoul consisted of one-room type residential units (Lee, 2012b). In addition, the satisfaction of 'Less than 10 pyeong' group was the lowest of all variable groups with 2.5 and it also highly associated with the feature of ULH singleton group because 59.4% of the surveyed singletons who live in ULH lived in the housing sized less than 10 pyeong.

Table 6-15 Satisfaction with Neighbour Intimacy in the building (in detail)

		Number	unsatisfied	neutral	satisfied	average in 5
			%	%	%	
Housing type	Detached/Multi households house	22	31.8	50.0	18.2	2.8
	Terraced/Multi-family house	45	26.7	53.3	20.0	2.9
	Officetel	33	39.4	39.4	21.2	2.8
	ULH	32	40.6	46.9	12.5	2.6
	Apartment	26	23.1	57.7	19.2	2.9
Housing size (Pyung, 1pyung=3.3m2)	Less than 10	55	45.5	47.3	7.3	2.5
	10~20	70	25.7	50.0	24.3	3.0
	Over 20	35	22.9	51.4	25.7	3.1
One-room	Yes	95	38.9	44.2	16.8	2.7
	No	65	21.5	56.9	21.5	3.0

Also, 'Officetel' or 'ULH' singleton groups showed a higher level of satisfaction in privacy than other housing types (see Table 6-16), while the housing types showed very low levels of satisfaction with neighbour intimacy or communication. It meant the housing type had a higher level of social isolation among the neighbours. In addition, the satisfaction of 'Less than 10 pyeong' singleton group was low, and it can be associated that the small-sized housing had poor soundproofing based on the result of qualitative research.

Table 6-16 Satisfaction with Privacy (in detail)

		Number	unsatisfied	neutral	satisfied	average in 5
			%	%	%	
Housing type	Detached/Multi households house	22	36.4	31.8	31.8	2.9
	Terraced/Multi-family house	45	42.2	37.8	20.0	2.8
	Officetel	33	27.3	24.2	48.5	3.3
	ULH	32	34.4	18.8	46.9	3.1
	Apartment	26	34.6	42.3	23.1	2.8
Housing size (Pyung, 1pyung=3.3m2)	Less than 10	55	41.8	30.9	27.3	2.9
	10~20	70	34.3	27.1	38.6	3.0
	Over 20	35	25.7	42.9	31.4	3.1

Economic Issues

This section regarding satisfaction of the young and professional singletons in economic issues consists of two sub-parts: 'housing cost affordability' and 'maintenance cost'. As seen in the Table 6-17, the satisfaction of the economic issues was relatively low compared to the other housing factors. It was noticeable that the 'Less than 10 pyeong' and 'Monthly rent' singleton groups seemed to be feeling a greater economic burden than other singleton groups.

Table 6-17 Satisfaction with Economic Issues (Summary)

Economic issues (Summary)			
	Number	Housing cost affordability	Maintenance cost affordability
		Average in 5	Average in 5
Total	128	2.9	2.9

6.4.2 Overall Satisfaction with the House Living and Analysis of the Satisfactions

Satisfaction with Current Housing Environment of the Surveyed Singletons

The overall satisfaction of the housing environment was on average 3.2 out of 5, as seen in Table 18. Choices of 'neutral' and 'somewhat satisfied' were both very much part of the rate of satisfaction in the house living (see Table 6-18 and Figure 6-4).

Table 6-18 Satisfaction with House Living

		Which of the following categories best describes your current experience of the house living?												
		Satisfaction with the house living										unsatisfied	neutral	satisfied	
	Number	very unsatisfied		somewhat unsatisfied		neutral		Somewhat satisfied		very satisfied		%	%	%	average in 5
		N	%	N	%	N	%	N	%	N	%				
Total	160	7	4.4	31	19.4	60	37.5	54	33.8	8	5.0	23.8	37.5	38.8	3.2

Figure 6-4 Satisfaction with House Living

Examining in detail, the ratio of being satisfied was much higher among the 20s (51.8%) than that among the 30s (31.7%) (see Table 6-19). It might be that the 30s tended to feel lonelier as their single life progressed than the 20s would, while the 20s tended to enjoy their solo life because of a sense of freedom and independence. In addition, the average value of satisfaction in ULH was 3.5 (average out of 5), which was the highest of all the housing types. The ULH, as an alternative housing type for the increasing number of single person households in South Korea (Ministry of Land Infrastructure and Transport, 2009) partly met the residential aspirations of the singletons in terms of housing supply, but there were limitations in terms of socio-relationship, housing design, economic aspects based on the reviews of relevant literature and the results of this quantitative research. Also, the satisfaction of the 'Monthly rent' and 'Less than 10 pyeong' groups were particularly low.

Table 6-19 Satisfaction with House Living (in detail)

		Number	unsatisfied %	neutral %	satisfied %	average in 5
Age	20s	56	16.1	32.1	51.8	3.4
	30s	104	27.9	40.4	31.7	3.0
Housing type	Detached/Multi households house	22	40.9	45.5	13.6	2.7
	Terraced/Multi-family house	45	26.7	40.0	33.3	3.0
	Officetel	33	18.2	48.5	33.3	3.2
	ULH	32	18.7	18.8	62.5	3.5
	Apartment	26	19.2	30.8	50.0	3.3
Residence type	Owner-occupied	27	18.5	25.9	55.6	3.4
	Lease	61	16.4	37.7	45.9	3.3
	Monthly rent	67	31.3	43.3	25.4	2.9
	Free/Other	5	40.0	20.0	40.0	3.0
Housing size (Pyung, 1pyung=3.3m2)	Less than 10	55	30.9	45.5	23.6	2.9
	10~20	70	17.1	32.9	50.0	3.3
	Over 20	35	25.7	34.3	40.0	3.2

Satisfaction Ordering and Analysis

The ordering of satisfaction was made based on the results of satisfactions in six issues: characteristics of location, the building, the interior space, economic issues, the social environment and the indoor environment (See Table 6-20 and 6-21). The most satisfied issue was 'The characteristics of location'. Particularly, in the location categories, the satisfactions in 'Commuting convenience' and 'Proximity to public transportation' were quite high (3.8 out of 5). The second ranked factor was 'characteristics of the building' including sub-issues such as 'the exterior of the building' and 'security'.

Table 6-20 The Ranking of Satisfied Factors

The ranking of satisfied factors					
1st	2nd	3rd	4th	5th	6th
The characteristics of location	The characteristics of the building	Economic issue	The characteristics of interior space	Social Environment	Indoor environment

Table 6-21 The Ranking of Dissatisfied Factors

The ranking of dissatisfied factors					
1st	2nd	3rd	4th	5th	6th
The characteristics of interior space	Economic issue	The characteristics of the building	Indoor environment	The characteristics of location	Social Environment

In terms of dissatisfaction, the first ranked factor was 'characteristics of the interior space', and among the sub-categories of the interior space issue, the satisfactions in 'interior design', 'bathroom', 'kitchen' and 'storage space' were relatively low, while other sub-issues such as 'housing size' and 'housing ground plan' seemed to receive moderate satisfaction scores (3.3 out of 5). The second dissatisfied factor was 'economic issues'. This could be due to the expensive housing cost and maintenance cost, and it was highly associated with the result that the most important reason behind the choice of housing was 'affordable housing cost'. That meant that although housing cost was a crucial issue for the respondent singletons, there were few economically affordable houses for them. Thus, they tended to be forced to make a 'limited choice' to live in less affordable houses and take on economic strain.

The noticeable issue among the six areas was 'social environment' which includes sub-issues such as 'neighbourhoods intimacy' and 'privacy'. Although the sub-issues scored relatively low in satisfaction (2.8 and 3.0 respectively), 'social environment' was the lowest in the ranking of unsatisfactory factors (see Table 6-21), which could be interpreted that the respondent singletons were highly satisfied with the social environment issues. However, the factor of 'social environment' ranked very low in the ranking of satisfactory factors as well, being the 5th out of six factors (see Table 6-20). This paradoxical result could be because the singletons were not too concerned with 'social environment' issues.

From another perspective, however, the social factors seemed to be important to the singletons, based on some significant findings that although most singletons hardly had communication with their neighbourhoods (Jaisoo, 2012), the surveyed singletons were highly dissatisfied with the disconnected social situation. This means that they were likely to be in favour of having communications with their neighbourhoods. Moreover, 86% of the solo respondents wanted to communicate with their neighbourhoods in both direct and indirect ways (this relationship issue is dealt with next in Section 6.5.)

In summary, although the issues of 'social environment' tended to be regarded as less important factors than other factors such as 'characteristics of Building', 'the interior space'

and 'economic issues' that could directly impact on the singletons' life, the social factor was actually significant to the singletons in terms of socio-relationship with the neighbourhoods.

6.5   Life Pattern, Dwelling Motivation and Communication

In the questionnaire, the part of life pattern, dwelling motivation and communication was designed to figure out appropriate ways to improve housing design quality and socio-relationship circumstances, based on the life experiences of the surveyed singletons and their thoughts on issues regarding communication with neighbourhoods and share house. This section is divided into two sub-parts: 'Life pattern' and 'Dwelling motivation and communication'.

6.5.1   Life Patterns of the Young and Professional Singletons

The quantitative research concentrated on several important issues related to the young singletons' life patterns: 'spending time', 'important space', 'behavior', and 'commuting'. From the results of the life patterns of the surveyed singletons, the research discovered significant findings. First, spaces for taking a rest such as the bed were the most important things in their residential space.   Outside the time spent on work and commuting, they spent most of their time at home. In the house, they mainly spent time on the bed, and they regarded the bedroom as the most important space in the house. (see Figure 6-5).
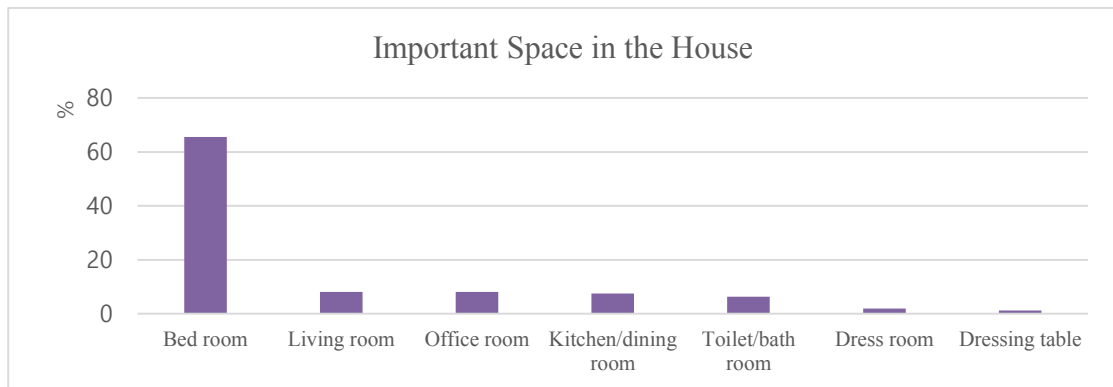
Figure 6-5 Important Space

Also, they rested in the house mainly by sleeping, having a meal, watching TV and surfing the Internet. It could be seen that resting was important for the singletons who were exhausted from a tough life. (see Figure 6-6)
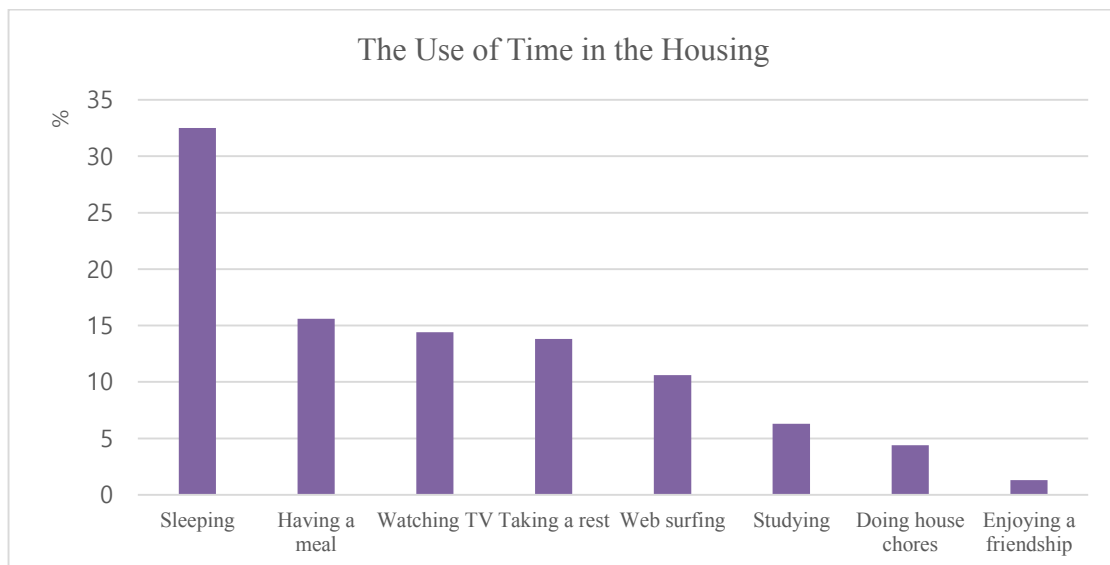
Figure 6-6 The Use of Time in the Housing

6.5.2 Dwelling Motivation and Communication between the Young Singletons

In this section, dwelling motivation and communication issues between the young professional singletons were discussed, based on the results of the quantitative research. Particularly, the quantitative research focused on issues of living in a share house – a newly emerging housing type in Seoul – and communication with the neighbours in the residential building.

The young singletons seemed to be in favour of having communication or human relationships with housemates. The proportion of the intention to live in share house was higher than that against it (see Figure 6-22). Particularly, some factors such as being in the 20s, male, living with a monthly rent and in one-room showed a higher rate for the intention than other factors. Based on the characteristics of the factors, it seems that the curiosity about the emerging housing type had increased in the younger singleton group, and the singletons tended to live in the share house in order to reduce the housing cost.

Table 6-22 Intention to Live in Share house

Intention to live in 'Share house'								
		Number	Intention to live in Share house					
			Yes		No		I don't know	
			N	%	N	%	N	%
Total		160	75	46.9	66	41.3	19	11.9
Monthly Income (₩10,000)	Less than 300	75	33	44.0	34	45.3	8	10.7
	300~500	60	28	46.7	22	36.7	10	16.7
	Over 500	25	14	56.0	10	40.0	1	4.0

The interesting finding was that the higher monthly income earners they were, the more positive answers they gave for living in the share house type. It meant that the main reason to live in a new type of housing was not a matter of money but just preference. This explanation could be supported by the fact that recently in South Korea, some television entertainment programmes such as 'ROOMMATE' and 'SHAREHOUSE', which dealt with sharing a house, and some television dramas such as '*연애의 발견*' *(Finding Love)* and '*괜찮아 사랑이야*

(It's Okay, It's Love), which showed the sharing lifestyle, were popular and had impacted on younger people's perception of the lifestyle (Jang, 2014). Those programmes described the life of 'share house' in quite luxurious lights, showing a good house and trendy lifestyle. Thus the young singletons who were higher income earner and had not had any experience of living in a share house might be influenced by the programmes to have a positive preference of living in the housing type. For this reason, it was also necessary to have in-depth interviews with singletons who were living in the housing type and had experiences of it in order to understand the specific situation of the housing lifestyle.

Also, in terms of communication among solo tenants, the surveyed singleton group seemed to be positive towards the idea of communication with the neighbours in the building. From the result of the quantitative research, the answer of 'I want to communicate with them' accounted for 37.5% and 'Just having a nodding acquaintance' made up for 49.4%. The negative answers to the communication issue accounted for just 13.1% (see Figure 6-7). In addition, the preferred communication method was having an off-line community in a community space for dwellers. As seen in the Table 6-23, the proportion of an online communication method through SNS

accounted for 15.6%, which is lower than predicted based on the review of relevant literature in Chapter 4. In this highly developed online networking society, the singletons tended to hope to have face-to-face communication.
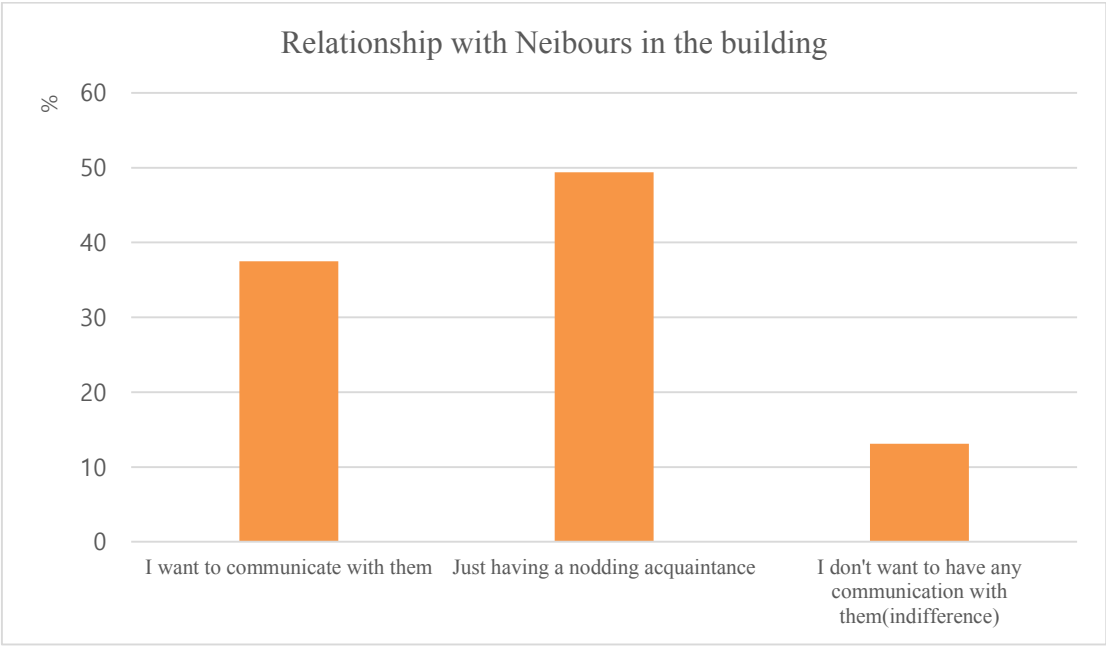
Figure 6-7 Human Relationship with Neighbours

Table 6-23 Method to Improve the Level of Communication

Method or activity do you think to be able to improve the level of communication										
	Number	Create more community space		Have off line community for the residents		Have online community for the residents		Offer culture welfare programmes(cooking, music, and flower class)		Hold neighbours meeting periodically
		N	%	N	%	N	%	N	%	N	%
Total	160	58	36.3	51	31.9	25	15.6	18	11.3	8	5.0

6.6   Residential Aspirations of the Young and Professional Singletons

This part of the questionnaire was designed to understand the residential aspirations of the young and professional singletons in Seoul and identify appropriate development of the housing environment for them in terms of architectural space planning. Also, the questionnaire asked the surveyed singletons to answer the questions about residential aspirations based on their economic situation and on the assumption that they would move to new housing within the next three years. This assumption was for attaining realistic and realizable data from the singletons. This section is divided into two sub-parts: 'desired general housing issues' and 'desired architectural issues'.

6.6.1   Desired General Housing Issues

In order to understand the young singletons' aspirations about housing issues, the research focused on five detailed issues including 'desired housing type', 'desired residence type', 'desired housing size', 'desired location of housing', and 'desired security system'. (see Figure 6-8) From the perspective of general housing issues, the singletons tended to prefer small sized apartment or officetel (sized 10-20 pyeong) located in station areas. They also preferred 'Owner-occupied' and 'Jeonse' residential types. While most singletons lived in a house at a monthly rent, the proportion of 'Hope to pay a monthly rent' accounted for just 11.3%. The desired housing cost was about 70% of the current cost. The demand for housing security was high, and they preferred CCTV the most.
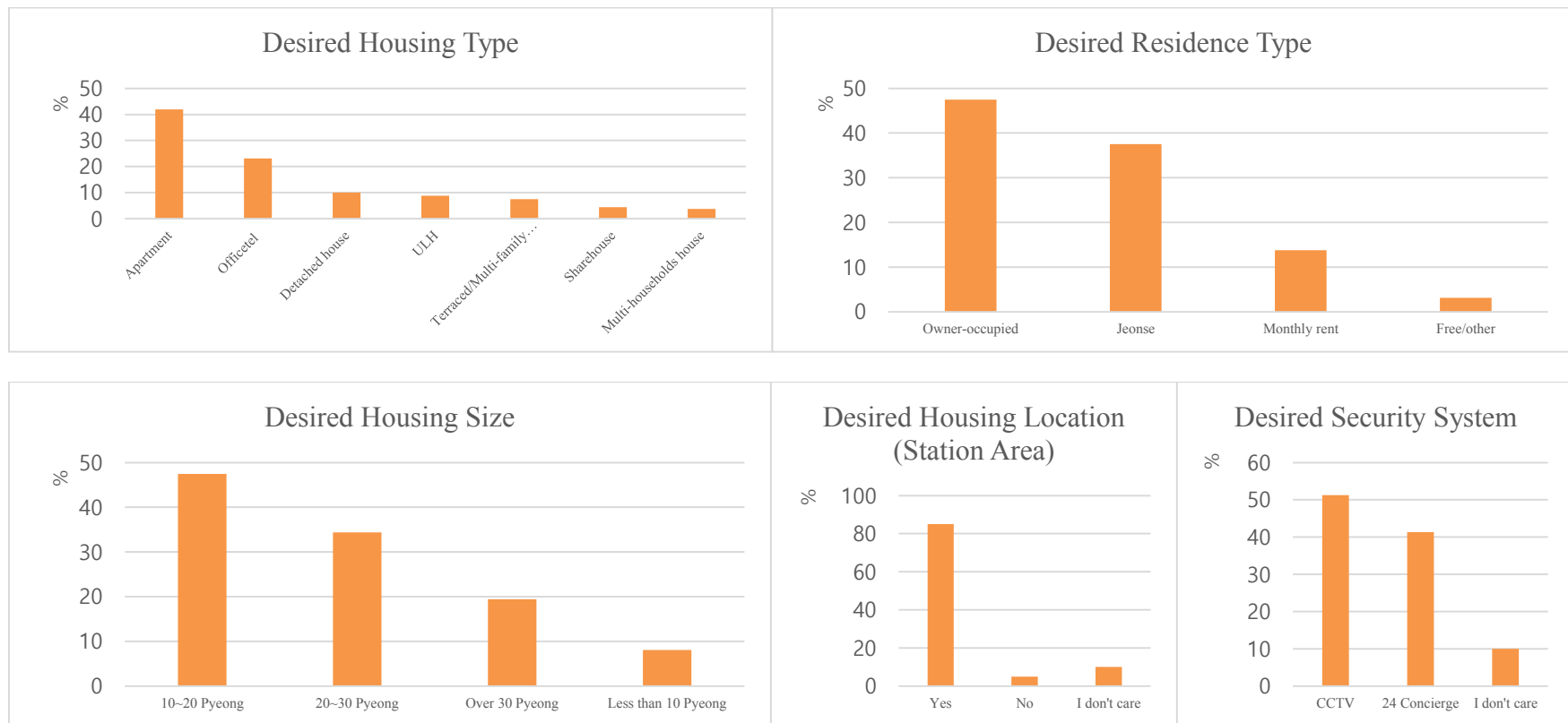
Figure 6-8 The Desired General Housing Conditions including Housing Type, Residence Type, Housing Size, Housing Location and Security System

Also, as seen in the Appendix 2.2 (Appendix 2.2/D7, p.402), The most desired subsidiary facility in the building was café, follows by fitness centre and communal dining room. It was remarkable that the demand for 'parcel receiving storage' was relatively high and the preference for 'Communal laundry room' was very low. The high demands for café and communal dining space could be related to the high proportion of 'Hope to communicate with the neighbours'.

6.6.2 Desired Architectural Issues

The part of questionnaire regarding desired architectural issues included six sub questions about 'residential building type', 'household composition in the building', 'residential building height', 'number of households in the building', 'one-room or not', and 'floor style of residential unit'. Based on the result of the questionnaire as seen in Figure 6-9, the young singletons hoped to live in a high-rise and multi-purpose building (both for residence and for commerce) shaped 'tower', and a housing complex. They also preferred 6-10 storiess in building height, and 11-50 households dwelling in the building. The proportion of those hoping to live in 'one-room' was less than half that for living somewhere with more rooms. Also, they hoped to live in the building with diverse types of households rather than with singletons only. These suggest that the singletons did not want to live in the compact honeycomb shaped housing, isolated and deprived of communication with the neighbours.
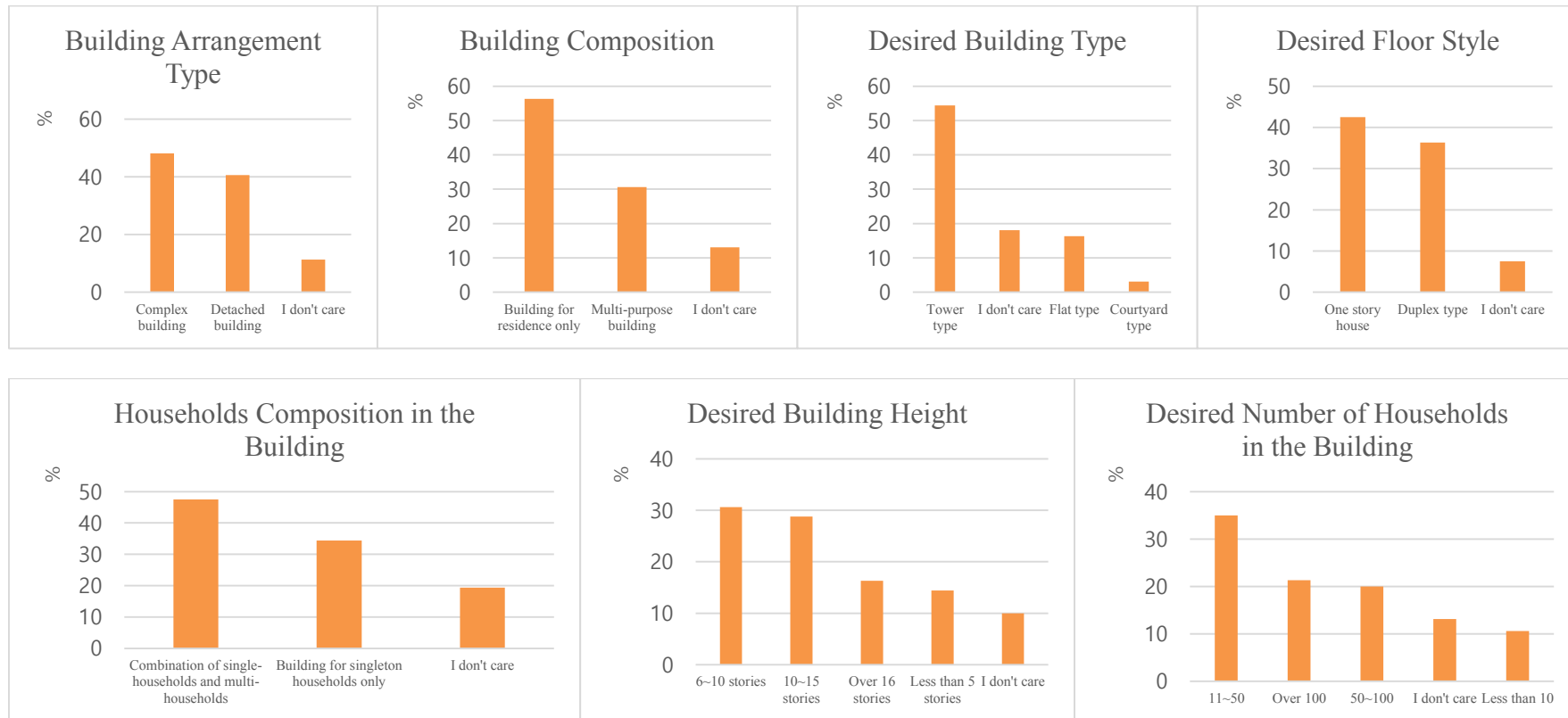
Figure 6-9 The Desired Architectural Issues including Arrangement Type, Building Composition, Building Type, Floor Style, Households Composition in the Building, Building Height and Number of Households in the Building

6.7   Conclusion

This chapter has identified the characteristics of young and professional singletons in Seoul and their housing issues through statistical data from the quantitative research. It has mainly shown the current residential circumstance of the singletons, their satisfactions to the situation, their life pattern and dwelling awareness, and their residential aspirations. The current residential issues section has shown the singletons' general housing conditions, economic issues, and main reasons for the housing choice. They mainly lived in small sized rental housing, and their residential unit was mainly one-room type (studio type) or one-bedroom type. Although the major factor behind the house choice was affordability, they seemed to still suffer from expensive housing cost. In this situation, they tended to have 'limited choice'.

In the section of satisfactions in housing environment, the overall satisfaction was between 'neutral' and 'somewhat satisfied'. They were mainly satisfied with 'characteristics of location' and 'characteristics of the building' while they were particularly dissatisfied with 'characteristics of interior space' and 'economic issues'. Based on the result, the housing for the single population, located in central areas in Seoul, had poor design quality and its deficiencies highlight the remaining need for improvement based on motivations, aspirations and experiences of the young singletons.

In the section of life pattern, dwelling motivation and communication issues, it has been shown that the space for resting and the bed were important in the housing for the young

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professional singletons. In the small-sized one-room housing where the surveyed singletons mainly lived, the large amount of space taken up by the beds pointed to the importance of space efficiency, and an issue examined further through in-depth interviews with the singletons as well as relevant experts such as architects and furniture designers. Also, they had positive stance on having communication or human relationships with other tenants and local neighbourhoods, although they actually had such personal relationship. The human relationship issues need to be considered in the context of both individual residential building for singletons and in wider local areas, focusing on an issue of community space.

Finally, the section of residential aspirations of the singletons has shown their desired general housing issues and architectural issues with comparison to the current housing environment. Their aspirations need to be re-analysed based on the national economic situation and the housing market condition in Seoul, as well the economic circumstances of the young singleton group. These factors can then be applied to the development of potential housing alternatives for the young and professional singletons in Seoul.

The next chapter deals with the qualitative research data of young and professional singletons, based on in-depth interviews with the targeted singletons and relevant experts, and site visits. The empirical data can complement the result of quantitative research and thereby guard against overlooking detailed information or obtaining distorted results.

CHAPTER 7

QUALITATIVE DATA ANALYSIS

7.1 Introduction

This chapter analyses the qualitative data gathered by the field researches in Seoul, including in-depth interviews, site visits and documentary analysis. In particular the research intended to concentrate on young professional single person households who are in their 20s and 30s, live within the Seoul metropolitan area, and have an occupation. This chapter firstly describes how the qualitative analysis had been conducted. The chapter then looks at the two analysis groups: 'targeted young singletons' and 'relevant experts', mainly based on the in-depth interview groups (see Figure 7-1). The first singleton group is also subdivided into two categories again: 'the singleton who lived alone in their housing' (henceforth referred to as 'living alone' group) and 'the singleton who lived in share house and had experiences of living in the housing type (henceforth referred to as 'share house living' group). This chapter mainly explores the analysis and findings from the 'young single person households' group data with several important perspectives such as architecture and design, human relationships, economic aspect, lifestyle and aspirations. It also focuses on the analysis and findings from the 'experts' group data with three major issues including share house living, housing environments for solo dwellers, and urban regeneration in Seoul.
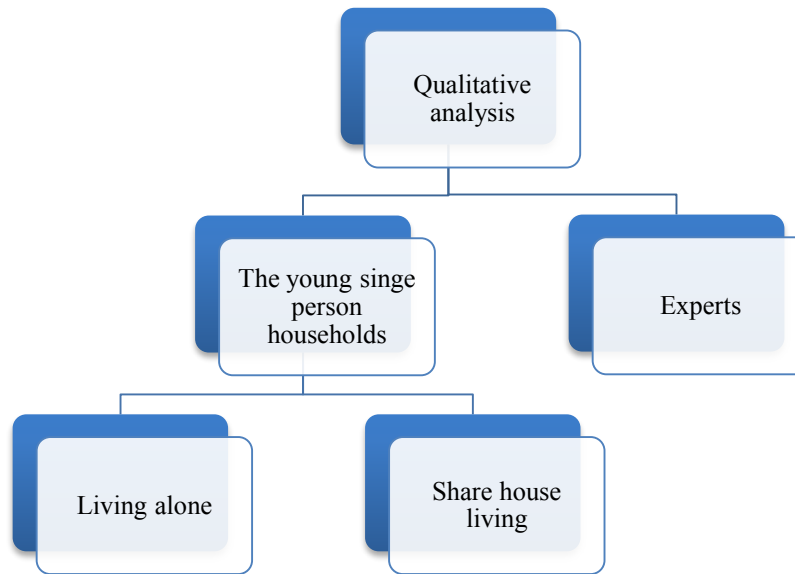
Figure 7-1 Qualitative Data Analysis Groups

7.2 Coding in the Qualitative Analysis

As mentioned in Chapter 5 (5.5.2, p.159) the pattern of qualitative analysis was 'case-oriented analysis', which aims to figure out a particular case or more cases by examining the targets closely (Huberman and Miles, 1994). In the research, the cases of 'the young singletons', 'share house dwellers', and 'relevant experts' were investigated in detail mainly by in-depth interviews as well as site visits.

With the pattern of the analysis, NVivo, analytical computer software, was used for effective analysis. With the programme, the research conducted a coding process for analysing the empirical data (see Figure 7-2). The process included 'open coding' and 'axial coding' (Strauss,

1987:Ch.3). Firstly, in the stage of 'open coding', as many nodes were created as possible to subdivide the interview data. Next, related nodes were linked with each other and converged on core key nodes through 'axial coding'. Through the process of coding, main key words emerged and the hierarchy of the qualitative data was created, as seen in Figure 7-3 and 7-4.
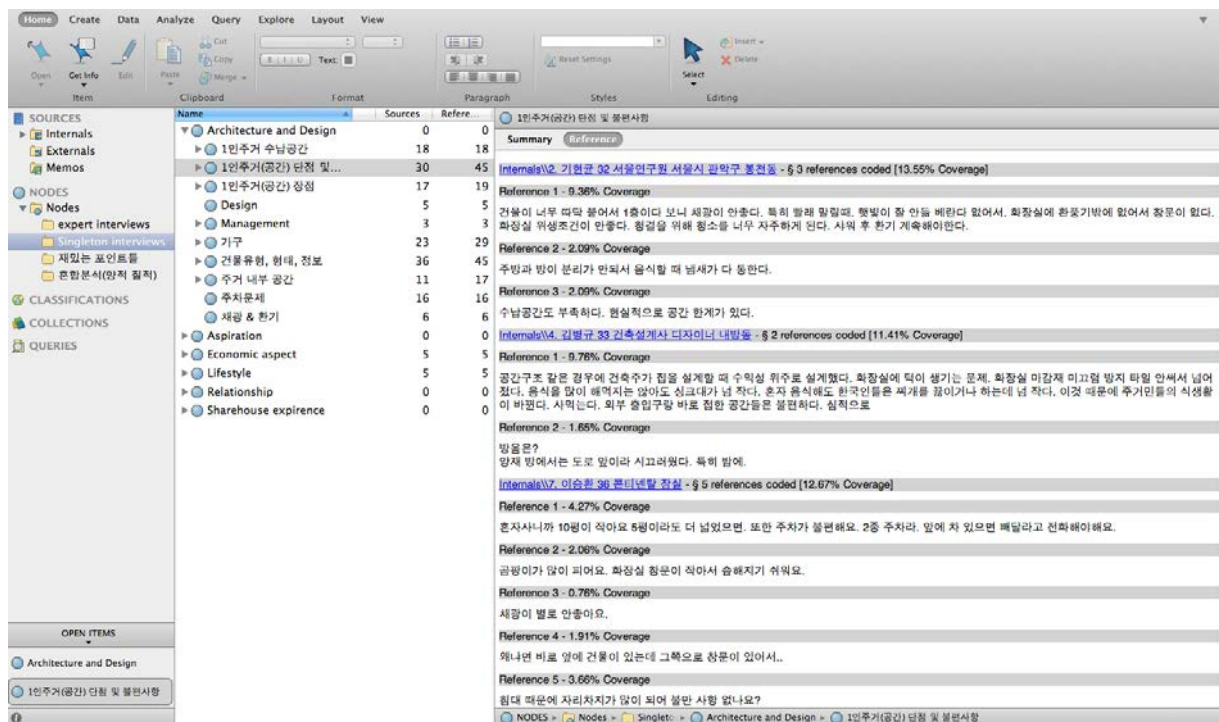
Figure 7-2 Coding Process for Analyse the Empirical Data
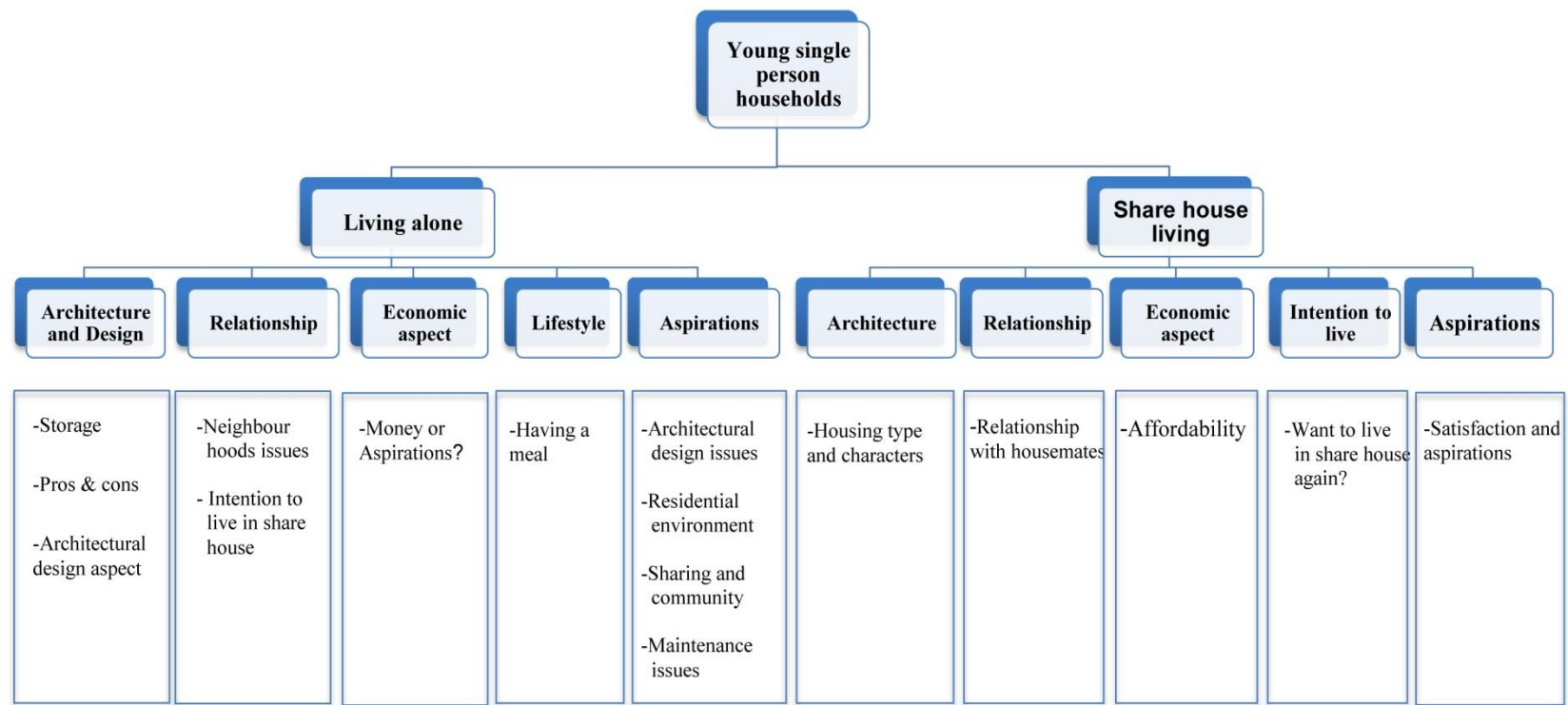
Figure 7-3 Coding for an Analysis of the Young Singleton Interviews
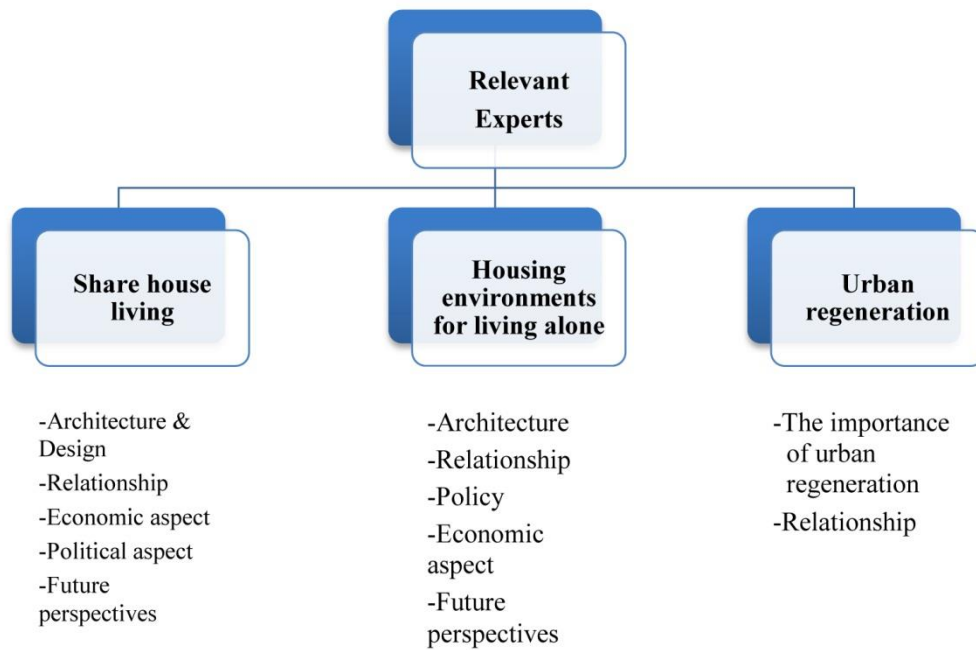
Figure 7-4 Coding for an Analysis of the Experts Interviews

7.3 Findings 1: Young Single Person Households

Based on the focused cases and results of coding process, the qualitative analysis was conducted. This section firstly looks into the findings from the group of the young and professional singletons in Seoul, and it is categorized into sub-cases: 'living alone' and 'share house living' group.

7.3.1 Living Alone

This part sets out the analysis of the in-depth interviews with 42 targeted young singletons. Based on the coding, the qualitative data from the group was analysed by five main nodes: architecture and design, human relationships, economic aspect, lifestyle, and aspirations.

Architecture and Design

In the perspective of 'architecture and design', a variety of architectural design issues from the exterior of buildings to furniture were analysed. In this part, several important issues emerged through the coding process: storage, advantages and disadvantages of the housing, and the architectural design aspect.

(i) Storage

First, 'storage space' was regarded as both an important and problematic issue for them. Generally, the singletons were dissatisfied with the storage space in the housing. In the case where the wardrobes in their house were built into the walls, the residents showed a high level of satisfaction. Some interviewees suggested that it could be effective to use dead space in the house such as the space under the bed.

(ii) Advantages and Disadvantages of the Housing

The second issue was 'pros and cons of the solo living in the house'. The main advantages of the solo house living were 'location' and 'public transportation'. Also, singletons who lived in a house with good security and a balcony mentioned that these features were advantages in the house. In the perspective of dissatisfaction, 'size', 'design' and 'cost' were the main issues. Alongside the main points, there were diverse minor complaints such as 'small window', 'no additional room' and 'no balcony'. Particularly, the issue of 'window' was associated with complaints about 'light' and 'ventilation'. These problems were mainly caused by proximity between buildings. Some interviewee however commented that the issues might not be important because office workers usually went to work early in the morning and came back late at night.

The light issue is not a big matter in housing environment because I am usually back home at night from the working place. The issue was not an important factor in choosing the housing.

Living alone singleton 5

First, I do not know the light condition in my house because in the daytime I'm out of the place, and in a weekend I usually have the time at my parents' house. I do not regard the light condition as insignificant, but the distance between buildings is so close… There is no choice of it. Maybe during 3 and 4pm the light condition would be better than other times… I'm not sure. The moisture condition is not bad but the light is bad.

Living alone singleton 8

In addition to the indoor environmental problems, 'poor soundproofing' was also a crucial drawback in the house living.

(iii) Architectural Design aspect

There were several detailed and important complaints and opinions about architectural design of the current housing environments by the interviewed young singletons. Based on their answers, there seem to be two main housing design points: space and aesthetic perspectives. Firstly, with respect to the housing space issue, some young singletons were dissatisfied with 'open space' of the housing like a studio-typed house. One interviewed singleton mentioned his aspiration for divided residential space with the space issue, saying:

> *I'm living in the studio type one-room, and when I cook at home, it is easy for the smell to be pervasive in the space, penetrating into the bedding. I hope to live in a housing which divides into at least 2 inner spaces.*

> *Living alone singleton 8*

Also, many interviewees had aspirations for highly effective residential space, as shown in the response of Singleton 24. Especially, 'bed' was the main point in the efficiency issue. Many singletons answered that they did not use the bed to get more space such as the answer from Singleton 25 below. Effective space use was quite important for them, and thus the big size furniture such as bed and wardrobe were particularly burdensome in the small-sized house.

"I think it would be effective to use currently wasted space in the house such as a space under the bed or upper space in the housing".

Living alone singleton 24

"I got rid of the bed from my housing due to the big size of it. After that, I sleep on the floor. It is uncomfortable but you get used to that".

Living alone singleton 25

The second design point was that they wanted to decorate residential space. Particularly, female interviewees tended to show their aspirations for the housing decoration more than male singletons. Some meaningful answers were as follows:

"In the confined space, there was not enough space to decorate and there were lots of limitations to do that".

Singleton 10

"I prefer moving to an unfurnished house where I can personally do interior designing to living in a furnished house".

Singleton 23

These two points are highly associated with their typical residential and housing type: the

monthly rent at the small-sized one-room, in which the surveyed singletons mainly lived, according to the quantitative research data. Due to the size of it, the indoor space could not be partitioned, and the tenants could not easily embellish the house because, when the tenancy finished, they would have to restore the house to the original conditions as much as possible.

Human Relationships

(i) Neighbour Issues in the Building

Although I've lived in this house over 5 years, I have almost never interacted with other tenants or local neighbourhoods. But I have an intention to communicate with them without any burden or pressure to the behavior.

Living alone singleton 2

The issue of 'Human relationships' was highly complicated for the young singletons. This was because they tended to put an emphasis on privacy, while on the other hand, they felt lonely and many of them hoped to communicate with the neighbourhoods. The above sentences from the interview with Singleton 2 illustrate the relationship situation of the singletons well. Thus, a comprehensive understanding was needed for the issue. From the qualitative data, there were almost no communications with the neighbours. There were three main reasons: no community space, no time to meet each other, and privacy. Most interviewees answered that there were no space for interacting with neighbours in the building. Also they did not have any time to see

other dwellers because they usually went to work early in the morning and came back home late at night. Finally, they tended to prefer having some free time alone. In spite of the situation, the proportion of those desiring to communicate with the neighbourhoods accounted for approximately 44% of all the singleton interviewees. Although the rate of not desiring to communicate with them was even higher than the positive rate, it was still a considerable figure.

(ii)   Intention to Live in Share house

With regards to the human relationship issues, the research asked the young singletons without any experience of living in a share house about the intention to live in 'Share house', an emerging housing type with a focus on communications between residents. Through the interviews with the target singletons, they were asked about the intention to live in the emerging housing type. The answer from the Singleton 13 below is indicative of the overall opinions of the respondents.

I have an intention to live in share house… this is because, Based on the personal experiences of living in one-room, the studio type without any additional room was inconvenient in terms of size and quality of housing. Also, if the housing cost is the same in both types (current one-room and share house), share house would offer higher qualities of residential environment such as spacious living areas than the current small housing. The only thing I'm concerned about a potential conflict among housemates. If the relationship is good, everything would be fine to live in the housing.

….However, I don't want to live in the share house if I have no choice but to live in double-occupancy type. I want to have my space even when living in the share house.

First, when asking about the intention to live in a share house without giving them a detailed description of its housing environment, about 41% of the respondents wanted to live in the housing type. And then, they were requested to answer the same question again after hearing the current situation of share house that most share houses consisted of double-occupancy rooms, the result totally changed. Approximately 20% of the respondents answered they would want to live in the housing type, and the proportion of 'want to live alone' overwhelmed the other response by four to one. According to the outcome, many of the singletons who were in favor of living in share house wanted to have a single room.

In addition to the issue of room, there was one more major issue which affected the intention to live in the housing: 'who are the housemates?' The following descriptions can support the importance of the factor.

If I live in the share house with beautiful girls, I would love to live there, but if I live in the housing type with men, I would never live there.

Living alone singleton 5

I'm interested in living the housing type, but the housemates should be trustworthy. It is hard for me to live with unknown people together in the house.

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If the cost of share housing is affordable, it would be fine to live. But the issue of housemates would be significant, especially for women dwellers.

I prefer to live with more than three roommates in a house than two, because when I lived with just another roommate, it was hard for me to deal with conflicts with the mate. If there had been three roommates, one would have sorted the conflict out for us… most of all, the issue of who my housemates are is the most important thing.

Living alone and house sharing singleton 44

Economic Aspect

With respect to the housing cost, although the singletons recognized that the housing cost was quite expensive, many of them seemed to afford it by their income as follows:

It is true that the housing cost is expensive… but I can afford the cost.

Living alone singleton 5

The economic situation has been better than when I was a university student. Although housing cost is expensive, I could pay for it for having my space.

I have wanted to live alone for a long time… particularly live in a duplex type of officetel. Now I'm living in the housing type and the cost of it is almost double compared to the price of one-room type officetel. In spite of the expensive cost, I'm very satisfied with the housing.

Living alone singleton 19

Based on the economic tendency, the research asked them the following additional question:

"Would you want to move to a new house that met your requirements, even if the housing cost increases by about 10-15% of the current housing cost?"

Results showed that the proportion of 'Move to the new house' accounted for about 67% of all singleton interviewees, and it made for twice the rate of 'Do not move to the house'. Interestingly, there seemed to be a kind of its optimum level, that is, when the rate of rising housing cost rose over 20%, most respondents did not want to move but would live in the current house, enduring the inconveniences.

Lifestyle: Having a Meal at Home

In the perspective of 'Lifestyle', having a meal in the house was the most major issue for the young singletons. Based on the qualitative data, they hardly use the kitchen area and usually eat out or at the workplace cafeteria. The major reason was that because they were busy professionals, they did not have enough time for having a meal at home. Also, laziness was an important reason. In addition to these reasons, there were interesting approaches to the phenomenon.

> *Although I do not usually have a meal in the house, the kitchen is too small to cook. In particular, the small stove doesn't seem fit to cook a diverse kind of stew popular in Korean cuisine. This architectural situation has made my dietary life change to eat out.*

> *Living alone singleton 7*

> *When cooking at home, I try to make food waste as little as possible. Or I usually eat outside. I hardly bring something into the living space, which might make the food wastes.*

> *Because I live in the terraced house where there is no separated bin for food waste I need to dispose of the garbage by gathering them into a standard plastic garbage bag and then putting it outside of the house (in front of the house) on a given day every week. It is such a bothersome task for me, and thus I try to cook at home producing as little food garbage as possible.*

> *Living alone singleton 10*

Personally, the disposal of food waste is a seriously bothersome task for the residents who live in a one-room or officetel. In the case of apartments, the residents can dispose the food waste whenever they want, pouring into the bin for food waste, normally located outside of the house (in the garden area). But, in the case of officetel or multi-family housing, the residents should gather the waste into a standard plastic garbage bag, and then put it outside of the house on a given day of the week.   Also, solo dwellers normally eat outside and make little food waste at home. In this situation, it is a waste of money to put the standard plastic garbage bag out with little amount of food waste, or it is very uncomfortable to wait until the bag is filled with enough food waste because of bad smell.

Living alone singleton 8

Based on the above answers, the structural limitation had an influence on the eating pattern. Also, food waste disposal seemed to impact on the lifestyle. Unlike the UK, Korean households are required to collect and throw the food waste into the waste-disposal unit. This disposal is a very tiresome duty particularly for the busy young singletons, and it can be a trigger to change their eating habit.

Aspirations

There were a variety of aspirations from the young singletons in spatial, residential environmental, housing design, sharing and community, and maintenance issues. The aspirations were highly associated with complaints about current housing environment as mentioned in the sections above.

(i)   *Architectural Design Issues: Spatial Aspects and DIY Interior Design*

First, in the perspective of housing space, there were two main aspirations: space zoning and effective space usage. As mentioned in Section 7.3.1 on architecture and design, the singletons had a desire for interior space division in their housing such that each space would have their own meaning such as a place for eating, sleeping, and working. The larger housing with more than two rooms could satisfy this aspiration, but practically they seemed unable to afford it. With an economically realistic perspective, even if living a small-sized one-room, they wanted to have divided space for different uses. The aspiration was highly associated with their desired housing type: small apartments.

In the situation where the size of the housing was generally small, and the storage space was also insufficient, there was an aspiration for improving space efficiency. Providing sufficient built-in spaces seemed to be needed in the housing, and smart furniture such as that which switched from a sofa in the daytime to a bed at night was also considered as a potential alternative.

Second, as also previously mentioned in Section 7.3.1, many young singletons had an aspiration for interior design. According to some female respondents, they preferred to live in an unfurnished house because they could have enough space to decorate or arrange the interior space, and the housing cost of the type would be cheaper than the fully furnished housing type. This preference can be associated with the aspiration of many young singletons for buying

furniture or products manufactured by IKEA, a global furniture retailer. By those products they could easily improve design qualities of the residential space.

(ii)   Residential Environment

Many of the young singletons had aspirations about improving the housing environment regarding issues such as light, ventilation and noise. In terms of the light, window was the major concern. They were dissatisfied with the poor light and view, mainly driven by a small window and an excessively short distance between buildings. Interestingly, a female respondent complained about the big size of the window in her house because of a breach of privacy as below.

I hope that inner residential space is visually protected from the outside of the house.
The size of window in my house is too big… I would mind as a woman who lives alone.

Living alone singleton 11

Next, they hoped to improve the quality of ventilation. They suffered from smells of food, humidity after taking a shower, and cigarette smoke coming in through the ventilator opening. In addition, most of the housing in which the interviewees lived had a poor quality of soundproofing.

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(iii) Sharing and Community

Some respondents mentioned demands for sharing and having a community atmosphere in the housing environment as follows:

Sometimes, I need some place to share daily items which are not used frequently and are too big to keep in the small-sized housing such as a vacuum cleaner and a hammer.

Living alone singleton 12

I hope to create community space in which tenants can have communication together in a natural atmosphere in the residential building. If I were a building owner, I would make the space. Especially, I would make communal dining room for the tenants who are mainly office workers, having breakfast together in the space.

Living alone singleton 6

(iv) Maintenance Issues

The aspirations for housing management service were also noticeable among the solo dwellers. Due to living alone, they had been struggling to handle a large amount of house chores. In the situation, they had both aspirations and discontents for the housing management as

follows:

> *Umm… It is the most uncomfortable thing that I have to do all the housing related chores by myself.*

> *Living alone singleton 9*

> *As a solo dweller, separate garbage collection, cleaning the house and disposal of food waste are very bothersome. I hope someone will do those instead of me. In particular disposal of food waste is too much burden to me.*

> *Living alone singleton 12*

> *The quality of maintenance service in the housing sector for solo living should improve. Normally tenants ask their landlords about maintenance issues, but many landlords or building owners are not kind enough to offer the service and they are not an expert in fixing all housing equipment such as the broadband internet connection, plumbing and electrical work. Sometimes, there are conflicts between tenants and landlords due to the maintenance issues. In addition, although I pay the maintenance fee every month, I do not know the detail of expenditures. I think specialized housing maintenance companies are needed in the housing sector in order to deal with the problems that I mentioned.*

> *Living alone singleton 20*

Based on the aspirations, living alone could often cause tiresome problems such as receiving a parcel when there is nobody at home, disposal of waste, and other diverse maintenance issues.

7.3.2   Share House Living

Through the in-depth interviews with the young singletons who had experiences of living in a share house, the research generated detailed information of share house living, and analysed the data with five major nodes: architecture, economic aspects, human relationships with house mates, intention to live in share house, and aspirations.

Architecture

With regard to the architectural aspect, major housing types in which the interviewed singletons mainly lived and their characteristics were explored. First, most of them lived in a multi-family housing, sharing the kitchen, the living room and the toilet. The interviews revealed characteristics of the detached and multi-family housing as a share house as follows:

> *The multi-family housing is normally an old residential building, thus it has poor interior space zoning and there are too many unusable spaces.*
>
> *It is very cold at night…. it is a common characteristic of an old house.*

> *Living alone and house sharing singleton 40*

Human Relationships with Housemates

With respect to the human relationship aspects, most of the interviewees had good memories with other housemates; particularly eating together and having communication and going out with them frequently were meaningful experiences for the singletons. The interviewees said:

There were positive human relationships with housemates. I was satisfied with eating and hanging out together.

House sharing singleton 41

During the period of living in the share house, I did feel little loneliness. In particular, eating together, and exchanging greetings were good for me.

Living alone and house sharing Singleton 34

However, some interviewees gave meaningful comments that, as time passed, there seemed to be possibilities of conflicts between housemates in the relationship aspect. One interviewee said:

It was hard to have some private time and space during living in a share house. Although my roommate had a good personality… [and] so did I.., as time went by, we started arguing because of something small.

Living alone and house sharing singleton 37

Based on the responses, there seemed to be two sides to living together in a share house in

terms of the relationship aspect.

Economic aspect

In terms of the economic aspects of living in a share house, most of the interviewed singletons were satisfied with the cheaper living cost than that of other one-room housing types such as officetel or small apartment. According to the interview with one of the singletons who lived in a share house, the interviewee said:

> *The experience of living in a share house was quite good. Most of all, the housing cost was cheap.*

> *Living alone and house sharing singleton 33*

Based on the interviews, economic aspect - cheap living cost - was one of the significant merits of share house living.

Intention to Live in a Share House Again

The interviewed singletons who lived in a share house or had experiences of living in the housing type were asked whether they intended to live in a share house in the future. Answers

were divided on the issue. First, some singletons showed negative opinions on living in the housing type.   The interviewees said:

Now I am using a single room with my friend, I do not want to share the space with other people anymore. I want to have my private space.

Living alone and house sharing singleton 42

Although I was satisfied with the cheap housing cost, I do not want to live in the share house again because of uncomfortable housemates. Some of them were not my type.

Living alone and house sharing singleton 44

However, some of the interviewed singletons who were using a single room alone and lived in a share house well-managed by companies such as WOOZOO or D-well showed a positive intention to live in the housing type. The interviewees said as follows:

I am quite satisfied with living in the share house because there are rules for share house living among housemates, made by the residents together. Through the engagements, we can avoid possible conflicts with each other. I want to stay in the house longer.

Living alone and house sharing singleton 35

I want to live in this share house as long as possible. This is because I am using a single room alone in the house, and it is very good point. I can secure my privacy at the same time have communication with other dwellers.

Living alone and house sharing singletons 34

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The interviews thus revealed human relationships and privacy issues to be significant factors in making a decision to live in a share house again or longer.

Aspirations

    The overall satisfaction of the share house living of the interviewed singletons was high because of the warm human relationship, good location and cheaper housing prices. They however showed many specific inconveniences and aspirations in terms of living in a share house. They firstly wanted to have a private space in a share house as mentioned in the previous sections on economic aspects and intention to live in share house. Although they were in favor of communication with others, they had an aspiration for having a single room. Another important aspiration was that many of them hoped to have nice and congenial people as housemates. In addition, there were several detailed aspirations based on the inconveniences such as uncomfortable toilet use, fridge use and limitation in inviting friends. The interviewees said:

> *The issue of toilet usage left much to be desired… especially in the morning all the residents are getting ready to go to work.*

> *House sharing singleton 41*

> *Because of living together, ownership of household items or food was indistinguishable. For example, I felt someone used my shampoo without asking my permission. Also,*

sometimes, the fridge was filled with other dweller's food so I did not put my food in the fridge.

Living alone and house sharing singleton 38

I was not free to invite my friends to the share house. I had to consider other housemates.

Living alone and house sharing singleton 33

Although many interviewed singletons were satisfied with the share house living mainly due to economic and human relationship aspects, there were several important things that needed to be improved, such as lifestyle conflicts, securing privacy, and ambiguous ownership issues.

7.4   Findings 2: Relevant Experts

This part sets out the analysis of in-depth interviews of 11 experts such as the housing company managers, architects, designers, researchers, professors and policy makers, as well as site visits of a D-well Community house and a RICHEVER residential building. This part is categorized into three main aspects: share house, young singletons, and urban regeneration, based on the outcomes of coding processes by NVivo.

7.4.1 Share House Living

In order to figure out the detailed information of share house living and relevant companies, in-depth interviews with managers of WOOZOO and ROOT IMPACT were conducted. Also, a site visit to the D-well Community house that was run by ROOT IMPACT was carried out. In this part, the research shows the findings related to the share house issues in six perspectives: architecture and housing design, human relationships, policy, management, economic aspect, and future perspective.

Architecture and Housing Design

From the interviews of managers working in the share house companies, the research found the four main issues which were highly associated with architecture and design aspects: renovation trend of the housing, room sharing issue, community-friendly housing design, and premier share house.

(i) The Renovation Trend

The first finding is the trend of share house renovation. Previously, there was a trend of renovating old multi-family houses were renovated to a share house by repairing and decorating, but there were limitations to achieve sufficient qualities for the residence, compared to living

in apartment housing. Thus, recently, the share house company tends to choose an apartment housing - relatively new housing - to renovate it for share housing. A manager in a share house company, WOOZOO, gave a meaningful comment about the new renovation trend for share houses, saying:

We started to open the apartment-based share house since the 8th WOOZOO house. You know, previously, old and poor-quality detached or multi-family houses were renovated and repaired for the WOOZOO share houses (see Figure 7-5). Because the houses were basically in poor conditions there were limitations to fix it, and the satisfaction of dwellers in the old houses was much lower than those who lived in apartments. Now, WOOZOO plans to open new share houses in the apartment type.

Expert 3: Marketing manager

Based on the interview, there was a recent tendency among the singletons who were interested in living in a share house that they wanted to live in the housing that did not compromise for poor residential qualities. Thus, it was unavoidable to start renovating apartments, which normally had good residential qualities, into share houses for fulfilling the singletons' aspirations.

Figure 7-5 Interior scenes of WOOZOO share house 3

(ii) Room Sharing

Secondly, the research examined the dynamics of the room sharing issue in share house. Generally, it has been known that the share house offers a common living room, kitchen, toilet, and a private room for residents. In particular, regarding the current situation of room sharing, the manager in WOOZOO said the following based on WOOZOO cases.

> *…yes, the WOOZOO share houses mainly have rooms for two people. The houses have few rooms for single occupancy.*

> *Expert 3: Marketing manager*

It was common that two dwellers lived together in a room, while having a private room was relatively few nowadays. This was highly related to the economic issues such as offering cheap

housing cost.

(iii)   *Housing Design for Improving Communication: D-well Community House*

Thirdly, some housing companies, seeking an emerging community in the housing, tried to improve housing design qualities in order to increase communication and decrease conflicts between dwellers. The housing project 'D-well', conducted by the social enterprise 'Root Impact', is a good example. The housing project aims to create a synergistic effect by living together in the 'community house' where the housing type was focused on communication among dwellers. Particularly, the housing project was carefully designed in order to engender active communication and avoid negative human relationship issues among the residents.

There were five major architectural considerations in the community house for maximizing communication and minimizing conflicts among residents in the house. First, the project intentionally focused on doors: door-lock and a colour (see Figure 7-6). The manager in Root Impact explained it, saying:

> *Basically, the community house was based on trust among the dwellers. Sometimes, the trust was shaken by minor mistakes or misunderstanding. Thus, the door-lock could prevent unexpected social conflicts. Also, the colour of the door was dark brown, appearing like an iron plate, in order to intentionally give an impression that each room was a private space.*

> *Expert 5: Manager in co-working space for change makers*

Figure 7-6 D-well Community House Living Room1 Scene (Door Lock)

Second, the bathroom was carefully designed to have high spatial efficiency as seen in Figure 7-7. The manager said:

The bathroom was one of the most concerned spaces in the community house because four dwellers use one toilet. The best efforts in the spatial aspect were to create storage space as much as possible; to divide separately the bathroom into a shower booth, a basin and a loo.

Expert 5: Manager in co-working space for change makers

Figure 7-7 D-well Community House (Bath Room)

The toilet design was carefully considered as the space could get overcrowded. This issue was one of the significant inconveniences and aspirations of the interviewed singletons.

Thirdly, the moveable partition could minimize the conflict in a room where two single persons were living together as seen in Figure 7-8 below. According to the manager, the partition could visually block and spatially create a personal space between roommates in the room.

Figure 7-8 D-well community House Room 204

Fourthly, in addition to the efforts for having private space, the project also intended to create a space to maximize the level of communication among the dwellers: living room (see Figure 7-9). The manager explained the architectural design, saying:

Before renovating the community house, the building consisted of four separated houses which had a living room each. Through renovating the whole building, the individual houses have become one community house, sharing the four living rooms. Now, all the 16 dwellers can share four living rooms. Particularly, every living room has its own characteristics, for example, this living room not only has a big and wide dining table in order to have a meal or drink an alcohol together, but also a beam projector for watching a movie or football matches on the big screen. Another living room is a comfortable space to have a chat, lying down on the floor, and the other one has sofas and a television. This way, each living room has a slightly different concept in order to make a variety of lively communications in the house.

Expert 5: Manager in co-working space for change makers

Figure 7-9 D-well Community House Living Room 2 and 3

Finally, the architectural design consideration to increase the positive human relationships was delivered in the kitchen area as seen in Figure 7-10. The washing-up space was located at the corner of the board in order to do washing dishes by two people. Also there were a small bar style space and chairs in front of the sink, which enabled the dwellers to interact with others during the washing-up. Moreover, the location of the electric range moved to a middle of the kitchen board in order to allow residents to cook together.

Figure 7-10 D-well Community House Kitchen Scene

Based on the considerations of architectural design, the D-well community house was a good example of well-designed share house. These kinds of considerate housing design can improve the quality of life and minimize the potential for conflicts in the housing type.

Human Relationships

In the perspective of human relationships in share house, particularly, the share house companies tried to keep dwellers' relationship in harmony by making rules, having regular social events, and seeking 'community house'.

First, one of the efforts for good human relationships in share house was making a rule in the share house. In case of WOOZOO, setting a rule in the house was freely done by the housing residents. However, the company gave them a guideline such as setting a cleaning rota. The dwellers were then required to submit the finished rules to the company because, although it hardly happens, if some problems did arise, the submitted rules could be evidence or a guideline for solving the problems.

Another effort for the relationship issue was that some companies held regular meetings or events for the single person households who lived in the housing. WOOZOO holds a regular meeting every month for the residents in order to share their life stories, and even invite people who do not live in the share house for telling them stories of WOOZOO life. It was a good idea for the relationship, but it seemed to require more careful consideration.

> *Generally, some people might think that many share house dwellers participate in the regular meetings or events. However, as time goes by, their priorities have been changed. At the beginning of the sharing life, they enjoyed the new lifestyle, showed a great amount of interests on other dwellers and the events or meetings by WOOZOO, pushing back their personal life on the priority list. They recognized after the lapse of time that their work or personal issues was more important than public events. Thus, the rate of participation of the dwellers on the periodical social events has decreased.*

> *Expert 3: Marketing manager*

The continuous social events hosted by the companies were good methods to increase communication among dwellers, members of the companies, and the public. Although the residents' interests on the events had gradually decreased, it could be meaningful for the new dwellers in the housing to adapt to the new housing environment.

One share housing project actively approached the human relationships: 'D-well Community house'. As shown in the 'Architecture and Housing Design' section above, the D-well community house tried to minimize conflicts and maximize harmony in the share house. The manager in Root Impact explained the main concept of the community house, saying:

We call this housing 'Community house' for Change makers, who are creative people and able to make positive social changes in their fields. The reason why the house is called community house rather than share house is that the 'D-well' project mainly aims to create a community among the creative dwellers, while most share house companies economically aim to earn money by rental business. In the project, we have approached the sharing issue differently. Community, no matter what definition is used, is all about relationship among people… we started the housing project with this main notion; if there is no community in the house, the house no longer exists, that is, if dwellers just had a meal and sleep without any communication among them, this house would be meaningless.

Expert 5: Manager in co-working space for change makers

In summary, based on the interviews with managers in the housing companies, human relationship issue was one of the most important aspects in the share houses. To keep a positive communication among residents, they attempted to several social events such as regular

meetings, making rules, and focusing on fostering the community in the house.

Economic aspect

With respect of the economic issues, the research looked into the form of the share house business and its profitability, based on the interviews with managers in WOOZOO and Root Impact as well as documentary researches. First, most share house companies generally carried on rental business. The interviewed manager in WOOZOO explained the process of the business and its difficulties as well, saying:

> *We firstly leased houses from landlords, and then let the houses to the singletons. In this type of housing business, there were some difficulties such as low price-earnings ratio from each share house, and persuading the landlords. Particularly, the landlords, normally aged over 50s, tended to be worried by the new business structure because the kind of share housing business was unfamiliar to them. Also, it was essential to explain the re-rent business issue to the landlord and get permission for it when they signed the contract; if not, it would have been illegal.*

> *Expert 3: Marketing manager*

Based on the interview, the share house company uses double renting process - lease the house for a longer period of time (the norm is two years followed by renewal) from landlords and offer rental housing to tenants in a relatively shorter period of time again. Because the share house business had been emerging as a new type of business in Seoul, there were many difficulties and obstacles in operating the business.

The second economic issue was profitability, an important issue to the share house companies; but it did not appear to be easy, based on the interviews with managers in WOOZOO and Root Impact. The manager in WOOZOO spoke of the profitability issue, saying:

Making a profit is not easy because we also have to pay monthly rent cost to the landlords.

In case of WOOZOO, in order to maximize the profitability, the company needs to open and manage as many share houses as possible while maintaining a low level of vacancies. The share house business has a limitation in a quantitative aspect, that is, if over 80 people hope to live in a share house with 8 rooms at the same time, there would be not enough rooms to live all together in the house.

Expert 3: Marketing manager

D-well community house project, however, had a different profit structure compared to other share house companies. Root impact, conducting the D-well project, is a nonprofit corporation, and they operated the D-well community house not for making profits but for social issue such as engendering positive social changes through change makers who live in the community house. The manager in Root Impact explained of the profit structure as follows:

As you can recognize it by looking around the interior design, the housing cost (280,000 won a month) is impossible compared to the average market. This area, Sungsu-dong, is recently emerging hot place, increasing in land prices, and even Seoul Forest is located nearby the area within a minute on foot. Also, the community house is

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renovated, and has trendy interior design, roof garden and community space in the ground and underground floor, named the Salon. Therefore, based on those, the rental cost is absolutely insufficient to run the community house from an economic perspective. The secret is charity. The landlord let the house at a cheap price to Root Impact. The most important action was to persuade the landlord. We are now looking for new landlords who are interested in the social issues such as sharing and community, and keep a close eye on the D-well community house in order to expand the social project. Also, we are keeping in touch with Korea Social Investment, a corporation with the purpose to support social projects financially.

Expert 5: Manager in co-working space for change makers

Based on the two cases, running share house did not seem to be economically profitable. In order to overcome the situation, they ran the housing business with small profit and quick returns, or were supported by public funds and individual landlords.

Political Aspects on Share house

Share house, no matter what specific purpose it is for, is largely for keeping the pace with the rapid increases in young single person households, as well as for residential stabilization for them. Although the government in Seoul tried to solve the housing problems by supplying a new housing type named 'Urban Lifestyle Housing' since 2009, the outcomes seemed to fall short of resolving the problems. In order to successfully operate the new housing type of share house in the Seoul housing sector for single person households, cooperative activities including political and research supports seemed to be required.

The political issues regarding share house in the Seoul context were explored, through an interview with the professor of real estate in Kangwon University in South Korea who was former researcher in Seoul Institute and researched the issues including single person households in Seoul, Urban Lifestyle Housing, share house and urban regeneration in Seoul context. The expert said:

In order to have competitive power in the new housing type of share house, it is necessary to be awarded with incentives, and have a rational political guideline for the issue, based on support by the government. These political supports can help the housing type to have sustainability. There seem to be limitations to run the share house business by several private operators only.

Share houses need to be studied more in quantitative and qualitative perspectives. The Seoul context is too complicated and complex to apply or copy from the cases of other global cities.

Also, now, policies for the housing issue are not fully implemented due to a lack of legal grounds. An in-depth research for the issue seems to be needed.

Expert 1: professor of real estate

In the aspect of sustainability, share house was highly likely to get political supports by the government, based on in-depth and wide research and investigation about the housing environment in Seoul.

Also, another interviewed researcher in Seoul Institute gave me important information about housing policy by Seoul Metropolitan Government to supply share houses in Seoul. The expert

said:

> *In Dec 2014 housing policy office in Seoul metropolitan government announced a plan which is associated with the share house issue. The policy title is Community type rental housing. They intend to gradually supply about 3,000 of the housing type until 2018.*

> *The rental housing plan included several specific housing types such as mixing 1 & 3 generations sharing house, car sharing house, using empty houses for share house, public land lease-based housing, and the cooperation union-based housing*

> *Expert 10: Senior researcher on urban issues in Seoul*

Based on the interviews, Seoul Metropolitan Government started to consider the issues of young single person households and housing supply for them as important political issues. In particular, in terms of sustainability of share house in the housing sector, it seemed to need further academic and political supports.

Improving satisfaction of residents

Share house companies tried to improve the quality of share house living for the residents. WOOZOO has made efforts to hear any comments from the dwellers, including complaints and compliments regarding the share house life. The manager in WOOZOO said:

Based on the feedback, the rate of being satisfied in the living experience accounted for almost 80% of the respondents. Particularly, they were likely to be satisfied with living together. To be specific, female dwellers were especially satisfied with the housing type due to having a meal together, good security, and caring each other when they are sick. However, there were some complaints about facilities in the house such as water leaking and poor insulation, as share houses were normally not new but refurbished houses which were old, of poor quality and empty before the renovation. Moreover, they were dissatisfied with lack of privacy in the house because most rooms were for two people living together.

Despite of the complaints, many dwellers in the house decided to renew the tenancy because the relationship among the housemates was so good. They often went out and watched movies together. They quite enjoyed the lifestyle of house sharing. Also, in case of the 12th WOOZOO house, male dwellers lived downstairs and female residents lived upstairs. Their relationship and communication were especially good because of synergistic effects among them.

Expert 3: Marketing manager

Although there were some complaints about the share house living, the company tried to listen to voices of their tenants and actively deal with the problems. Thus the overall satisfaction of living was quite high, especially based on good human relationships among dwellers and good management by share house companies.

Future perspectives

Most experts anticipated that the share house would be more popular and prominent housing type in Seoul in the future, based on the interviews. Particularly, one of the significant opinions was that the housing type appeared to be a kind of living trend, rather than an unavoidable

housing type for young single person households due to affordability; in other words, it was a matter of preference. The interviewed experts including an architectural designer and a share house manager said:

> In South Korea, it seems that there are some groups, young professions from the countryside who have aspiration to live in share house, and the housing type appears to be rather needed to public in general. It is a kind of lifestyle trend. It is likely that more affluent people want to live in the share house.
>
> *Expert 6: Architectural designer*

> Also we think that the share housing is not a housing type to live long but a type for having experiences. Because we are regarding the housing as a house to offer experiences to live with other people from six months to a year, we do not maintain that the housing type is a perfect alternative type without questions. We think that the housing type needs to approach people as a kind of experience.
>
> *Expert 3: Marketing manager*

With the bright outlook of the share house sector, the share house-related companies focused on expanding the business. In the case of WOOZOO, they previously targeted university students who lived in Gangbuk areas, but they planned to open new share houses in Gangnam areas, targeting young office workers who lived alone. Also Root Impact was looking for other social funders and landlords to expand the D-well community house project.

Some experts including a professor of urban planning and design, a relevant policy maker, and a researcher emphasized the supports by the governments and the affordability of the housing:

The share house business is not profitable in the housing market, so it is necessary to have supports by the governments. If not, the qualities of the housing can be poor… maybe worse than the gosiwons.

Expert 2: Professor of urban planning and design

The share house can be meaningful when the housing type aims to have affordability and residence stability for the young singletons in Seoul. The living cost of the housing type can be cheaper than other types through space sharing. That is the best advantage of it.

Expert 1: professor of real estate

From the opinions, one of the most important advantages of the share house was cheaper living cost; and at the same time, one of the disadvantages, especially to the housing suppliers, was low profitability. In order to satisfy both of them, the efforts and supports by the governments seemed to be needed.

7.4.2   Housing Environments for Living Alone

In this part, the research explains some meaningful findings related to the housing issues for the singletons who lived alone in five perspectives: architecture and design, human relationships, policy, economic aspect, and future perspective through in-depth interviews with relevant experts such as a landlord of residential building for the singletons, professors,

researchers and architectural designers.

Architecture

The researcher had in-depth interviews with the landlord and CEO of RICHEVER, a brand of residential housing for one or two households, and two architectural designers in order to ask about the issue of housing for the rise of young single person households in Seoul, particularly from an architectural aspect.

Based on the interview with CEO of RICHEVER and the site visit to RICHEVER building, the current situation of typical housing environment for the single person households and architectural considerations for residents' convenient dwelling and community issues were figured out. The CEO of RICHEVER said the following about the issues:

> *RICHEVER offers over 100 small, comfy and fully equipped housing units for one or two households. In each housing unit, there are a bed, TV, wardrobe, chest, air conditioner, and fridge. RICHEVER tries to meet residents' needs as much as possible.*

> *There are community spaces, communal kitchen and dinning rooms, water purifiers, and washing machine in the corridor of each floor. RICHEVER carefully considers the community of tenants as well as their convenience of living.*

> *Expert 4: CEO and landlord of the residential building for solo dwellers*

As seen in Figure 7-11, the units of RICHEVER were well fitted-up housing for single person households. It seemed to satisfy the practical needs of the dwellers. However, the young professional singletons tended to want more than the practical aspects. As mentioned in Section 7.3.1 (Architecture and Design, and Aspiration), the interviewed singleton who lived in RICHEVER wanted to do DIY interior design and unfurnished housing.

Figure 7-11 Residential Unit of RICHEVER

The RICHEVER also had community spaces such as communal kitchen, dining room, computer room, and laundry room, as seen in Figure 7-12 below. It could be seen that the RICHEVER, unlike the majority of housing for singletons in Seoul, tried to understand the lifestyle of young professional singletons and their aspirations.

Figure 7-12 Corridor and community spaces in RICHEVER

In addition to the example of the current housing for singletons and architectural considerations, two interviewed architectural designers gave insightful comments on the housing environment for the singletons in terms of architectural aspects, saying:

Existing dominant housing types for 3 or 4 family members will change to those for 1 or 2. This is an inevitable trend. In the changes, people will be deficient in communication and human relationships which used to be fulfilled in the previous housing type. Seoul, the compact city, seems to have no more land to build new houses, buildings for the rapidly increasing population. In this context, the housing renovation would be a solution for it- that is, the relatively large houses for 3 or 4 dwellers could be divided into 2 houses, letting one of the houses to a solo dweller. The owners of the large house are normally aged over 60s, and in some cases, even suffering from an economic burden by repaying the interest of the loan secured on the house. The suggested method could solve the both the young and old generation's housing difficulties.

In Seoul, there are a large number of apartments, and there is no more space to build more houses. Recently, living in suburban areas is an emerging trend. The citizens have moved to the outside of the city centre, mainly due to expensive housing cost. The apartments most of which are old, large and sized 50-60 pyeong, are becoming unoccupied houses. Based on the tendency, the hollowing-out phenomenon might take place in Seoul.

Expert 8: Professional architect

Based on the interviews, they were concerned with the impact of the demographic changes on the housing environment and the city. In particular, a demand for the size of housing was expected to change in order to keep the pace of the rising number of single person households. The expert also emphasized an appropriate architectural design for the changing housing environment, dividing current big apartments into two smaller houses for example.

Human Relationships: community space

Ideally, an increase in social interaction among the single person households in community space seemed to improve their quality of life, relieving social isolation. However, from the standpoint of landlords or building owners, it appeared not to be an easy problem to solve. The professor of real estate mentioned the community space issue from the stance of landlords, saying:

Making a community space inside of the building has a massive influence on profitability. In the position of the house owner, if the common space were created in the house, additional maintenance expenses would be involved, increasing financial burden on them. In my viewpoint, there are few or no choices to solve the issue in individual buildings. However, if a floor is used as a common space for residents and one more floor is allowed to be built as a residential space in the building, the building owner might try to do that. The important thing in this assumption is that the community space will have a quite high usability in order to be legally backed by the building codes. The problem now is that there is no guarantee that it has such utilization. The community space issue would need ample grounds, so that it could be institutionalized and the relevant bill be passed in the Parliament to be a law. Personally, I think there seem to be no case to prove what influences the community space has on young single person households in Seoul.

Rather, there have been discussions on the public space being placed in an urban village unit, using it as a community centre for all local people. Among the building owners, meanwhile, there have been few or no discussions about it.

Expert 1: professor of real estate

In line with the comment from the interviewed expert, some interviewed landlords and building owners had negative viewpoints about creating community space in the building based on the economic burdens. The interviewed CEO of RICHEVER said:

In the RICHEVER building, there are small sized community resting spaces for residents each floor, but it seems that they do not actively use the space or interact with each other.

Expert 4: CEO and landlord of residential building for solo dwellers

Unlike the aspirations for having community space in the residential building by the interviewed singletons, the landlord had a negative stance about the community space.

Policy: Failure of Urban Lifestyle Housing

The government has been struggling to keep the pace with the rapid increases in the young single person households in Seoul and its housing problems by supplying housing and easing regulations related to it. One of the major efforts was Urban Lifestyle Housing, which is a kind of cheap and fast-supplied multi-unit residential building mainly in order to keep the pace with the sharp increase in one or two households in city centres and supply affordable housing to the population (detailed information in Chapter 4, p.106). The housing system mainly aimed to help the singletons' residential stability. One of the interviewed experts who conducted several researches about Urban Lifestyle Housing issues, however, thought that the housing system failed to carry out one of its major duties: affordability.

> *The living cost of Urban Lifestyle Housings is so expensive…. Although Urban Lifestyle Housing system satisfied demands for supplying enough residential units to the young singletons, it seems that the housing system has failed. One of the main reasons of the failure was that there were not enough political guidelines for the system, whereas there were attractive incentives for it. The system allowed the building to have one more additional floor built, having car park space in the ground floor, and eased regulations related to car park. In a word, the new housing type had business value. However, these incentives without right guidelines caused improper urban development in the old Built-up area. Local people did not like the rapid increases in the new houses in the area. Why did they hate it? As I know, the newly resident single people made noises at night, or the local people were repulsed and unfamiliar with the strangers. In addition, the rapid thoughtless development caused inconveniences to them such as too many*

constructions in a short period, noises, and overload on public infrastructures.

There were no considerations about the qualities of the living in the house, or any impacts on the local areas and people, due to focusing only on the business value.

Expert 1: professor of real estate

Based on the opinion of the expert, the Urban Lifestyle Housing system has failed to satisfy the demands for housing quality issues, affordability and harmony with local environment. Although the housing system has kept the pace of the significantly increasing population by enough supplying houses, there have been no careful plans and guidelines to control and prevent the system from the side effects.

Economic aspect: for both tenant and building owner

The young single person households in Seoul seemed to suffer from the housing expenses. Paradoxically, the group who live in Urban Lifestyle Housing has paid relatively expensive rental cost more than other housing types, although the housing type is mainly aimed at housing affordability (Lee, 2013a). The interviewed researcher in Seoul Institute emphasized the expensive housing cost of ULH, saying:

The housing cost is absolutely expensive especially for the young single person households. From the figure of the target group's R.I.R (Rent Index Ratio), the average of the rate is over 35%. It seems to be a big burden for them.

The singletons spent many expenses on the rental cost every month, and thus it seemed to be difficult for them to save money for the future. On the other hand, from the standpoint of building owners who ran lease business for the single person households, they had also been through a tough time. One interviewee, a building owner, and landlord of RICHEVER, mentioned the situation of the housing sector for the singletons, saying:

> *5 years ago, when I started the rental business for the single person households, I earned a large income. But after that, there have appeared a great number of renovated buildings for the rental business in a short period of time. It has become a keen competition in the market… it is hard to survive.*

> *My strategy is a low price and high volume policy. It might financially lose out a bit but it is unavoidable in order to survive in the competition… But the business has been operating without a deficit.*

Expert 4: CEO and landlord of the residential building for solo dwellers

The interviewee ran a rental business by managing a residential building consisting of 110 one-room type units and 5 commercial spaces. Through operating the business, he earns on average £ 6,000 a month. Although the landlord felt that the business was having a hard time, it seemed that his economic situation was much better than the circumstance of his tenants - young single person households.

Future perspectives

Most of the interviewed experts including architects, researchers, professors, designers and building owners maintained that the significant growing number of the young single person households in Seoul was an inevitable social phenomenon and that the housing sector needed to keep the pace with the dynamic demographic changes. In particular, the professor of real estate who conducted many researches about Urban Lifestyle Housing in Seoul stressed the need of improving housing alternatives, compensating the defects of Urban Lifestyle Housing. He said:

> *The experiences of failure through ULH should be used to improve the current housing environment and suggest new housing alternatives, dealing with the affordability crisis and reflecting residential aspirations of the singletons. The stakeholders should be committed to tackling this important issue.*

> *Expert 1: professor of real estate*

In addition, with respect to the economic aspect, the interviewed building owner and landlord gave an opinion of the housing business for the singletons, saying:

> *The outlook for the business does not only look very promising, but also very gloomy. This is because, from the negative perspective, the housing rental business is likely to closely reflect the economic situation. The depressed economic situation in South Korea is predicted to last for some more years. Thus, the condition of the business market does not look good as well. On the other hand, the number of the singletons is constantly*

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increasing. It means that the size of the business is also going to be bigger. The overall prospect about the housing business for the singletons has two faces.

Expert 4: CEO and landlord of the residential building for solo dwellers

The interviewed landlord thought that the housing business seemed to be unpredictable because of the long-term recession in South Korea.

Based on the interviews about the future perspectives, the important points were that the increase in young single person households in Seoul was an inevitable social trend and that new housing alternatives should be considered in order to deal with the potential housing problems as well as the national economic depression, particularly in Seoul.

7.4.3   The Urban Regeneration Issue in the Seoul Context

As shown in Chapter 4 on urban trends and built environmental issues for young professional single person households in Seoul, the urban regeneration issue was one of the major topics in the in-depth interviews of relevant experts. The Korean version of urban regeneration plan has aimed to mitigate and adapt to the slow economic growth, focusing on sustainable urban development. This section is categorized into two parts: the importance of urban regeneration in Seoul, and relevant human relationship issues.

The Importance of Urban Regeneration in the Seoul Context

From the in-depth interviews of experts, who were in charge of researching housing policies in Seoul such as professors and a member of the presidential Commission on Architecture Policy, they emphasized urban regeneration in terms of urban planning issues in the Seoul context. Based on the interviews, Seoul Metropolitan Government has started to conduct on human- and community-focused urban redevelopment, revitalizing local neighbourhoods and economy. The major plan of the new version of urban and housing redevelopment in Seoul seemed to be the urban regeneration plan.

The government is considering several programmes as regards housing welfare. It now looks pretty hard to supplying housing quantitatively because Seoul is already fully urbanized. Therefore, they put a high priority on how to improve the quality of housing and its stability.

Expert 2: A member of the presidential Commission on Architecture Policy

The above statement reflects well why the government has focused on the qualitative aspects of the housing environment. The urban regeneration plan arose from the situation of housing and urbanisation, and the scheme appeared to be highly associated with the research's main issue: the young single person households. Based on the relevant literatures as well as the in-depth interview with Expert 1 (see the quotation below), one of four households is a solo household in Seoul now. The important result is that the group takes up a major proportion in the population of Seoul. Also the vision for urban regeneration could be an important key to

solve the social disconnection of the targeted singleton population with the neighbourhoods.

> *When conducting the urban regeneration plan, the single person households, who account for over 25% of the total households in Seoul, can be important participants indeed. It seems to be essential to consider them as a major group for the urban redevelopment plan at an early stage.*

> *Expert 1: professor of real estate*

Given this situation, the social issues of young singletons in Seoul would be importantly considered in the urban regeneration, and the new alternative plan might compensate some shortcomings in the housing environment for the young single person households.

Human Relationships

Among the discourses of the solo living in city centre, one of the main issues is a human relationship, and no matter what definition is used, it is all about harmony. Harmonizing with the neighbourhoods both in the building and the local area seemed to be an essential aspect, backed by the trials and errors in housing policies such as the failure of Urban Lifestyle Housing, causing an over-supply without considering communication and affordability. Particularly, it seemed to be quite difficult to settle the young singletons down in the local area because the young singletons tended to stay in one area for a short period and move very often. Given this

situation, actions and detailed schemes of the urban regeneration plan would be needed to solve the human relationship-related shortcomings. The interviewed professor said:

Previous urban and housing redevelopments did not solve and even consider the human relationship issues, so it seems that the issues are sorted out through the urban regeneration. Detailed programmes in the name of urban regeneration do not cost a lot of money such as gardening alongside streets in the village and painting wall of the community centre together. Important is the participation. Working together can make them have a sense of belonging, and then they have a sense of ownership to the area and are willing to participate on local events.

In the beginning of the regeneration scheme, the young singletons should be involved into the major target group of the scheme. As the plans go by, the new comers naturally take part in the scheme as local people. This is because they have done the tasks successfully and shared experiences and memories with the local neighbours. It seems to be possible to create the positive relationship between the single person households the local people through this kind of process which the previous scheme did not have.

Expert 2: A member of the presidential Commission on Architecture Policy

As already mentioned, one of the young singletons' characteristics was that they moved around often. However, according to the expert, if the proposed solutions, such as involving the young professional singletons into the initial stage of urban regeneration plan and developing local areas with careful considerations of the lifestyle and aspirations of the newly increasing population, delivers a positive legacy, they could continue to live for long in the same area or even become rooted in the area, having a sense of belonging and creating the strong network with local communities and people.

7.5 Conclusion

This chapter has investigated the specific residential and economic situation of young and professional singletons in Seoul as well as their aspirations. The chapter has also shown the practical, political, academic and professional aspects of the issues through the analysis of in-depth interviews with relevant experts including architectural designer, urban designer, professor, researcher, building owner, landlords, managers of share house companies, policy makers, and furniture designer. In the part of the analysis of qualitative data based on in-depth interviews with targeted singletons, two case groups were classified as 'living alone' and 'living in a share house'. In particular, because share house has been an emerging housing type for the young singletons in Seoul, it was meaningful to examine the satisfaction, residential environment and aspirations of the share house dwellers in order to develop and improve the quality of share house onwards. In the analysis of in-depth interviews with relevant experts and site visits, the issues of housing environments for the young singletons were analysed with several major aspects such as architecture, housing design, economy, policy, human relationships and future prospects.

One of the major findings was the interviewed singletons' strong motivation to move to developed and more expensive housing, which related to their housing aspirations such as having a high level of spatial efficiency. This reflected the high level of dissatisfaction with the quality of their current housing, and it emphasised the need for new potential housing alternatives for the young singletons in Seoul. In addition to the housing issue, urban regeneration issues were emphasized by experts such as professors, urban designers, researcher

and a policy maker. Regarding the rise of single person households, their housing environment and socio-economic relationship with existing local communities, there are important implications for the urban regeneration plan in Seoul. The sustainable urban regeneration approach can create a socio-economic ecosystem, enabling the young singletons to better engage with local societies by supplying desired subsidiary facilities such as café, fitness centre, communal dining room and parcel keeping space in the local context, and sharing human services and daily resources with residents in the area. Based on the analysis of the both quantitative and qualitative researches, the next synthesis chapter will seek to answer the main research questions and to figure out some key findings of the research.

CHAPTER 8

SYNTHESIS

8.1 Introduction

Through the primary analysis of quantitative and qualitative research data in Chapter 6 and 7, the research discovered meaningful findings about the housing environment and lifestyle of young professional singletons in Seoul, including both statistical figures and empirical materials. From the quantitative research, the numerical and statistical information about the target group could be identified: the characteristics of their current residential situation, the satisfaction with the housing environment, their residential awareness, and housing aspirations. Then, practical, political and empirical findings could be analysed by in-depth interviews with the intended singletons and experts related to the main issues.

Based upon this data, this chapter seeks to deliver an integrated analysis, finding answers to the three essential underlying questions and then suggesting potential alternatives for bridging research gap in line with Chapter 2, 3 and 4. The overarching questions, derived from three main areas: human relationships, housing design, and economic aspect, are as follows:

- How can stakeholders such as urban planners, designers, policy makers or architects, related to the housing issues for young singletons, make an appropriate balance between 'personal privacy' and 'communicate with neighbours' in the residential environment?   (Human relationships)

- What is a well-designed housing environment applied to aspirations of the singletons?   (Housing Design)

- What kinds of economic considerations are important in order to improve the quality of housing environments for the singletons in both personal and regional context?   (Economic aspects)

Also, ten sub questions, related to the main one, are responded in this chapter. The responses to the sub questions provide a foundation for answering the three essential questions.

In order to find appropriate answers to the main questions, it was an appropriate approach to range the findings according to the three major areas: human relationships, housing design, and economic aspects. At first, in the perspective of relationship, there was a slight communication between the singletons and other tenants in the same building. Moreover, they had almost no human relationship with local neighbourhoods. In this isolated situation, their satisfaction of the social issues was quite low, and they seemed to want to have real communication with their neighbourhoods. However, it was import to note that securing private space came first. Next, from the viewpoint of housing design, they were mainly live in small sized terrace/multi-family

houses, and the housing type are overall poor quality. Particularly, their satisfaction with the interior design and spatial effectiveness was quite low. Given this situation, they tended to have high demands for DIY (Do It Yourself) interior design, and have effective indoor space such as built-in storage space and interior space division (no studio flat type). Finally, it was certain that they felt burden in terms of economic aspect of the housing cost. Although they wanted to live in an affordable house, the average housing price was too high (35% of RIR) (Yang and Lee, 2013), and there were few housing options from which to choose. Therefore, they tended to make an unwanted housing choice. However, it was noticeable that some singletons wanted to move to higher priced- housing than the house they live in now, if the house was applied to their housing aspirations. Based on the research and findings, implications of alternative housing environments for the young single person households are raised. The Table 8-1 highlights initial overviews of the findings through both quantitative (Chapter 6) and qualitative data analysis (Chapter 7), in the perspectives of human relationships, housing design, economic aspects and additional points.

Table 8-1 The Overview of the Quantitative and Qualitative Researches

	Quantitative research				Qualitative research	
	Current condition research	Satisfaction research	Awareness research	Aspiration research	The singletons in-depth interviews	Experts opinions
Human relationships	- Almost no communication with other occupiers and local communities	- Unsatisfied with current relationship and privacy situation. - Hard to pay attention to the social issues	- Want natural and face to face interaction with neighbours - In favor of share house	- Want to communicate diverse kinds of households in the residential areas - But privacy and private space are the more important than the communication	- Satisfied with share house living - In favor of communication and strong curiosity to share house - But securing private space is important, even when living in share house	- Try to solve the difficulties within the framework of urban renewal scheme. - Need governments' political and financial support
Housing Design	- Mainly small sized terraced/multi-family house - Poor quality	- Particularly, unsatisfied with interior design - 10~20 pyeong would be the best for them - Poor spatial efficiency	- Share house seems a good alternative - Need practical community space - For the singletons, main purpose of housing is taking a rest and sleeping	- No one-room - Want divided housing space - Want Apartment and Officetel - Want to enhance space efficiency by buit-in and system furniture	- More storage space - Want divided space - Want unfurnished and DIY interior design	- ULH fail - 'Community rental houses' plan by Seoul Metropolitan Government - Offer opportunities of interior design to dwellers - Need divers housing options to live
Economic aspects	- Expensive housing cost - Mostly monthly rent - Have few choices for housing types	- Clearly unsatisfied issue but most of them tend to accept the unwanted economic situation	- One of the main reasons to move to share house is saving money.	- Affordability	- Expensive housing cost - Move to share house in order to save money - Willing to pay 10~15% more than the current housing cost if they can move to new housing applied on their aspirations	- The main reason of the failure of ULH was expensive housing cost - The housing cost of share house is not cheaper than expected - Most share house rooms are for two people
Additional points		- Overall 3.2/5 - Especially, unsatisfied with interior space and design aspects.			- Want good housing management - Difficulties of food waste disposal - Window issue - Want communal dining room - No communal laundry room	- The business of share house has low profitability. - Urban regeneration or renewal is main topic in Seoul

Through the reviews of relevant literatures in terms of city centre living and the rise of young professional single person households, built environment trends in the central area and housing environment for the singletons and the socio demographic, economic and built environment trends in Seoul context, major objectives and main research questions were raised. In this chapter, at first, the main questions are examined based on the both quantitative and qualitative findings. The development indicators are then going to be set in order to establish a guideline to suggest potential housing alternatives for the professional solo dwellers. The typology of the singletons is also addressed for subdividing the young singleton into three groups in order to be applied to different types of the housing. Integrating all the data and analysis, finally, the potential housing options are suggested.

8.2   Synthesis: Comprehensive Approach to the Main Research Points

As seen in the introduction section, the main questions about the housing related issues for young professional singletons in Seoul are mainly categorized into three areas: human relationships, housing design, and economic aspects. In order to analyse the questions, the findings derived from both quantitative and qualitative researches needed to be analyzed together. This is because both the statistics and empirical results had their own weaknesses and it could be possible to complement each other through a more comprehensive approach. Based on the synthesis, firstly the sub questions are considered, and then the responses ultimately contribute to addressing the broader main questions.

8.2.1 Fulfilling an Appropriate Balance Between 'Privacy' and 'Community' in the Housing Environment for Young Single Person Households

Sub Q1: Is the communication with neighbours necessary for single person households?

The first sub question was about the necessity of having relationship with neighbours for the singletons, and the responses were positive to the social demands. It can be supported by diverse aspects such as statistical, psychological, and empirical perspectives. At first, according to the quantitative data originated from the field research, over one-third of the responded singletons were dissatisfied with the situation that they hardly had communication with the neighbours. Also, the singletons were likely to prefer to not only having communication with the other tenants, as shown in Figure 8-1, but also living in the building with diverse types of households rather than with just singletons only. It meant that the singletons did not want to live in the compact prison cell, isolated from communication with neighbours. In addition, some interviewed singletons responded to the social related question likewise.

> *Although I've lived in this house over 5 years, I have almost never interacted with other tenants or local neighbourhoods. But I have an intention to communicate with them without any burden or pressure to the behavior.*

> *Living alone singleton 2*
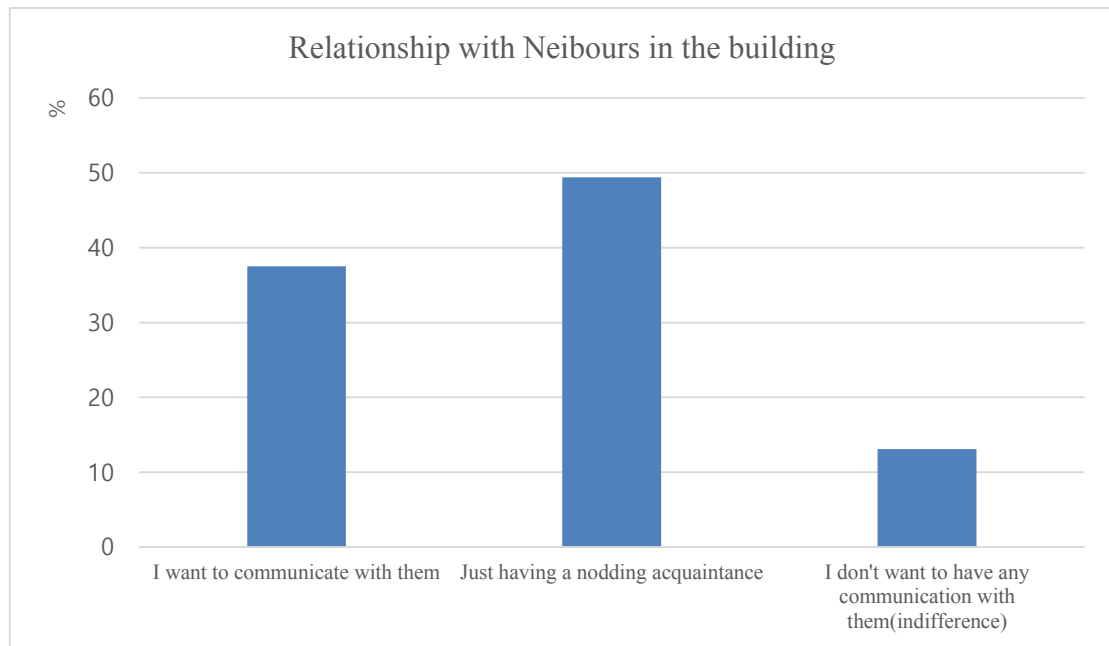
Figure 8-1 Human Relationships with Neighbours in the Same Building

In order to support of the positive stance to the communication issue, it could be addressed that one of the characteristics of the creative class people, who have shown similarities with features of the young singletons in city centre (Florida, 2008), was their open-minded personality to be able to accept diverse people (Florida, 2002, Peck, 2005). Basically, this type of group tended to prefer having relationships with other people, sharing information and making communities (Florida, 2002, Florida, 2008, Klinenberg, 2013). In the housing environment where there were almost no communications with neighbourhoods, it seemed to be a natural consequence that the singletons were unsatisfied with the environment in relation to the human relationship aspect.

Second, emotional issues were also important factors to support the necessity of the

relationship with neighbours. As disconnected social living among the young households had been prevalent, they were more susceptible to the anti-social behavior, such as having suicidal thoughts and attempts, and experiencing alcohol-related mortality, rather than people with family members (Herttua et al., 2011b, You et al., 2011a, Hughes and Gove, 1981). Also, according to the report conducted by the Seoul Institute in 2008, 44.5% of the surveyed single person households in Seoul answered that they were suffering from a sense of loneliness and anxiety for the future (Byun et al., 2008). Given this situation, the emotional issues were one of the problematic factors for living alone, and it was the main reason of why the human relationship issues were essential for the young households.

In relation to overcoming the negative emotional issue of loneliness and anxiety, the singletons were even in favor of living with other people in the same house together. According to the result of the quantitative field research in Seoul, 46.9% of the responded young singletons preferred to live in Share house (see in Figure 8-2), a kind of house sharing type living with mainly young adults without children and relatively flexible housing type frequently changing the residents (Steinführer and Haase, 2009). Recently, the number of house sharing has rapidly increased in Seoul due to especially the housing aspirations of young and single dwellers (fnnews, 2013), and it also highly related that the housing type can help to release the sense of loneliness to communicate with housemates (Hughes and Gove, 1981). In this context, the relationship and communication with neighbours seemed to be appropriate solutions to sort the negative emotional issues out, and it seemed to be necessary for the singletons to communicate with other people in the same building.
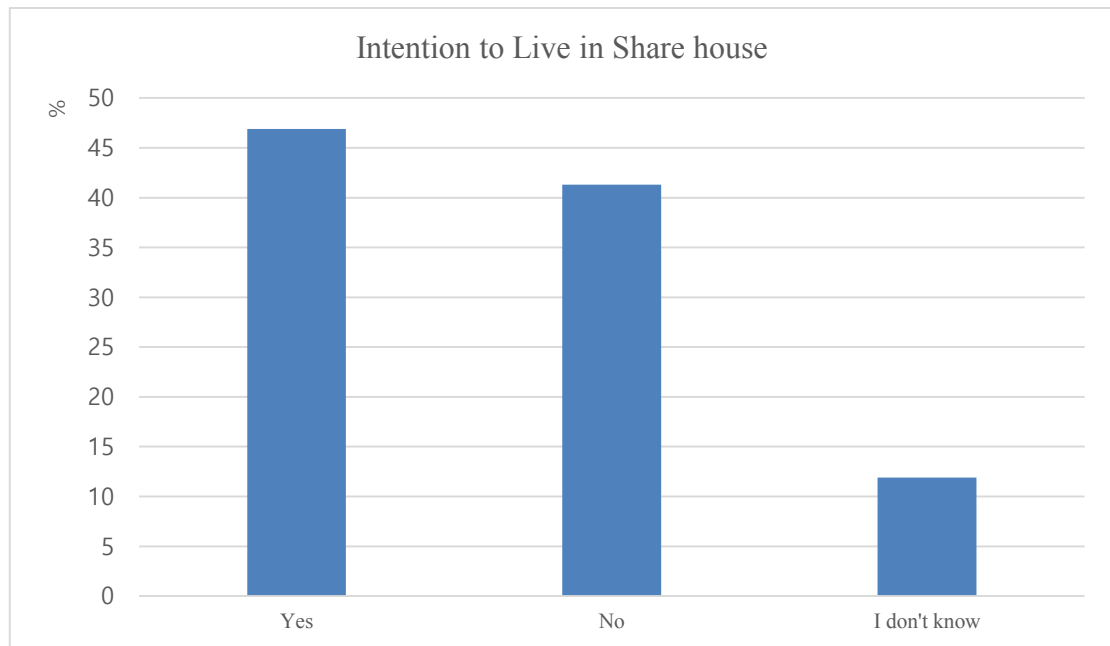
Figure 8-2 Intention to Live in Share house

Finally, it was assured that communication among the single dwellers was required, but interestingly their stance on the social issues has showed a bit of a passive attitude. According to an interview with a young singleton who lives in Seoul, the following characteristic can be found:

I want to have a communication with other dwellers in the same building, but do not want to actively host any communities or meetings for the residents in the building.

Living alone singleton 5

Also, this tendency could be explained by the quantitative results: the ranking of satisfied and dissatisfied factors of solo living (see Table 8-2 and 8-3). Among the six factors (the characteristics of location, the characteristics of the building, economic issues, the characteristics of interior space, social environment, and indoor environment), social issues ranked lowest (6th) on the unsatisfied ranking chart, and paradoxically ranked 5th on the satisfied ranking chart, not placed high on the chart. This ironic situation meant that although social issues seemed to be necessary to them, it tended to be pushed back on the priority list of the living. Moreover, they considered 'affordable housing cost' and 'geographical issues such as location of the housing' as the main factors to choose housing, rather than considering the social issues first. It also could be backed by the above figure 8-1 which showed that the passive relationship (Just having a nodding acquaintance) was the most preferred level of the communication.

Table 8-2 The Ranking of Satisfied Factors of Singleton Housing Environments

The ranking of satisfied factors					
1st	2nd	3rd	4th	**5th**	6th
The characteristics of location	The characteristics of the building	Economic issue	The characteristics of interior space	**Social Environment**	Indoor environment

Table 8-3 The Ranking of Dissatisfied Factors of Singleton Housing Environments

The ranking of unsatisfied factors					
1st	2nd	3rd	4th	5th	**6th**
The characteristics of interior space	Economic issue	The characteristics of the building	Indoor environment	The characteristics of location	**Social Environment**

Therefore, communication with neighbours seemed to be necessary for them, but the relationship was needed to take place naturally without any burden or compulsion.

Sub Q2: Which one is more important between 'privacy' and 'community' to the single person households?

Through the analysis of the previous sub question issues it has been proven that the communication with neighbourhoods is important for the young single person households in relation to human relationships. Interestingly, the characteristics of the social connections seemed to be different compared to the conservative meaning of communication among the communities. Florida (2002) said that although the young and creative people wanted community, they did not want neighbourhoods to step into their private life. So they preferred a weak relationship with them, rather than having strong ones that people used to have. By having the weak relationship, they could easily get into the communities and rapidly share information (Florida, 2002). In other words, they wanted to have communication that was less

burdensome and protected privacy.

Armed with the circumstances, securing privacy seemed to be also significant for them in the housing environment. The finding that privacy was a priority for the young singletons in Seoul was underpinned by some cases. At first, one of the main reasons for the singletons to live alone was independence from their family (Byun et al., 2008), and the working-age solo dwellers tended to feel less attraction for living at the parental home than the independent solo life (Jamieson et al., 2009). They seemed to prefer having their own time in a private space without any interference. It was highly related to the Florida's perspective that one of the important characteristics of the creative class people was the 'me-oriented' mind (Florida, 2002). Other supportive cases were derived from the in-depth interviews. For many of the responding singletons, privacy took priority over the communication, when being asked about the intention to live in the share house. With regard to this issue, a singleton interviewee gave a meaningful answer, saying:

I have an intention to live in share house… this is because, based on the personal experiences of living in one-room, the studio type without any additional room was inconvenient in terms of size and quality of housing. Also, if the housing cost is same to the both types (current one-room and share house), share house would offer higher qualities of residential environment such as spacious living areas than the current small housing. The only thing I'm concerned is a potential confliction among housemates. If the relationship is good, everything would be fine to live in the housing

.

However, I don't want to live in the share house if I have no choice but to live in double-occupancy type. I want to have my space even living in the share house.

In response to the first question about the intention to live in share house, 41% of interviewees answered they hoped to live in this housing type. They then were asked the same question again with detailed explanations of the current situation of the housing that most rooms in the housing were sharing with other people (double-occupancy type). Interestingly, the results totally changed with less than 20% of the respondents still wanting to live in the housing type, and the rate of 'want to live alone' was four times more than the rate of the intention to share house living. The difference of both results was caused by if securing private space or not. Also, the findings from the quantitative research can support the importance of private residential space for the singletons. In the questionnaire, the research asked the targeted young singletons to make a choice of the most preferred housing option among share house, apartment, officetel, multi-family house, ULH, detached house, terraced house and gosiwon. Among the results, just 4.4% of respondents chose share house option, as shown in Figure 8-3. Given this situation, it was found that having privacy took precedence over the communication issue.
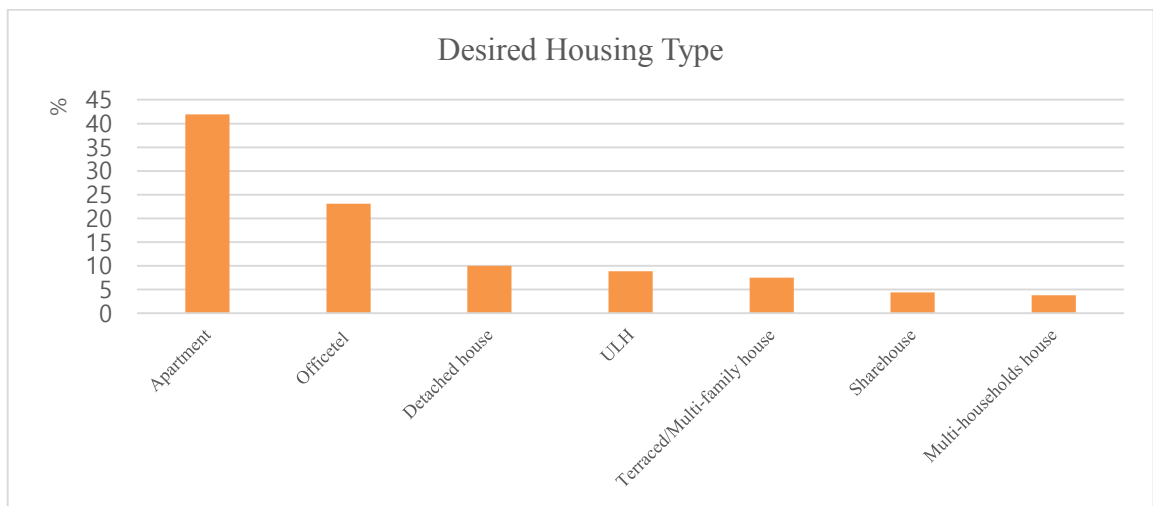
Figure 8-3 Desired Housing Type (%)

It is true that, in Seoul, the housing environments targeted to the single person households is not for the singletons but for the suppliers, supplying housing units as much as possible in the building for maximum profits without community space (Lee and Yang, 2012). In this context, it seems that the suppliers' purpose meet the singletons' desire in terms of securing privacy. However, it seemed to neglect the importance of communication with neighbours which has increased and particularly some singleton groups such as high income earners who live alone are highly likely to have a positive communication with their neighbours, based on the qualitative research. Therefore, further research and consideration of the social issues are needed.

Sub Q3: What kind of community space do the singletons want to have in the residential building?

It was found from the previous section that the young single person households wanted to have communication with their neighbourhoods in the building and local communities (Klinenberg, 2013), but their stance was not active based on the mixed research data. It meant that they wanted to naturally interact with them, not led by themselves. How does the communication happen? Basically, based on the result from the qualitative research, the singletons were hardly having any communication with all types of neighbours due to three main reasons: no time, no space and enjoying being alone. Some of targeted interviewees who lived alone in Seoul indicated their circumstances for the reasons of the disconnection, saying:

The young singleton-dwellers in this building are usually busy office workers who spend most of their time outside of the building. Thus it seems to be hard for them to meet in with their neighbourhoods.

Living alone singleton 21

There is no community space in the building. I have never heard that there is the separated space for communication in this kind of building.

Living alone singleton 24

I am enjoying being alone. I do not want anyone to disturb my life even in the private space.

Living alone singleton 31

In this context, the most feasible method to improve this relationship was forming a space for the community in the building. It can be supported by the findings from the quantitative research. The targeted singletons were asked which method was good for enhancing the level of communication with fellow occupiers. The result was that the proportion of 'create community space' and 'have a face to face meeting space for residents' were the highest (respectively 36.3% and 31.9%) (see Figure 8-4). Although the singletons are living in the era when ICT (Information and Communications Technology) and SNS (Social Network Service) have been highly developed, and people can interact with other people and share information easier and faster than ever before (Bughin et al., 2010), they preferred to have face to face communication than the relationship in cyber space.
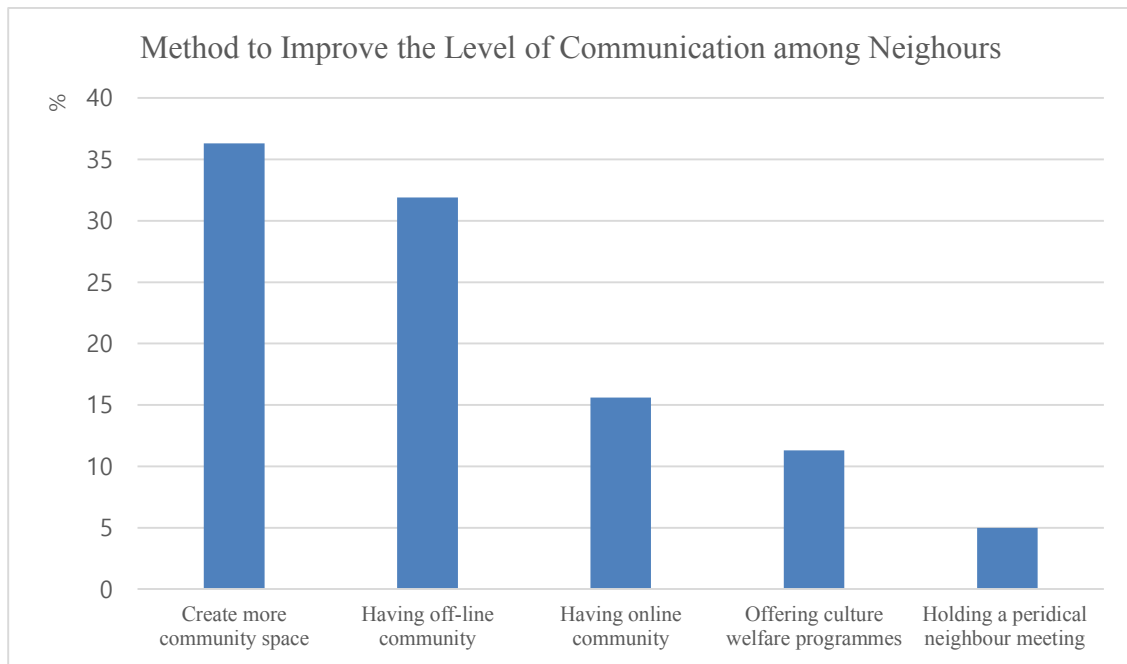
Figure 8-4 Method to Improve the Level of Communication

Also, the singletons wanted to have a community space for practical purposes. At first, based on the quantitative results, they generally preferred a community space that would enable them to have a cup of coffee and natural communication with other tenants. Second, the young professional singletons who were mainly office workers tended to be in difficulties to have a meal in the house, thus some of them hoped to have a communal dining room for the dwellers. Thirdly, female singletons were likely to have the community place for lessons such as flower arranging and movie classes, underpinned by the collected data. Finally, some of the interviewed singletons answered that they wanted the space for sharing items which were practical but occasionally needed such as a hammer, a vacuum and an iron board. Therefore the singletons hoped to have a useful community space, providing the opportunity for casual relations with neighbours.

Sub 4 Q: How can human relationships between the young professional singletons and local neighbours be improved?

The current situation of human relationships between the young singletons and local communities and neighbourhoods seems to be disconnected, and it needs appropriate strategies applied to aspirations for urban renewal in order to improve the human relationship issue. The findings showed the young singletons barely communicated with local people and communities, and 35% of the surveyed singletons were dissatisfied with the social situation. However, according to a report conducted by Seoul Institute in 2012, 43.9% of the singletons aged 20s to 30s were interested in the local area where they were living in. This figure was twice as much as the proportion of the answer 'do not care of the local area' with 21.1% (Byun et al., 2008). Given this situation, there seemed to be a disconnect between their aspirations for getting into the local communities and opportunities to participate with local communities and have positive relations with them. In addition, the relationship between local communities and the singletons seemed to be poor in some cases. Based on the in-depth interview with an expert in single person households in Seoul, and in the ULH (Urban Lifestyle Housing) scheme, the development of the ULH had been hastily implemented without proper consideration of local people and the surroundings. Thus, it brought about conflicts between local communities and the singletons who were seen as new comers in the area. Thus, it was not easy for the singletons to settle down in the local areas, who tended to ignore the relationship with local communities.

With the expected increase in the number of young people who live alone in Seoul, the

relationship with local residents has to be improved and considered as an important issue. The interviewed experts in urban and regional studies in Seoul suggested that the social issues needed to be solved through urban renewal plans which aim to revive the run-down areas through integrated approaches including physical, economic, social and cultural perspectives (Yang and Lee, 2013). In the beginning of the renewal scheme, the singletons had to be involved as important participants of the plans. Participation is critical. As the schemes developed, the new comers naturally took part in the programmes as local people did. In this process, the singletons had a sense of ownership of the local area and could make a positive connection with local people. Therefore, if the suggested solution delivers a positive legacy, it can be possible to create social harmony between young singletons and local residents.

Figure out the main question of the relationship perspective

Based on the analysis of sub-questions, the research has produced an answer to the essential question in the relationship aspect. To make an appropriate balance between privacy and community in the residential environment, it is necessary to create community space where solo tenants naturally communicate each other, while simultaneously securing private space. In Seoul the current housing environment has lead the singletons to greater social isolation and undermining mental health, resulting in bringing about strong loneliness and anti-social behaviors such as addiction to alcohol (You et al., 2011a, Byun et al., 2008). Also in modern society the younger generation living in city centres has increasingly paid attention to issues about the rights of individuality, self-expression and personal freedom (Mellander et al., 2012,

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Inglehart and Baker, 2000). In particular, the working-age single person households tend to feel less attraction for living with parents than the solo life (Jamieson et al., 2009, Klinenberg, 2013) and one of the major reasons for living alone of young singletons is 'for independence from family' (Byun et al., 2008, Klinenberg, 2013). Armed with the information, both the communication with neighbours and privacy is crucial aspect in housing environment of the solo dwellers in Seoul context.

In addition, in the context of local areas, encouraging incoming singletons to participate in urban regeneration programmes can help them have a sense of social belonging and improve the relationship with local neighbourhoods. Several Korean scholars (Yang and Lee, 2013, Byun et al., 2015) and interviewed relevant experts highlighted the importance of participation; in the beginning of the urban regeneration scheme by Seoul Metropolitan Government, the young singletons had to be involved into the important participants of the plans such as 'Creating Urban Villages'. It is important that the governments and other key stakeholders put strong attention on the singletons as main participants in the urban renewal scheme and support them to belong to local communities.

8.2.2   A Well-designed Housing Environment Applied to Aspirations of the Young Professional Singletons

Sub Q1: Which aspects of housing design are weak points which have to be developed?

Generally, well-designed housing and its environment ideally satisfies both aesthetic and practical conditions, reflecting local identities and characteristics (CABE, 2010, DCLG, 2011, 2015). The satisfaction levels with the housing design qualities for the young singletons in Seoul, however, seemed to be low. Based on the findings, there were major three weak perspectives in terms of housing quality and design, which needed to be improved: architectural design, indoor environment and lifestyle aspect.

(i) Architecture and interior design

From the perspective of architecture and aesthetic issues, first of all, the major problematic issue was a lack of storage space. From the result of quantitative analysis (see Figure 8-5), the surveyed solo dwellers particularly expressed their complaint on the storage space issues: 44.4% of them were dissatisfied with this issue. No wonder it should be limited storage space because they mostly lived in the small-sized one-room housing. Given this situation, maximizing spatial efficiency in the housing is significant for creating more storage space.
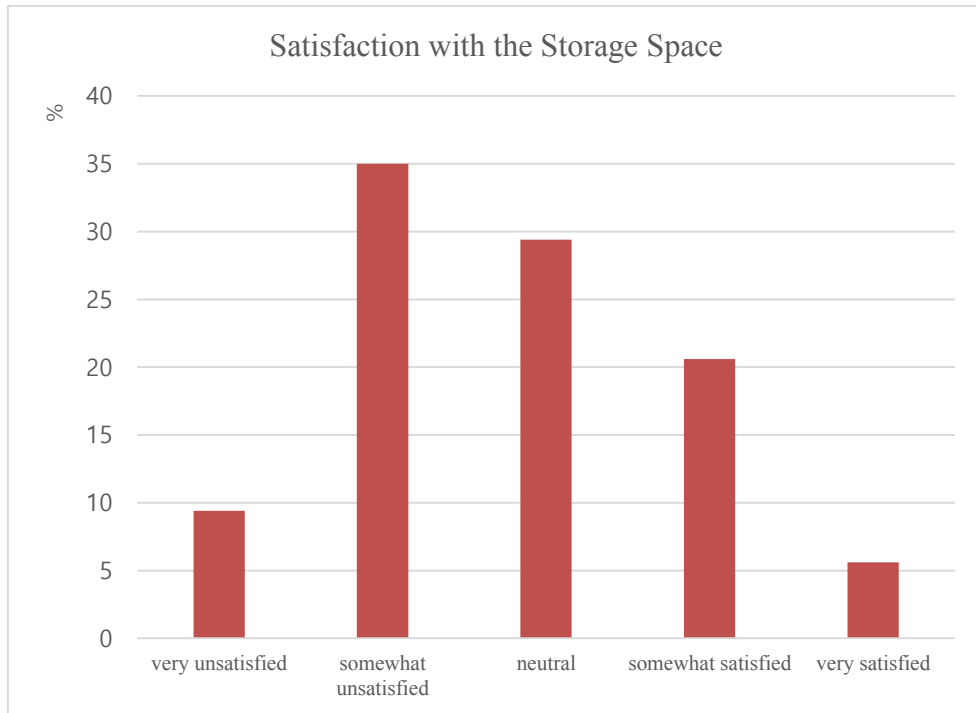
Figure 8-5 Satisfaction with Storage Space

Another complaint was about the size of housing. There were a wide range of drivers for making the young singletons to choose the small sized housing including economic, cultural and demographic drivers(Oc and Tiesdell, 1997), and particularly the young solo dwellers who live in Seoul mainly live in small-sized housing(Lee and Yang, 2012). In this situation, the housing size issue, no matter what reasons and limitations are related, is all about the space efficiency. It is quite associated with the storage space issue, and these effectiveness related problems could be solved by developed architectural design such as micro apartments, pursuing maximize spatial efficiency in a small residential space (Christie, 2013).

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In addition, there were some complaints about interior design. Particularly, the singletons who lived in the terrace/multi-family houses and small-sized houses were highly dissatisfied with the aesthetic issue based on the finding derived from the quantitative data (See Figure 8-6). In relation to the result from the quantitative research that the terrace/multi-family houses is a housing type lived by most singletons, it can be found that a large portion of the singletons are dissatisfied with the design aspects.

The Satisfaction with Interior Design (Average in 5)
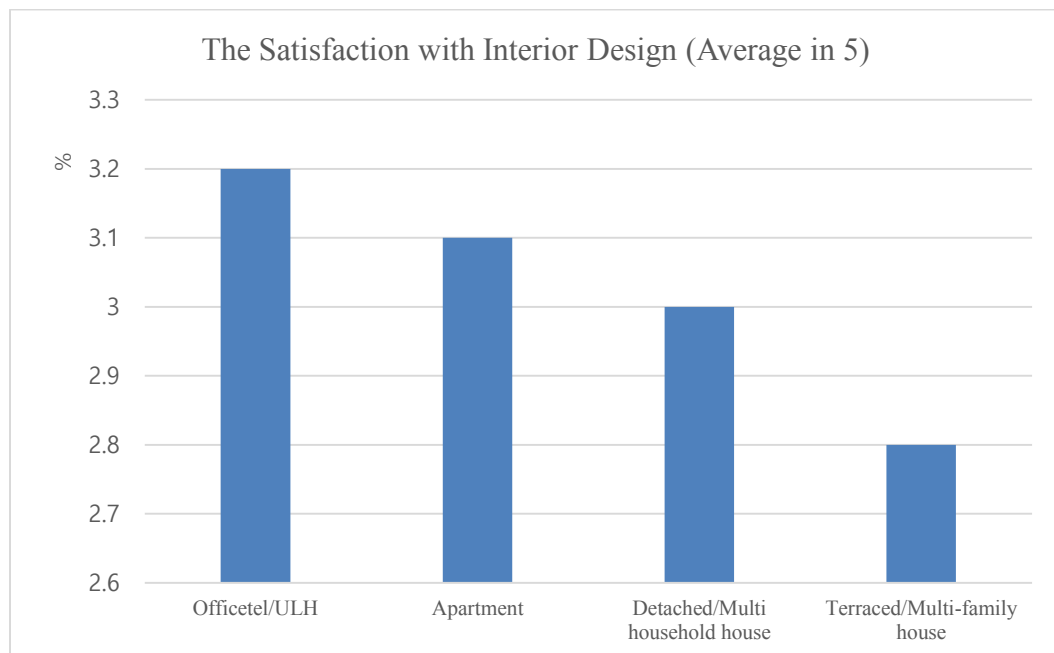
Figure 8-6 Satisfaction with Interior Design (average in 5)

In line with the complaints, some single dwellers wanted to live in an unfurnished housing where they could decorate the interior space by themselves. Some of interviewed singletons who were dissatisfied with interior design of current housing showed their aspirations for moving to an unfurnished house, saying:

In the confined space, there was not enough space to decorate, and were lots of limitations to do that.

Living alone singleton 10

I prefer moving to an unfurnished house where I can personally do interior designing to living in a furnished house.

Living alone singleton 23

(ii) Indoor environment

Another weak perspective in terms of housing quality and design, which needed to improve housing design, was indoor environment issues. The first important complaint within this issue was about windows. The findings from the qualitative research analysis discovered that a close distance between buildings basically had brought about the complaints about windows issues such as small sized- window and an invasion of privacy, and small sized-window was highly related to other complains about light and ventilation. Although many interviewed singletons complained about the small sized-window and a blocked view, some female singletons were worried that someone was trying to be sneaking into their room through big and well-viewed windows. Other dissatisfactory issues related to the inner space environments such as spreading unwanted cooking smells, getting damp and poor quality of soundproofing.

(iii) Lifestyle

From the perspective of lifestyle, the housing environment seemed not to be appropriate for the young singletons to have a meal. According to the interviews with the targeted singletons, they tended to usually eat out or have cafeteria food at work, and to hardly use the kitchen in the house. No wonder most of them were busy office workers, not having enough time and being unwilling to cook at home. In addition to the personal and time related reasons, design qualities and conditions of the kitchen could be an important factor for not having a meal at home. One of interviewees responded about this issue, saying:

> *Although I do not usually have a meal in the house, the kitchen is too small to cook. Especially, the small stove seems not to fit to cook a diverse kind of stew popular in Korean. This architectural situation has made my dietary life change to eat out.*

> *Living alone singleton 7*

Generally, the size of kitchen area was too small to cook. Some interviewed solo dwellers said that the small and low quality kitchen made them eat out and have an unhealthy instant foods (ready meals). Another main reason for avoiding cooking at home was difficulties about disposal of food waste. Some interviewees expressed the inconvenience, saying:

> *When cooking at home, I try to make food waste as little as possible at home. Or I usually eat out side. I hardly bring something into the living space, which might make the food wastes.*

Because I live in the terraced house where there is no separated bin for food waste I need to disposal the garbage by gathering them into a standard plastic garbage bag and then putting it outside of the house (in front of the house) on a given day a week. It is so bothersome task for me, thus I try to cook at home producing as little food garbage as possible.

Living alone singleton 10

Unlike the case in UK, in South Korea, food waste has to be separately thrown out in front of the house on a given day a week, packing it by a standard garbage bag or putting(Guro-gu District office, 2015). The solo dwellers were under pressure to follow the complicated and restricted disposal process. Thus they tended not to use kitchen to reduce the amount of food waste.

In line with the food waste issue, general waste disposal was also difficult house work for the young singletons. According to the result from the quantitative survey, the singletons tended to need the storage space for a rubbish bin more than the research expected (See Figure 8-7). Some interviewed singletons also expressed their discomfort over keeping and disposal of residential wastes. These complaints seemed to need public political support by local government as well as housing design approaches.
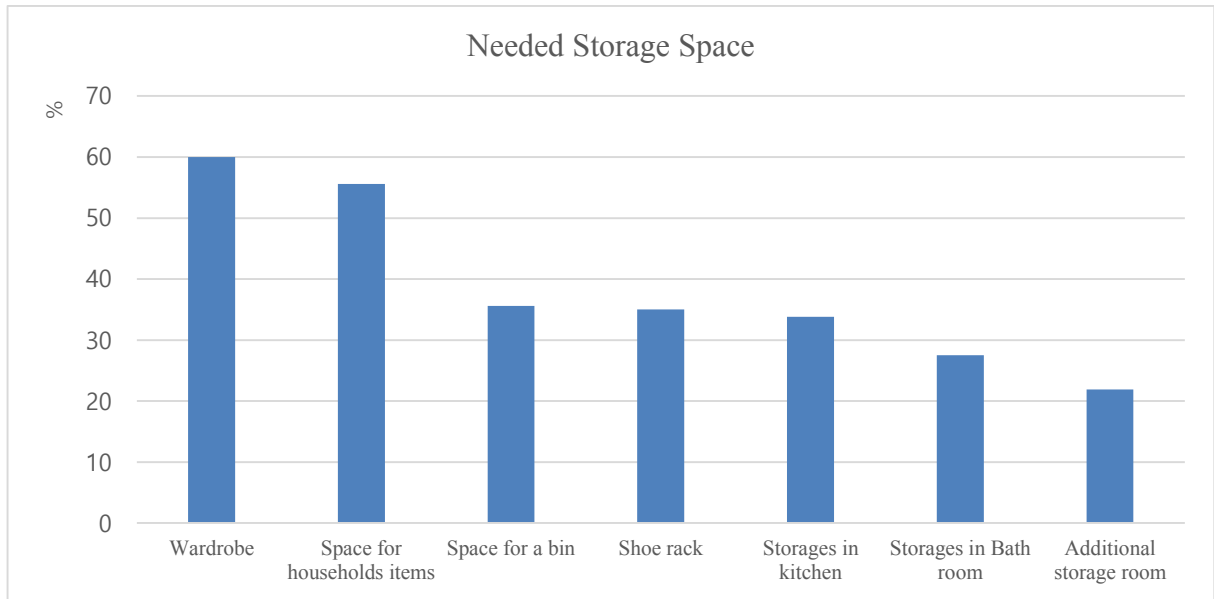
Figure 8-7 Needed Storage Space

Sub Q2: What kinds of aspirations related to design aspects do young singletons have for the housing environments?

In this section the aspirations for the housing environments and design issues by the young single person households in Seoul are explored, associated with the dissatisfactions issues about housing design in the previous section. The aspirations mainly were categorized into two aspects: inner residential space and the building & housing environment.

(i) Inner Residential Space

First of all, the young singletons were keen to have more storage spaces in the limited inner space. The storage issue is all about spatial efficiency, and one of the interviewed singletons mentioned a supportive opinion as follows:

> *I think it can be effective to use a space which is just wasted away in the house such as a space under the bed or upper space in the housing.*
>
> *Living alone singleton 24*

Based on the findings, there were some preferred methods by the singletons for improving the space effectiveness. Built-in systems can be one of relevant option, securing as much storage space as possible. Another was system furniture which facilitates having flexible storage space through transforming, such as folding bed.

Second, in terms of interior space and design conditions, it seemed to be a significantly growing trend that young single person households wanted to decorate the unique housing interior space by themselves. It was highly linked to the dissatisfaction issue that some interviewed singletons wanted to move to unfurnished housing (shown in Sub Q1). Although they usually lived in small-sized rent housing where there are generally some difficulties to decorate the inner space, such as the small sized space and keeping the housing quality in the original condition when the tenancy finished, the phenomenon has rapidly been dominant among the young single dwellers. This tendency has been driven by not only the recent

consumption trend in Seoul that younger generation tend to seek products and services that can satisfy their aspirations for the unique and self-expression rather than mass-products which have uniformly no individuality (Hwang et al., 2014). , but also the rise of the lifestyle shops, which sell a wide range of daily goods including clothes, accessories, furniture, fabrics, and stationaries, also suggest trendy lifestyles to customers (Koh and Choi, 2009), such as IKEA which are selling design items, daily goods and furniture in a reasonable quality and price (Securities, 2015). In line with this trend, some interviewed singletons wanted to move to unfurnished property in order to not only fully decorate the interior space by themselves, but also save the rental cost.

Thirdly, the findings found that the young singletons seemed to prefer 10~20 pyeong (approximately 355~711 ft2) the most. The most unwanted housing size category was 'less than 10 pyeong', and it seemed not to keep the pace of the global housing trend for the solo dwellers in city centre: Micro housing (Palmer, 2006, Kang et al., 2011). No wonder, people want to live in spacious housing, but the real residential environment cannot always satisfy their aspirations. Many young professional singletons actually lived in the housing sized under 10 pyeong as shown in figure 8-8. In addition, there seemed to a distinctive reason to be reluctant to live in the micro sized housing in the Seoul context.
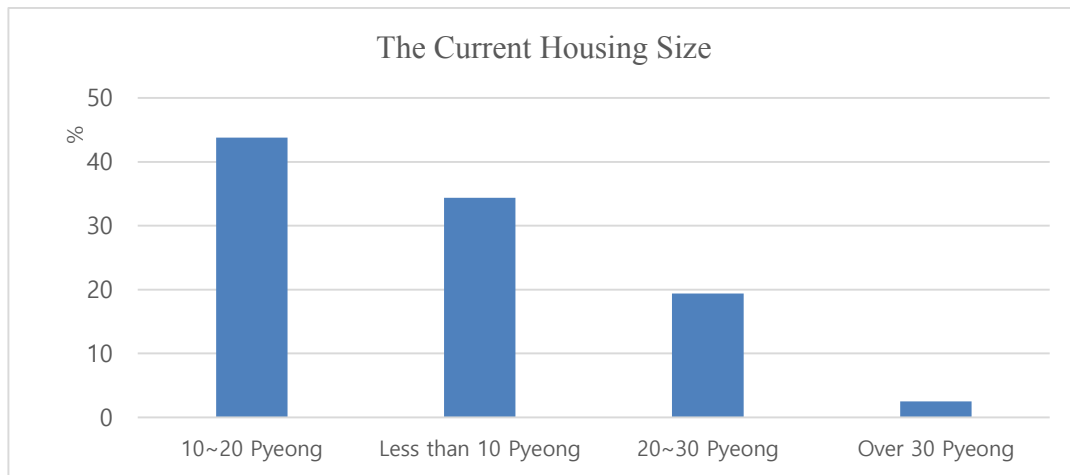
Figure 8-8 The Current Housing Size

A relevant reason is a bad residential experience of Gosiwon (see Figure 8-9). Gosiwon is a kind of micro house, smaller size than minimum exclusive residential area in Seoul (151 square feet=4.2 pyeong); the quite poor residential qualities in many respects such as size, security, noise, clean, compared to other housing types; vulnerable social group usually live in this housing type (Park et al., 2014). Therefore, if the micro apartments are chosen to be one of the alternatives for the young professionals' housing option, the tiny housing should be highly developed in many residential perspectives with which Gosiwon dissatisfy.
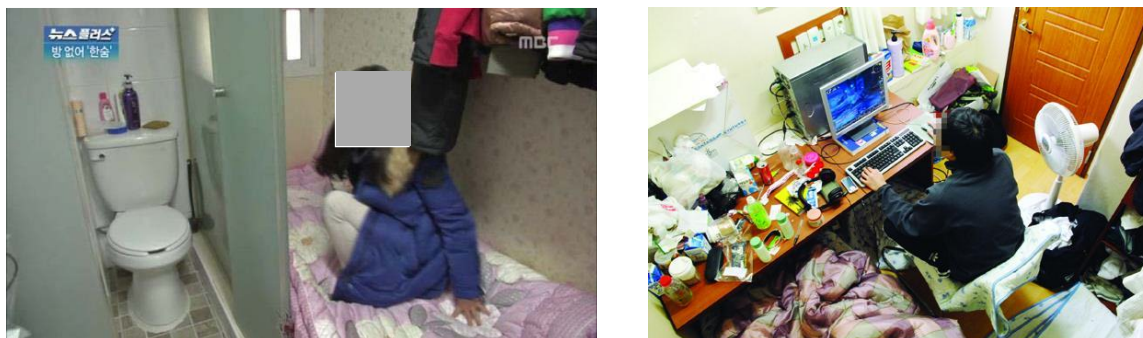
Figure 8-9 The Poor Residential Environment of Gosiwon

(Source: www.kotaku.com/these-korean-rooms-are-compared-to-prison-cells-for-goo-1439844132)

Another conspicuous aspiration in terms of the interior space was to prefer living in a residential space divided into more than 2 interior spaces. The findings found that 67.5% of the surveyed singletons wanted to live in the housing which had at least two separated spaces, compared to 32.5% of them for studio type one-room. It was highly related to the indoor environment issues such as spreading cooking smells, humidity and dust. An interviewed singleton said about the issue as follows:

> *I'm living in the studio type one-room, and when I cook at home, it is easy to be pervasive the smell over the space, penetrating into bedding. I hope to live in a housing which divides at least 2 inner spaces.*
>
> *Living alone singleton 8*

Also they tended to want to separate a space for sleeping and a space for other activities such as cooking, relaxing lounge and laundry. Although they were happy to live in small-sized housing, they wanted to have divided interior space.

(ii) Building & Housing Environment

The aspirations related to the building were mainly based on the result of quantitative survey. The young professional singletons tended to prefer living in small-sized apartments or officetel nearby station areas. Their demand for security was high and particularly CCTV was the most preferred method. They mainly preferred a tower shaped-building for the residential purpose only, 6~10 stories in height, and 11~50 households as dwellers in the building. The most desired subsidiary facility in the building was a café, followed by a fitness centre and a communal dining room. It is remarkable that the demand for 'parcel receiving storage' was relatively high and the preference for 'communal laundry room' was quite low. Because they wanted to have a residential building for residential purpose only, most of these desired subsidiary facilities could be supplied within the local areas in the name of urban renewal.   Although the quantitative research asked the respondents to answer the questions related to the building and housing aspirations based on the real economic situation, the results seemed to be somewhat heightened in some aspects such as the high percentage of 'want to live in apartment'. Therefore, the findings would be a helpful guideline for potential housing alternatives, rather than directly applying the results on the alternatives. The responses of the aspiration could be divided into two sub sections: inner residential space and building and housing environment (see Table 8-4).

Table 8-4 Aspirations that the Young Singletons have for the Housing Environments and Design Aspects

Inner Residential Space	Building & Housing Environment
- More storage and improved spatial efficiency	- Small APT or Officetel
- Decorate the unique housing interior space	- Station area
- 10~20 pyeong sized housing	- Good security with CCTV
- Divided inner residential space	- Tower shaped building and 6~10 stories in height
	- The building for residential purpose only
	- 11~50 households in the building
	- Café, fitness centre, communal dining room and parcel receiving storage as subsidiary facilities

Sub Q3: What kind of furniture is suitable for the housing, satisfying residential aspirations of young singletons?

From the answer of the first sub question (Which aspects of housing design are weak points which have to be developed?), it is found that the space efficiency is essential for housing design. Given this situation, first of all, the young singletons seemed to want to have furniture which maximizes spatial effectiveness. According to an interviewed expert who was working for Hyundai Livart, one of major furniture companies in Korea, recently the company was trying to produce furniture focusing on the effectiveness and targeting young single person households. The expert said:

> *The company is currently in the process of releasing furniture, targeting to the singletons and newly-wed, to maximize space efficiency such as folding bed and desk bed.*

> *Expert 11: Team leader of a furniture company*

To be specific, the company is selling a furniture named 'New Friends Dress room' which

consists of various types of storage purpose furniture such as wardrobes with a blind, long and short length closets, cabinets and drawers for trousers, being able to mix and combine them into 96 different kinds of options (Livart, 2015) (see figure 8-10), and another Korean furniture company, ONR, also is selling the efficiency furniture for small housing: folding bed (Orn, 2015) (see figure 8-11).

Figure 8-10 Hyundai Livart 'New Friends Dressing room' (Livart, 2015)

Figure 8-11 ORN Folding Bed (Orn, 2015)

Also, built-in furniture which has high level of spatial efficiency can be an appropriate option for the young singletons' housing. According to the results from the quantitative research, they preferred the built-in furniture for desired storage design, as seen in figure 8-12.
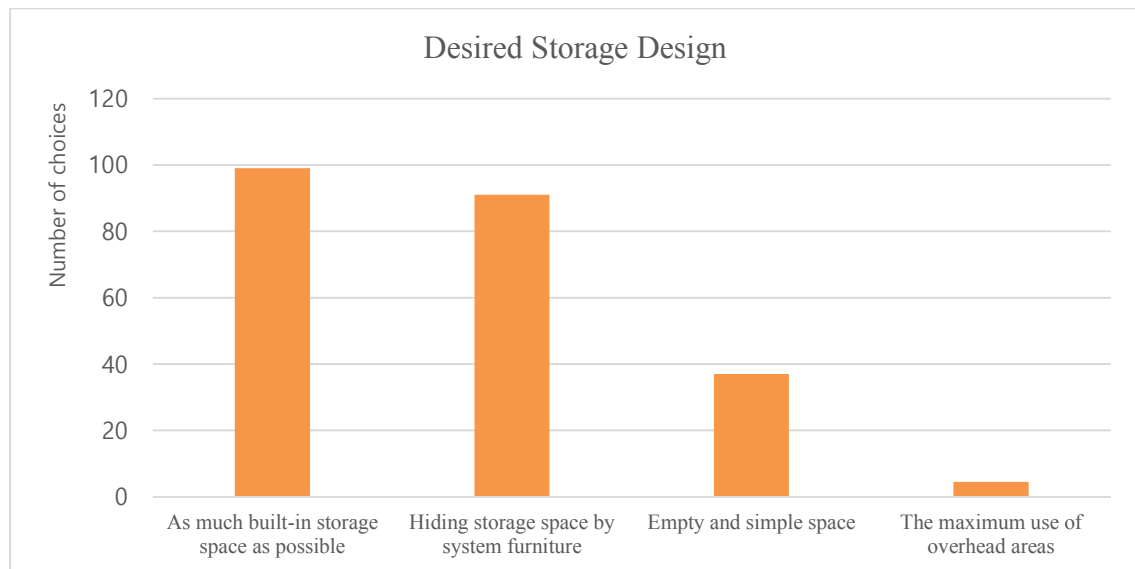
Figure 8-12 Desired Storage Design

Secondly, no wonder, a bed is a significant furniture item for the young single person households. It can be backed by the quantitative analysis that the space where the singletons spend most of their time in the house was 'on the bed' (45.6%) and the behavior they do the most in the house was 'sleeping' (32.5%), as shown below in Figure 8-13 and 8-14. Also the most desired furniture or equipment of them was a 'bed'. Some interviewed solo dwellers, however, took their bed off and uncomfortably had a sleep on the floor because of the big size of the bed. One of the interviewees said as follows:

I got rid of the bed from my housing due to the big size of it. After that, I sleep on the floor. It is uncomfortable but get used to that.

Living alone singleton 25

In such circumstances, space effective furniture is needed to provide more comfortable sleeping arrangements.
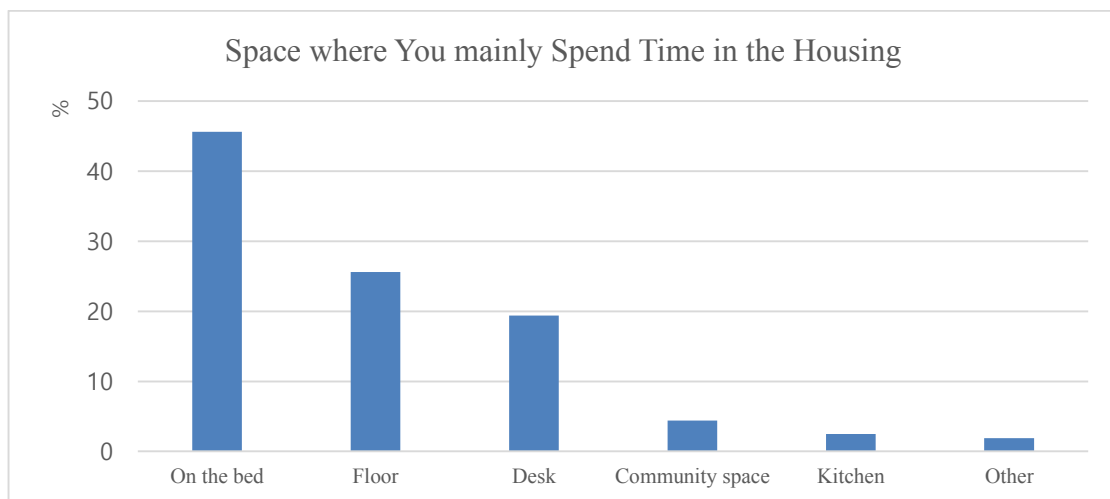
Figure 8-13 Space where You mainly Spend Time in the Housing
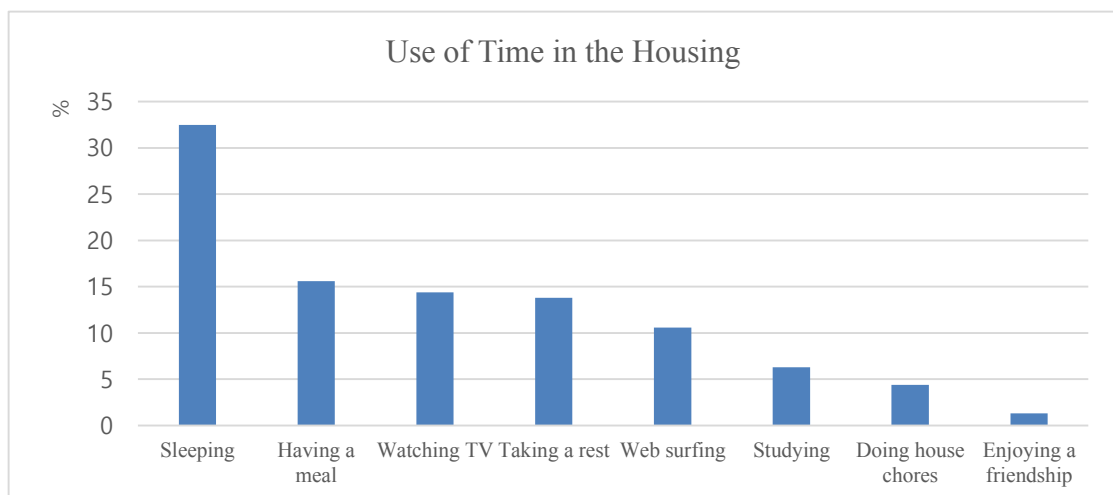
Figure 8-14 Use of Time in the Housing

Finally, as seen in the above the first sub question section of housing design issues: Which aspects of housing design are weak points which have to be developed? (Sub question 1, housing design perspective), if the supplied furniture by land lord was low quality in both design and effectiveness, some of the young singletons would prefer to live in unfurnished housing rather than furnished one. Therefore, the option of 'unfurnished' also can be a good alternative for them to both save housing costs and improve the design qualities by themselves.

Sub Q4: Can the housing applied ICT be a good alternative for the young singletons?

South Korea is famous for the highly developed ICT (Information & Communication Technology) environments including SNS (Social Network Service). According to 'Measuring the Information Society Report' conducted by ITU (International Telecommunication Union) in 2014, South Korea ranked the 2nd place on the ICT development index in 2013 (the 1st place in 2012), as shown in Figure 8-15 (ITU, 2014). Also it was revealed that South Korea had the fastest average Internet speed in the world as shown in table 8-5 (Akamai, 2014). Integrating the sources, the internet-based technology has been applying on a wide range of fields from mobile phones to housing, encouraging people to exchange information in anytime and anywhere.
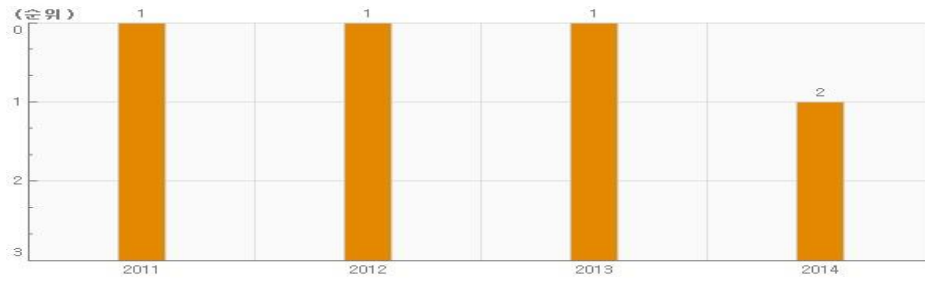
Figure 8-15 ICT Development Ranking of South Korea (2011~2014)

Table 8-5 The Speed of Internet in Global Countries

Country/Region	Q4 '14 Avg. Mbps	Q4 '14 Peak Mbps
Australia	7.4	36.9
China	3.4	17.8
Hong Kong	16.8	87.7
India	2.0	14.5
Indonesia	1.9	13.4
Japan	15.2	69.0
Malaysia	4.1	29.6
New Zealand	7.3	34.3
Phillipines	2.7	21.9
Singapore	11.7	84.0
South Korea	22.2	75.4
Taiwan	10.6	64.2
Thailand	7.1	46.3
Vietnam	2.7	17.3

Source: www.akamai.co.kr/dl/soti/q4-2014-soti-infographic.pdf

This research assumed that theory of Smart house, which is a highly automatic and multi-functional house with its advanced computer systems (Craven, 2013), and the ICT technologies seemed to be crucial issues for the housing environment of single person households in Seoul, encouraging social relationship with neighbours and lessening their discomforts in the housing. With in this premise, the research questioned the theory of the smart house with both the targeted singletons and experts. According to the interviewed architect, he positively

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maintained the use of technologies in the housing environment.

> *The ICT based smart technology seemed to be needed on the singleton's housing because particularly the relevance technologies are highly developed in Seoul and it will be important issue for the housing environment in a long-term view. Also, South Korea is famous for highly developed IT, and it should be applied to the housing. In addition, the young singletons are very familiar with those technologies.*

Expert 8: Professional architect

Some responses, however, contradicted the architect's opinion. According to the results derived from the quantitative data, the aspiration for applying smart housing technology was low. The young singletons wanted to have realistic options such as more storage space, a bed and a fridge, rather than having home system supplied with high technology. Also they preferred face-to-face interactions with neighbours to web-based social relationship as the method of communication in the building. Based on the findings, the young singletons seemed not to be ready to accept the ICT based smart home system. Moreover, according to a report 'Winning the Industrial Internet of Things' conducted by Accenture in 2015, South Korea ranked 12th among the major global countries on the Industrial Internet of Things enabling factors, as seen in Figure 8-16 (Accenture, 2015). IoT (Internet of Things) technology is one of the emerging technologies in IT, and it can make many of the objects around us integrating on the network in one form, even enabling connection between human body and the objects, based on the development of Radio Frequency Identification (RFID) and sensor network technologies (Gubbi et al., 2013). Such technology which is crucial for the smart home system seemed not enough to apply to the housing environments for single person households in South Korea. Therefore, it would be premature to apply the ICT and Smart house technologies because the

young singletons' awareness of the technologies seemed to be low, and the specific technologies for the smart housing environments such as IoT were likely to be developed.
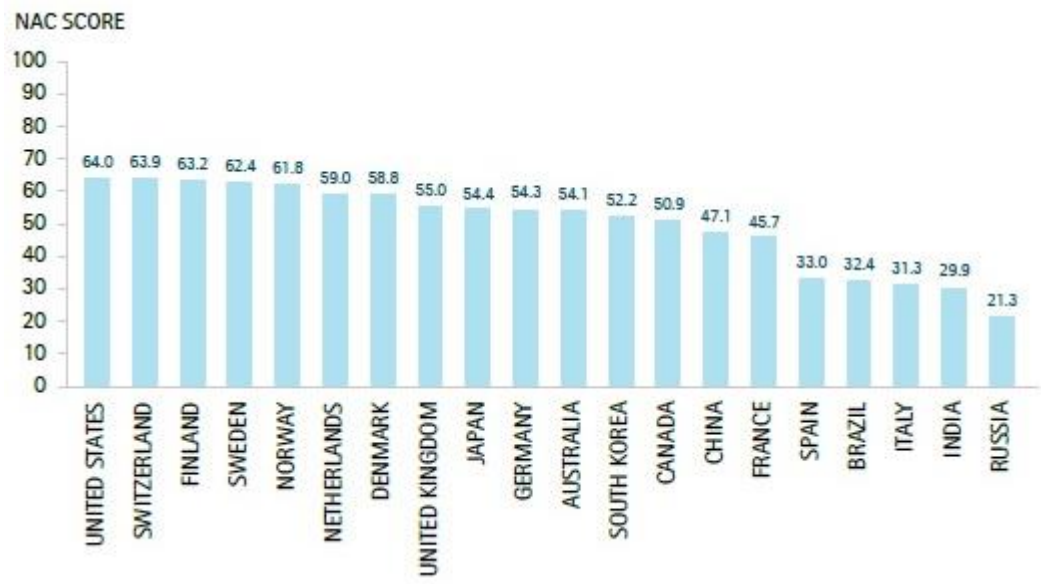
Figure 8-16 Rankings of Countries' Industrial Internet of Things Enabling Factors

Figure out the main question of Housing design issues

Similar to the debates on quality of housing design issues such as inflexible residential unit types or lack of community space shown in the review of literature (Punter, 2010b), it has been a strong aspiration of a well-designed housing environment for the young professional singletons in Seoul, improving spatial efficiency, reflecting their lifestyle, and offering diverse

housing types. In the Seoul context, the main problem of the housing environment has been not quantitative aspects but quality issues such as poor architectural design, few housing options, and the lack of storage space (Byun et al., 2015, Lee, 2012b). The mixed research has discovered their housing aspirations in order to overcome the quality weaknesses of the environment. The research has firstly shown four main aspirations in the housing unit perspective: high space efficiency, their own interior design, 10~20 pyeong in size, and amenity space. It has then shown that, in terms of building perspectives, they wanted to live in small sized apartments or officetel which are tower type buildings with an efficient security system, and located nearby station areas. Finally, in terms of application of high technologies such as ICT (Information and Communication Technology) and IoT (Internet of Things) on the housing environment, although South Korea is famous for the highly developed ICT environments and had the fastest average Internet speed in the world (Akamai, 2014, ITU, 2014), it seemed to be a passive stance to the issue in the Korean context, based on the findings from the field research.

With the significant housing trend for young professional singletons: the rise of micro housing in central areas of major large cities, the issue of space efficiency has been one of the important architectural considerations (FAST COMPANY STAFF, 2012, Christie, 2013). Also one of the features in the housing sector for the singleton in Seoul was the rapid increased demands of small-sized housing (Byun, 2010, Lee and Yang, 2012, Yi and Lee, 2010, Kang et al., 2011). In this situation, this research has mainly focused on the issue of high spatial efficiency, and discovered that this issue was highly associated with a bed. The bed was significant furniture for the interviewed singletons but many of them were experiencing problems with big sized furniture in the small sized housing. In line with this issue, most of

young professional singletons wanted to have space-efficient furniture such as convertible and multi-functional furniture (Pratt and Bradley, 2008) and the adAPT NYC winning proposal 'My Micro NY' was a good example of highly efficient residential space with the changeable furniture such as transformable folding bed (nARCHITECTS).

Consequently, the considerations of housing design for young professional singletons in Seoul are high-quality housing with well-designed inner space, applied their housing aspirations and lifestyle, and have diverse housing choices based on their preferences or economic levels.

8.2.3 Economic Considerations for the Housing Environmental Issues in Both Personal and Regional context?

Sub1 Q: What do the young professional singletons think of the economic burden of the housing cost?

After the global recession in 2008, big cities worldwide have undergone rapid social and economic change such as decreasing number of jobs, lower wages and unemployment, and it seems that the younger generation have been particularly hit by the crisis harder than any other groups (Verick and Islam, 2010, Punter, 2010a). A similar phenomenon has come up in Seoul. Since 2010 the housing market in Seoul has been significantly fluctuated, decreasing overall housing demand and prices; postponing housing purchase, sharply increasing the number of

monthly rental housing; rising of demands for Jeonse and then skyrocketing the price of Jeonse; and dominantly emerging house poor and rent poor (Park et al., 2013). Also according to Park et al. (2013), although the housing price has been moved to downward by the economic crisis since 2008, the level of price is still too expensive to buy or even to rent houses, compared to household income. In the situation, particularly, young singletons who are even in employment have been struggling afford to live in a house (Park, 2011).

Both the quantitative and qualitative research was conducted to figure out the economic aspects of the young singletons, and the research found three notable findings. Firstly, the singletons felt the financial burden in terms of the affordability. It was highly associated with both 'Affordable housing' was the most important factor for them to choose the housing and among the six housing related factors: the characteristics of location, the characteristics of the building, economic issue, the characteristics of interior space, social environment, and indoor environment, the economic aspect ranked the 2nd on the unsatisfied ranking chart. (see Table 8-6) It indicated that the current housing condition was not affordable for them.

Table 8-6 The Ranking of Dissatisfied Factors of Singleton Housing Environments

The ranking of dissatisfied factors					
1st	2nd	3rd	4th	5th	6th
The characteristics of interior space	Economic issue	The characteristics of the building	Indoor environment	The characteristics of location	Social Environment

In line with the first point, the second important feature from the findings was that many of the young singletons who lived at a monthly rental house were suffering from expensive rental costs. From the perspective of the RIR (Rent Index Ratio), which is the burden of rental prices per monthly income (Lee and Yang, 2012), the rate of the singletons who lived in ULH, one of the typical housing types for them, was 26.5 which was more than the RIR rate of the total households in Seoul (25.6). It demonstrated that they felt a huge financial burden to afford to rent the housing. Although they hoped to live at Jeonse or buy a house, the housing prices in Seoul are extremely too expensive to buy a house for the young singletons, and recently there have been few houses for Jeanse on the housing market, due to low bank interest (Kim, 2014). They therefore just wanted to reduce rental cost increasing deposit in order to lessen the monthly financial burden.

Thirdly, even in the economically pressured situation, some of the young singletons wanted to move to more expensive housing if their housing aspirations were adopted in the housing. Through qualitative research, the interviewed singletons were asked as follows:

Do you want to move to new house that your requirements apply on, even if the housing cost increases about 10~15% of the current housing cost?

Klinenberg (2013) maintains that young singletons tend to spend much more money than people who have family members, and they tend to spare no expense in taking care of themselves and investment in enjoying their life. In line with the statements, they tended to be willing to pay more on the new housing which related to their housing aspirations. There,

however, seemed a kind of its optimum level, that is, when the rate of rising housing cost over 20%, most respondents did not want to move and live the current house, abandoning their residential aspirations.

Consequently, the housing cost is a financial burden to the young singletons and there were few affordable housing options. In this situation, they tended to have 'limited choice' to live in the unaffordable houses. They, on the other hand, had a strong motivation to move to developed and more expensive housing, which related to their housing aspirations. This was backed by the high level of dissatisfaction with their current housing environments.

Sub Q2: What kinds of amenities are needed for the young singletons, reflecting their lifestyle, improving human relationships with local residents and invigorating local economy?

Basically, there was a disconnected relationship between young singletons and local communities, based on the findings. Among the young singletons, however, the aspirations for having positive relationship with local communities and neighbourhoods have gradually increased. Indeed, one of the appropriate approaches to improve the social connections could be dealt with from the perspective of economy. According to Klinenberg (2012), young singletons play an significant role in economically revitalizing and activating the local area because they tend to spend much more money on eating out in restaurants, having coffee time in cafes, taking a gym or art classes, and volunteering than other household types. Despite the

motivation of communication with local neighbourhoods and economic capability of the young singletons, their socio-economic participation in local areas was low due to lack of amenities and economic considerations about this issue (Punter, 2010b). In this situation, *Share economy*, which refers to a kind of economic environment that people can get profits by sharing human and physical resources with others (Nielsen, 2014) can be an appropriate approach to the socio-economic issue in Seoul context (see Figure 8-17).
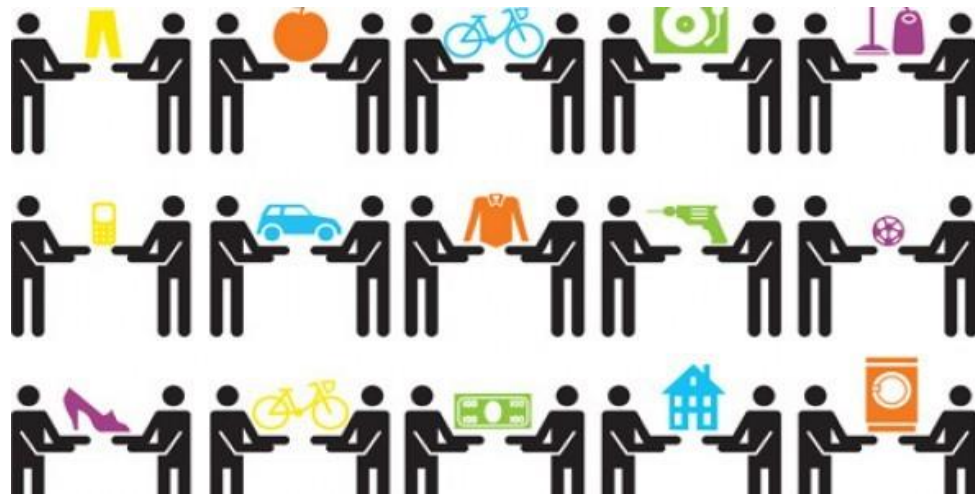
Figure 8-17 Sharing Economy Image

(source: www.nadl.net/wp-content/uploads/2015/01/aa2.jpg)

The results of the qualitative research showed the need to have sharing environment for both the solo dwellers and local communities. According to an interviewee who was a young singleton, the necessity could be revealed, saying:

Sometimes, I need some place to share daily items which are not used frequently and are too big to keep in the small-sized housing such as a vacuum, and a hammer.

Living alone and house sharing singleton 33

The interviewed experts in urban and regional studies also emphasized this issue and maintained that the socio-economic ecosystem was enabling the singletons to get more into the local societies by sharing human services and daily resources with residents in the area.

The sharing issue coupled with economic and social conditions could be realized in the name of urban renewal scheme by the Seoul government. 'Creating Urban Villages' is one of the major programmes of the renewal plan, and the purpose of the programme is to revitalize local areas sustainably by running a wide range of community-based businesses conducted spontaneously by local residents, as shown in Figure 8-18 (Seoul Metropolitan Council, 2014). In line with the programme, café, fitness centre, communal dining room and parcel keeping space which were the desired subsidiary facilities by the surveyed young singletons could be supplied within the local villages (People and Village, 2015), rather than running the facilities only for the singleton communities. This approach therefore is highly likely to deliver a positive legacy in terms of both economic and social perspectives such as sharing economy.

Figure 8-18 Local Cafe, Kitchen, Dining Room, and Whole Sale Market

(Seoul Metropolitan Council, 2014)

Therefore, supplying amenities for aspirations of the singletons' lifestyle is needed to be dealt with in the frame of urban renewal scheme, activating sharing economic environment and increasing social networks within local communities.

Answer of the main question in Economic aspect

The thesis has figured out main economic considerations for both individual young singletons and their surrounding areas. In respect to the economic burden of housing cost, many young singletons in Seoul lived in poor quality small sized houses at expensive monthly rental levels (Lee, 2014, Lee et al., 2011). In order to support the financial burden of the singletons, local governments and private sectors have tried to deliver solutions such as easing housing regulations and promoting ULH since 2009 and starting share house business (Jang, 2014, Yoo and Shim, 2010, Ministry of Land Infrastructure and Transport, 2009). Although the major purposes of ULH is providing affordable housing to one or two households who live in urban areas, the monthly rental cost of ULH is higher than other small sized housing types (Lee, 2012b). This paradoxical situation has resulted in an economic burden to the young solo dwellers (Ibid). In this situation, share house can be an appropriate housing alternative for the young singletons to relieve economic burden. Some interviewed singletons, on the other hand, wanted to move to more expensive housing than the current one if the new housing would be developed and met their housing aspirations. It indicated that some of them were highly dissatisfied with qualities of the current housing environment, and there were diverse opinions or preferences toward the housing situation.

In terms of economic considerations in local context, first of all revitalization of human relationships between the newly increasing young solo population and local neighbourhoods is

important in order to activate local economy. Share economy, an economic environment for sharing human and physical resources with others, can be an appropriate approach to improve the social connections in the area (Nielsen, 2014). Also promoting programmes of urban regeneration scheme in Seoul such as 'Creating Urban Village' can be economically a proper method for both the young singletons and local communities. This is because the singletons' desired amenities such as café, fitness centre, communal dining room and parcel keeping space can be provided, resulting in increasing participation of the singletons within the local villages (People and Village, 2015). These methods basically aimed to vitalize local economy by establishing a sharing atmosphere in the local areas and activating socio-economic interactions between the solo generations and local communities.

8.2.4 Broad Implications for New Housing Environment for the Singletons

Through the synthesis, this research has responded the main research questions and made broad implications on design of housing environment for the young professional singletons in Seoul. As seen in the Table 8-7, the Seoul Metropolitan Government and relevant experts put strong attention to make high-quality residential space with improved space efficiency, reflecting their lifestyle; create community space where dwellers naturally communicate with neighbours, based on securing private space; and their desired amenities need to be provided through urban renewal programmes, revitalization and improving human relationship with local neighbourhoods. Based on the broad implications, detailed housing alternatives and urban design plan for the several kinds of young professional singletons are suggested in the following sections.

Table 8-7 Questions and Housing Implications

Main questions	Sub questions	Response and broad implications on housing design	
Human Relationships **: How can stakeholders such as urban planners, designers, policy makers or architects, related to the housing issues for young singletons, make an appropriate balance between 'personal privacy' and 'communication with neighbours' in the residential environment?**	1. Is communication with neighbours necessary?	It should be needed.	Create community space where dwellers naturally communicate each other, based on securing private space. Governments need to regard the singletons as main participants in the urban renewal scheme and support them to belong to local communities.
	2. Which one is more important between 'privacy' and 'communication'?	Privacy comes first, but the aspirations and necessity of the communication have increased.	
	3. What kind of community space do they want to have in the residential buiding?	A space where natural interaction happens without any burdens and it would be a functional space such as café or cafeteria.	
	4. How to improve a human relationship between the young professional singletons and local neighbourhoods?	The relationship with local communities has to be improved. Taking the negative case of ULH as a lesson, the relationship needs to be enhanced within the framework of urban regeneration.	
Housing Design **: What is a well-designed housing environment that meets the aspirations of the singletons?**	1. Which aspects of housing design are weak points which have to be developed?	Particularly architecture and interior design aspects, indoor environment and lifestyle issues need to be developed.	The well-designed housing for the young professional singletons in Seoul is high-quality residential space with improved space efficiency, reflecting their lifestyle. Also, it can be crucial for them to provide more housing options.
	2. What kinds of aspirations related to design aspects do the young singletons have for the housing environments?	Especially, improving spatial efficiency, unique interior design issues, 10~20 pyeong in housing size, good location, appropriate amenities, and good security.	
	3. What kind of furniture do they want to have?	Furniture for taking a rest is important for them, such as bed. Also it has high space efficiency such as built-in and multi-functional furniture.	
	4. Can housing applied ICT be a good alternative for the young singletons?	It would be premature to apply the technologies. Face to face communication is the method they preferred the most.	
Economic aspect **: What kinds of economic considerations are important in order to improve the quality of housing environments for the singletons in both personal and regional context?**	1. What do the young professional singletons think of the economic burden of the housing cost?	No wonder the housing cost is economic burden to the young professional singletons. They however tend to move to more expensive housing if the housing can offer more appropriate residential conditions based on their housing aspirations.	Although housing cost creates financial pressure on the young singletons, they ultimately want to live in housing that meets their housing aspirations. Also amenities need to be offered in the local context due to economic revitalization and improving positive relationship with local neighbourhoods. In addition, it needs to suggest the potential alternatives for several types of the young singletons who are in different economic situation: Relaxed and dissatisfied group, Adapted group, and Tight and dissatisfied group.
	2. What kinds of amenities are needed for the young singletons, reflecting their lifestyle, improving a relationship with local residents and invigorating local economy?	Café, fitness centre, and cafeteria are popular amenities for them. Also a place where people can share daily supplies and household items such as a hammer seems to be needed in terms of economic and local regeneration aspects.	

8.2.5　Development Indicators for Housing Alternatives

Based on the broad implications on housing environment design, the core objectives of this research begins transitioning to the next analysis into critical thinking about detailed new design of housing alternatives. The major indicators of the housing alternatives for young single person households have been raised through the synthesis. The seven indices include Balanced Relationship, Urban Renewal, Divided Space, DIY, Effective Space, More Options and Management (see Figure 8-19).

Figure 8-19 Development Indicators for Housing Alternatives

The first indicator is 'Balanced Relationship', related to the human relationships and housing design issue. This indicator pursues an appropriate balance between privacy and communication in the housing environment. To do this, for example, the share house secures private space for each dweller, and community space is created in the practical buildings for the singletons. The second index is 'Urban Renewal'. It basically aims to improve positive human relationship between the young single person households and local neighbourhoods in diverse aspects. Examples include encouraging them to be involved in various kinds of urban renewal programmes launched by the Seoul Metropolitan Government, such as making 'Urban Villages'. The third indicator is 'Divided Space'. It literally seeks to partition the residential space, even the small-sized inner space, in accordance with the characteristics of the spaces. By doing so, unwanted smells, humidity and dust can be blocked, creating a more comfortable residential environment. It seems to be needed to make terrace or separated space in the housing. The fourth one is 'DIY' (Do It Yourself). It is highly likely essential for some of them to deny the current poor quality housing interior design and get opportunities to actively decorate the residential space by themselves. To do this, a rise in supplying unfurnished residential property for the singletons seems to be needed, and it can not only increase the potential for self-decoration, but also reduce monthly rental prices. The fifth indicator is 'More Options'. Through the previous analysis, there are different kinds of young singletons by income level, gender and housing aspirations. Thus, diverse housing options are necessary for them, rather than just one option. The sixth index is 'Effective Space'. No wonder it is crucial point to the small housing in order to maximize use of space. This can be facilitated by well-designed architecture plans or high-efficient furniture such as a built-in wardrobes or foldable beds. Finally, 'Management' is important indicator in terms of the solo life in the housing

environment. In addition to the major issues, the singletons have minor daily difficulties but being worth consideration, such as disposal of food waste. The specific issues need to be sorted out. The characteristics of the seven indicators for the development are tabulated. (Table 8-8)

Table 8-8 Indicators for the Development of the Housing Alternatives

Indicators	Related issues	Aim	Guideline
Balanced Relationship	Human relationships, Housing design	Appropriate balance between privacy and communication	Securing private space and revitalizing communication
Urban Renewal	Human relationships, Housing design, Economic aspects	Improve relationship between local communities and singletons	Sharing subsidiary facilities and encouraging them to participate in urban renewal programmes
Divided Space	Housing design	Separate inner spaces by its characteristics	Creating residential environment by partition of the space
DIY(Do It Yourself) Design	Housing design, Economic aspects	Give opportunities to decorate the space	Providing more unfurnished housing, reducing rental cost and satisfying aspirations for the self-interior design
More Options	Human relationships, Housing design, Economic aspects	Offer a wider range of choices	More housing options for diverse kinds of the young singletons
Effective Space	Housing design	Maximize spatial efficiency in a small space	Use well-designed architecture plan and high efficient furniture
Management	Lifestyle	For convenient solo residence	Solve the minor daily difficulties of the young singletons

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8.2.6   Typology of the Young Professional Singleton Group

One of the young singletons' major complaints about current housing environment for the young singletons in Seoul was lack of diversity of housing types (Byun et al., 2015). In line with the issue, the research has discovered that within the target group of young professional single person households in Seoul, there were different kinds of groups in accordance with conspicuous factors such as sex, income, human relationships, housing satisfaction and aspiration for new housing. Also each groups showed different housing aspirations. Thus this research focused on classifying the young professional singleton group by the visible factors in order to suggest several housing alternatives and urban design plans for the each specific group.

Significant examples included the housing satisfaction features in different income levels. There seemed to be a distinct and consistent pattern in the categories such as the characteristics of building (Exterior design), the characteristics of interior space (size, interior facilities, kitchen and ground plan), Indoor environment (ventilation and light), Social environment (intimacy with neighbourhoods) and Economic issues (housing and maintenance cost affordability), as indicated in the graph in Figure 8-20. In addition to the satisfaction issue, other categories also showed the similar tendency for the factors as mentioned above. Therefore, based on the different characteristics, the research drew three main types of the young singletons: Relaxed and dissatisfied group, Adapted group and Tight and dissatisfied group. The typology has been drawn based on five conspicuous variables such as gender, income, communication, housing satisfaction and aspiration for new housing (see in Figure 8-21).

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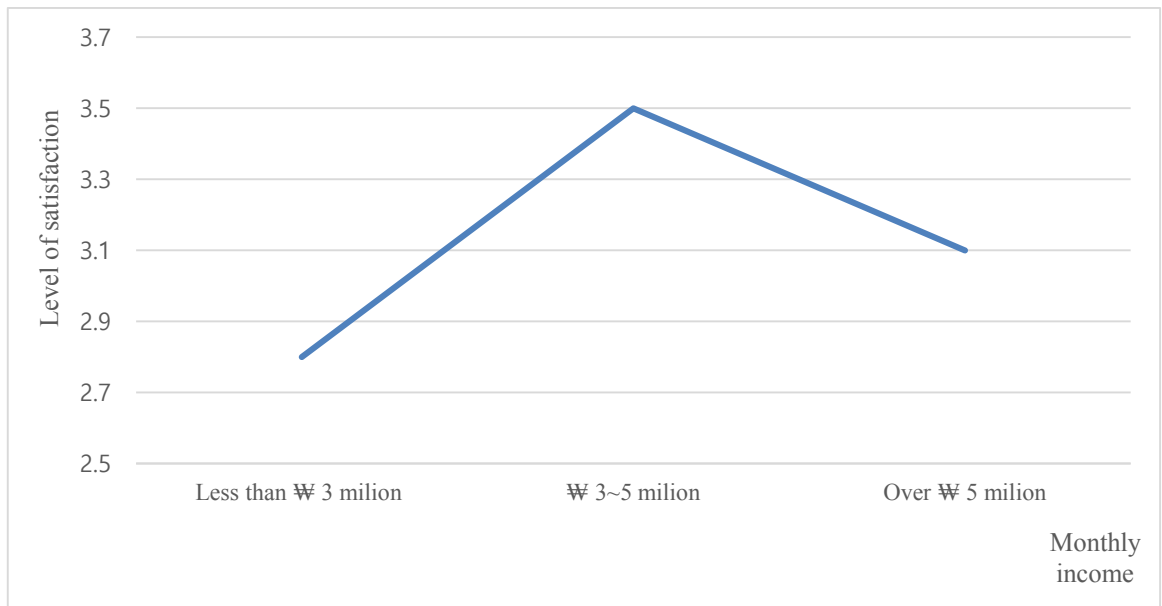
Figure 8-20 The Pattern of the Housing Satisfaction Features (by Mainly Income Groups)
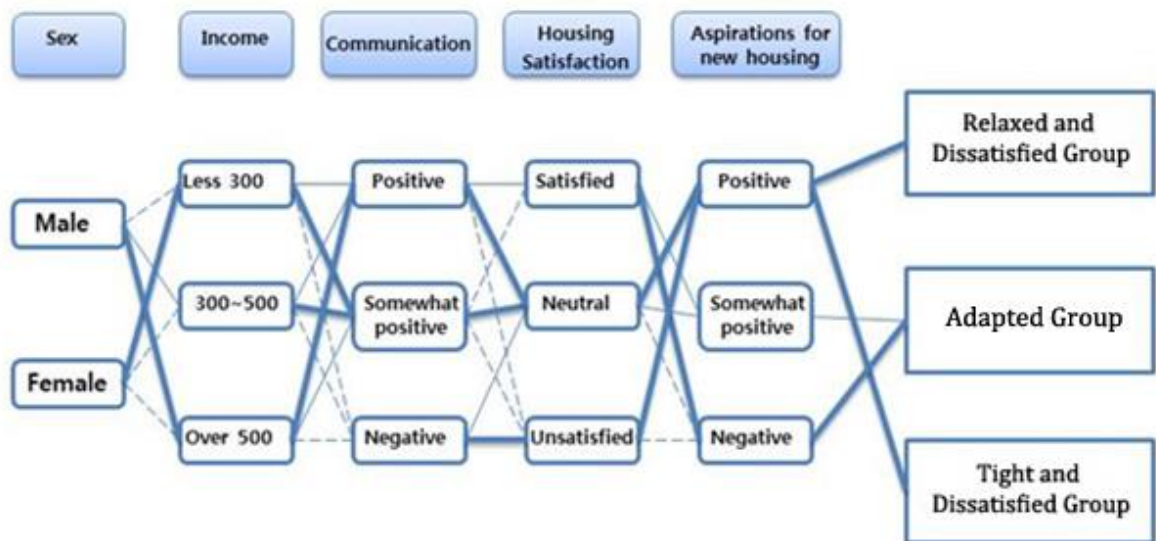
Figure 8-21 Typology of the Young Singletons

Characteristics of the Main Three Singleton Groups

The first group is 'Relaxed and Dissatisfied'(RD) group, and members of the group are higher monthly earners, over 5 million won (£2,835) a month than other groups. The group members are mainly male and professional office workers such as doctors and lawyers. They live in relatively large-sized housing (20~30 pyeong) in officetel or apartments at Jeonse (average two years lease) or owner occupied housing. Also they have strong economic power, enjoying their life and having strong aspirations for new housing environment. It can be based on the result of the satisfaction features of the current housing environment that, in terms of monthly income, the satisfaction rate has increased until 5 million won a month, and then the rate has started to decrease (similar to Figure 8-20 graph). It means that the group seems to want improved housing environment more than the current situation. Over 90% of the group members have a car, but they usually commute by tube, and the rate of the intention of communication with neighbours and living in share house was highest among the groups. To sum up, although they seem to be relaxed in economic aspects and enable to choose the housing they want, they tend to be dissatisfied with the current housing environment, and want to move to more improved residential property than the current one. They also tend to be open minded enough to communicate with other people including neighbours and house mates but securing private space is also important. Therefore, it seems to be significant to supply new and developed housing options for them.

The second group is called 'Adapted' (A) group, and it is composed of relatively middle-income earners, 3~5 million (£1.700~ £2,835) won a month. The group members are mainly office workers, usually working for conglomerates. They tend to live in a small-sized house (10~20 pyeong), such as terraced/multi-family houses or small apartments, at monthly rent or Jeonse. The main characteristic of the group is that it showed the highest satisfaction rate on current housing environment in general, compared to other groups. It means that they seem to be able to adapt to the current housing environment the most.

The final one is 'Tight and Dissatisfied' (TD) group, and the largest number of the young singletons is belonged to this group (47% of total number of surveyed singletons). The group members are mainly female office or service workers who were relatively lower income earners (less than 3 million/£1,700 a month), compared to other young singleton groups. They live in the smallest sized housing (less than 10 pyeong) among the groups. The housing type is mostly one-room type Urban Lifestyle Housing at monthly rent. They tend to struggle to afford to live, and the housing cost is burden to them, which is the most important issue to choose a house. Given this situation, they showed the lowest housing satisfaction rate. It meant that they are quite dissatisfied with the current housing environment. But there seem few affordable housing options for them in the housing market in Seoul. Therefore, housing alternatives considering economic aspects are essential for this group.

The characteristics of the three types of young singleton groups in Seoul are tabulated (see in Table 8-9).

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Table 8-9 Characteristics of the Three Singleton Groups

	Demographic	Current housing environment	Lifestyle	Aspirations for new housing
Relaxed and Dissatisfied (R&D)group	- 30s - Over 500 a month - Male - Office workers, Professionals	- Officetel and apartments - Jeonse or Owner occupied - 20~30 pyeong	- own a car but commuting by tube - want to communicate with neighbours and to live in share house	- They are not fully satisfied with the current housing environment, and have a great curiosity to live in new alternatives of housing types.
Adopted (A)group	- 20~30s - 300~500 a month - Male - Office workers	- Terraced/multi-family house and apartments - Monthly rent or Jeonse - 10~20 pyeong	- Commuting by tube and bus - Prefer communicating with neighbours by face-to-face meeting	- Among the groups, the highest satisfaction of living the housing environment
Tight and Dissatisfied (T&D)group	- 20~30s - Less 300 a month - Female - Office & Service workers	- ULH(one-room type) - Monthly rent - Less 10 pyeong	- Commuting by tube and on foot. - Hard to afford the housing cost - Housing cost is the most important to choose the housing	- Among the groups, the most unsatisfied of the housing environment.

Aspirations of the Three Young Singleton Groups for the Housing Environment

The young singleton typology: Relaxed and Dissatisfied (R&D) group, Adopted (A) group and Tight and Dissatisfied (T&D) group could be useful in order to specifically understand their housing environments and aspirations. The research then figured out the detailed housing aspirations of them based on the quantitative research data as shown in the Table 8-10. Although the question in the quantitative survey asked the targeted singletons to answer it based on their realistic financial situation, the results seemed to contradict the current condition of housing market in Seoul. Therefore, it seemed an appropriate stance, regarding the data as an important

guideline for suggesting housing alternatives, rather than fully applying it on the new housing options.

Through the outcome of their residential aspirations, desired housing types can be figured out in accordance with the characteristics of the typologies. At first, 'Relaxed and Dissatisfied' group seems to want to move to high-rise and posh apartments the most, with commercial facilities in the ground level of the building. The building would have a concierge, fitness centre, café and restaurant. Next, 'Adapted' group tend to also prefer living in apartments the most, but overall size of housing environments including number of households and height of building is smaller than those of former group. Also they want to live in the housing for residence purpose only rather than multi-purpose building for both residence and commerce. Finally, 'Tight and Dissatisfied' group seems to be the most down to earth. The most preferred housing type is officetel. No wonder the housing type is cheaper and smaller than the apartments, but it also well-managed and modern style property. All the singleton groups have some characteristics in common. They prefer living in not only a residential building occupied by different types of households, but also housing with effective storage space. Moreover, the preferred subsidiary facilities are café, fitness centre, communal dining space, and a facility for unmanned parcel receiving service. In the next section, the potential housing alternatives for the young singletons can be suggested, based on this synthesis.

Table 8-10 Aspirations of the Three Young Singleton Groups for the Housing Environment

Group Types	Types of aspiration for the housing environment														
	Housing type	Residence type	Housing size (pyeong)	Mixed building	Security	Building arrangement type	Building composition	Building type	Building height (stories)	Number of households	Number of rooms	Number of toilet	Floor style	Storage design	Subsidiary facilities (Top3)
R&D	APT	Owner-occupied	Over 20	Building for any type of households	24 hrs Concierge	Complex	Multipurpose building	Tower	Over 16	Over 100	2.5	1.4	One story and duplex	System and built-in furniture	1. Fitness centre 2. Communal dining room 3. Café
A	APT	Jeonse	10~20	Building for any type of households	CCTV	Complex	Residence only	Tower	10~15	11~50	2	1.5	One story and duplex	Built-in and system furniture	1. Café 2. Communal dining room 3. Fitness and Parcel receiving storage
T&D	Officetel and APT	Jeonse	10~20	Building for any type of households	CCTV	Detached or complex	Residence only	Tower	6~10	11~50	1.9	1.5	One story and duplex	Built-in and system furniture	1. Café 2. Fitness centre 3. Parcel receiving storage

8.3   Housing Alternatives for the Young Singletons

In this section, the potential housing alternatives for the young single person households in Seoul are suggested based on the integrated analysis including the singleton typology, the main responses, the indicators and other research data. The alternatives being considered are Balanced Housing, Tiny and Smart Housing, and Local Friendly Housing Environment.

8.3.1   Balanced Housing

Balanced Housing mainly addresses the human relationship perspective, one of the major research issues. This housing alternative is then categorized into two sub-options: 'Single Room Occupancy (SRO) share house' and 'One-room and Community space (O&C) housing'.

SRO Share House

SRO share house is literally a kind of share house that secures private space for residents. As the qualitative research data showed, most rooms in the share houses run by companies were double-occupancy. In this context, many interviewed singletons did not want to live in the share house, as private space was not guaranteed. However, many of them would like to move to share houses that provide the single room occupancy.

The SRO share house aims to make sure securing personal privacy, and enabling communication among house mates. In order to make sure of privacy, every resident has their own room as seen in the Figure 8-22.

Figure 8-22 SRO Share house

Also, as seen in the Figure 8-23, it needs to put locks on the door of the rooms in order to prevent unnecessary misunderstandings and conflicts among house mates, caused by loss of possession and interfering with personal time. The D-well community house was a successful example that followed the methods for securing residents' privacy. In the community house, most of dwellers had a single occupancy room and every room had a lock, unlocked by an

electronic card key. They were highly satisfied with the system. In addition to the approaches

for the privacy issues, the SRO share house would well-planned architectural design and rules

of the sharing life in order to make a harmony among the dwellers. Particularly, the lounge,

toilet and kitchen in which residents use together should be carefully designed to improve the

communication and reduce expected conflicts. The bathroom would be separately divided into

a shower booth, a basin and the toilet so that residents could use the bathroom simultaneously.

(Figure 8-24). Other considerable design would be applied to the kitchen. There are a small bar

style space and chairs in front of the sink, which able the dwellers to interact with others during

the washing-up. Also, the location of the electric range moved to a middle of the kitchen board

in order to cook together (Figure 8-25). These interior design suggestions are inspired by D-

well community house and WOOZOO share houses.

Figure 8-23 Door Lock
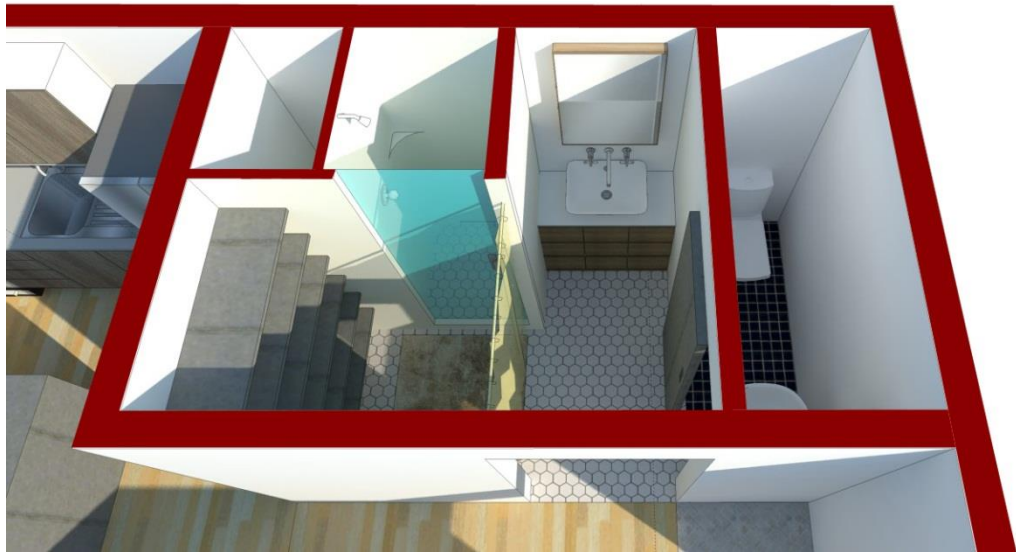
Figure 8-24 Bath Room Space Design

Figure 8-25 Kitchen Area

The SRO share house pursues a premiere housing type. If all the suggested design elements are fully applied to the housing, the cost of living in the housing would surely increase to be more than that of the current type of share house. The premiere type, however, seems to be in demand because most of the interviewed singletons wanted to move to new housing which satisfied their housing aspirations despite the monthly rental price of the new housing is more expensive by 10~15% than the current housing in which they lived. The current share house focusing on communication is definitely appropriate housing option for 'Tight and Dissatisfied' group singletons who want to reduce housing costs. The SRO share house, providing private rooms and desirable residential conditions such as apartments, is the appropriate alternative for 'Relaxed and Dissatisfied' and 'Adapted' group.

O&C Housing

The second type of Balanced Housing is O&C (One-room and Community space) housing. This housing alternative means that the community space is added to the residential building fully formed of one-room (studio flat) housing (see Figure 8-26), which is the most dominant housing type for the young singletons in Seoul and mainly focusing on residents' privacy (Lee and Yang, 2012). Based on the findings, most young singletons rarely had communication with other tenants in the same building, and they were highly dissatisfied with this isolated situation, naturally hoping to have communication with each other. In this context, O&C housing aims to offer community space in such a type of residential building in order to improve a sense of community among the tenants. (see Figure 8-27). Responding to the data of their desired

subsidiary facilities, a coffee machine could be provided in the community space so that the occupiers could have a cup of coffee having a casual chat with other tenants; have a light meal for breakfast together; share things they infrequently use, such as a hammer, a vacuum cleaner and dumbbells. Moreover, they can have programmes or events in the community space such as 'Movie night' and 'Beer party'. If these kinds of opportunities are provided to inspire in them some sense of belonging in each of the tenants in the building, many of them could participate in the activities. It is based on the research data that the majority of researched singletons hoped to communicate with fellow occupiers in a natural atmosphere such as coffee or tea time. In addition to the scenes of the residential unit and the community space, floor plans with locations of the community spaces (Figure 8-28), building sections (Figrue 8-29) and convergence of the floors and the air view of the O&C Building (Figure 8-30) are expressed in three dimensional images, helping understanding of the characteristics of the housing alternatives

Figure 8-26 Basic One-room Unit Design

Figure 8-26 Scenes of Community Space in the Building

Figure 8-27 The Location of Community Spaces in Each Floor

Figure 8-28 The Section of the Building and Location of Community Space
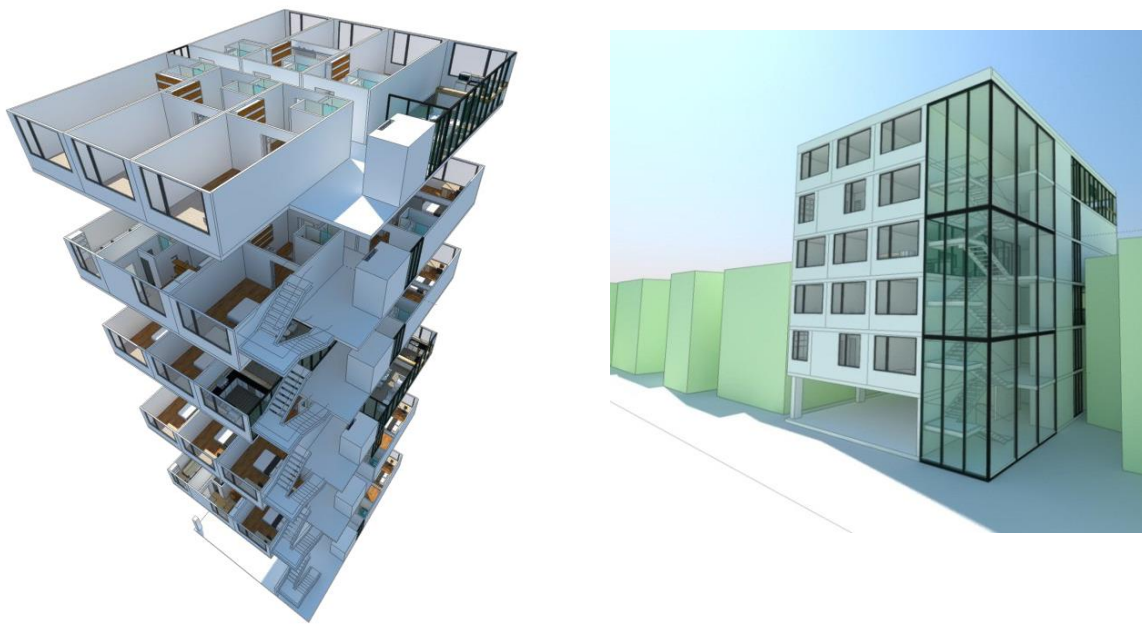
Figure 8-29 The Scene of Convergence of the Floors and the Air View of the O&C Building

The building owners, on the other hand, could suffer a financial loss if the community space were formed in the building. However, if the space is well-designed enough to satisfy the singletons' social and residential aspirations, they would prefer living in the developed housing paying more rental cost by 10~15% than the current price. Examples includes 'Sohangjoo' house in Seoul in which each tenant paid a certain amount of money for 1 pyeong (3.3m^2), and 10-pyeong sized community space was created in the house (Sympathy, 2013). Like the case of the 'Sohangjoo' house, it is possible to have the common space by an agreement between building owners and tenants. That way, the owners do not have to suffer a financial loss while providing desirable housing environment to the residents.

8.3.2　Tiny and Smart Housing

As highlighted in the previous chapters, micro housing is one of the leading housing trends for single person households in city centres. This housing aims to solve the singletons' housing problems such as supplying affordable housing and improving spatial efficiency of the small-sized housing. In South Korea, this kind of micro housing type has been supplied in the housing market in the form of gosiwon, sized 1~2 Pyeong (3.3~6.6m^2) on average. The serious problems of the housing type are poor quality of residential environment as well as the size and its spatial efficiency. Given this situation, tiny but highly spatial effective (smart) housing and micro housing are needed for the young singletons in Seoul.

T&S Design Languages

    First of all, one of the most important issues for T&S housing is a bed. A bed means a lot to the young singletons, based on the findings they considered sleeping as the most important activity in the housing, and spent the most of their time on the bed, considering the bedroom as the most essential space. The bed, however, seemed to pose a dilemma as they tended be worried of fitting the relatively big-sized furniture in the small-sized housing. Some of them, thus, answered they slept on the floor abandoning the bed (which has been the traditional way of sleeping in Korea). In this situation, T&S housing suggests five types of bed setting in the micro housing. These are folding bed, high bed, drawer bed and sofa bed (see Figure 8-31). The design options pursue to maximize space efficiency and enable bed to fit in the tiny space. The design languages, derived from the housing cases worldwide, would be applied to T&S housing.
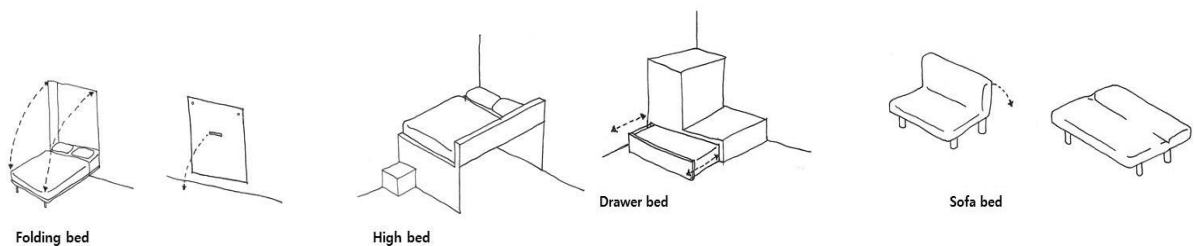
Figure 8-30 T&S Design languages: Bed

Secondly, in addition to the diverse bed fitting methods, another important factor for T&S housing is use of height. In other words, it is approaching the architectural space plan with the three dimensions (width, length, and especially height) in order to create more space. The high bed and drawer bed fall under this concept. Other examples are creating one and half-storey-floor in the housing and adjustable table in height. Thirdly, maximizing storage space is an essential issue on the housing alternative. According to the findings, built-in furniture, creating as much storage space as possible, was the most preferred method of securing storage space. Also, there are good ways to increase in storage space: different kinds of furniture including sofas, tables and stools, designed to have storage space, and mix-and-change shelves such as 'Tetris Like Stacking Legoish Shelves' (Dirksen, 2012). The fourth point is the door issue. Generally, most doors in the houses or even those of wardrobe are hinged doors. This door style normally takes much space when opening the door, and it sometimes has negative impacts on spatial efficiency, particularly in small-sized housing. Regarding this, two types of doors are suggested: a sliding door and a blind-type door. Both types move in the two-dimensional plane, which takes less space than the hinged door, moving in three-dimensional space. The door types can satisfy both functional and space-efficient aspects. The 'New Friends Dressing room' produced by Hyundai Livart can be an example of the furniture (Livart, 2015) (see Figure 8-10, p. 289). With all the design languages, however, unfurnished housing is also a good opportunity for the singletons to create storage space and decorate interior design by themselves, satisfying their DIY aspirations.

Four Prototypes of Tiny and Smart Housing

Based on the design considerations for the Tiny and Smart Housing, this research has tried to express the four prototypes of T&S Housing in 3D modeling through design software such as Sketchup, V-ray and Photoshop. In respect to housing size, Tiny and Smart Housing conforms to the minimum exclusive residential area criteria in Seoul: 4.2 pyeong=14m^2=151square feet. Mixing and matching the figured design languages including 'Bed', 'Height', 'Additional storage' and 'Door', four prototypes of the housing are suggested as follows:

(i) Type 1: Folding bed TSH

The first type of Tiny and Smart Housing is called 'Folding bed TSH'. In order to maximize the space efficiency in the micro sized housing, a folding bed, a folding table, built-in furniture and a sliding door are applied to this prototype housing (see Figure 8-32). Also Figure 8-33 shows a top view of the inner space of the housing and Figure 8-34 represents how the folding bed works. Finally Figure 8-35 describes the folding table, built-in furniture and storage space in a overhead area.
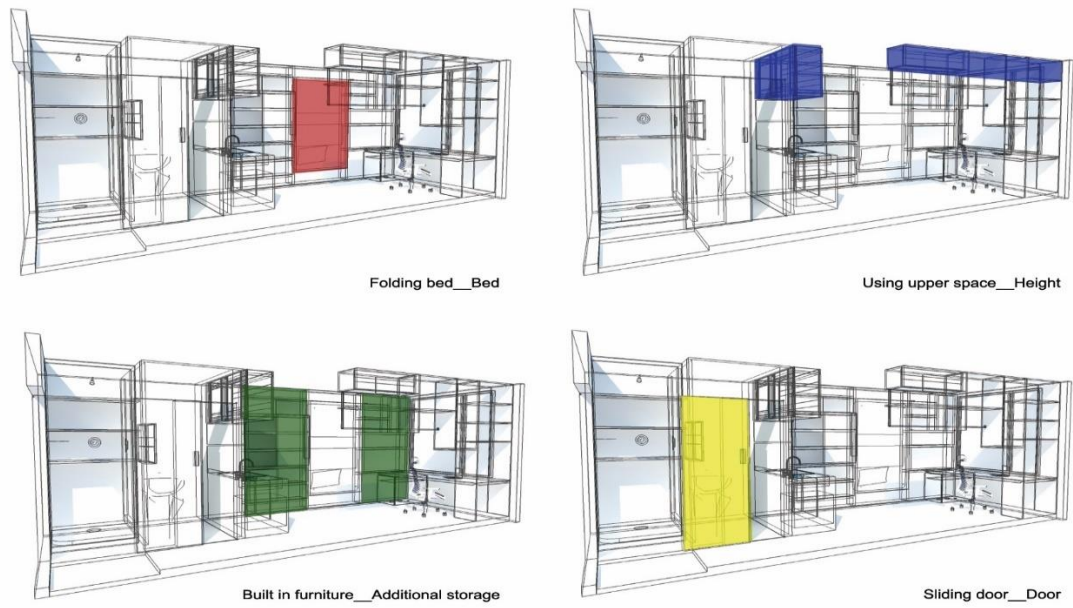
Figure 8-31 Applied Design Languages in Folding bed TSH

Figure 8-33 A Top View of Folding bed TSH

Figure 8-32 Scenes of Transforming Folding Bed

Figure 8-33 Scenes of Interior Space of Folding bed TSH: Folding Table and Built-in Furniture (Above) and Using Upper Space (Bottom)

(ii) Type 2: High bed TSH

The second type of Tiny and Smart Housing is named 'High bed TSH'. A high bed, using a overhead area and space below the bed for storage and a sliding door are applied to this proto type housing in order to maximize the space efficiency (see Figure 8-36). In addition, Figure 8-37 shows a top view and a scene of inner space of the housing, representing storage space under the bed. The overstorage storage space and sliding door at the high bed are descried in Figure 8-38

High bed__Bed

Using upper space & High bed__Height

Storage under the bed__Additional storage
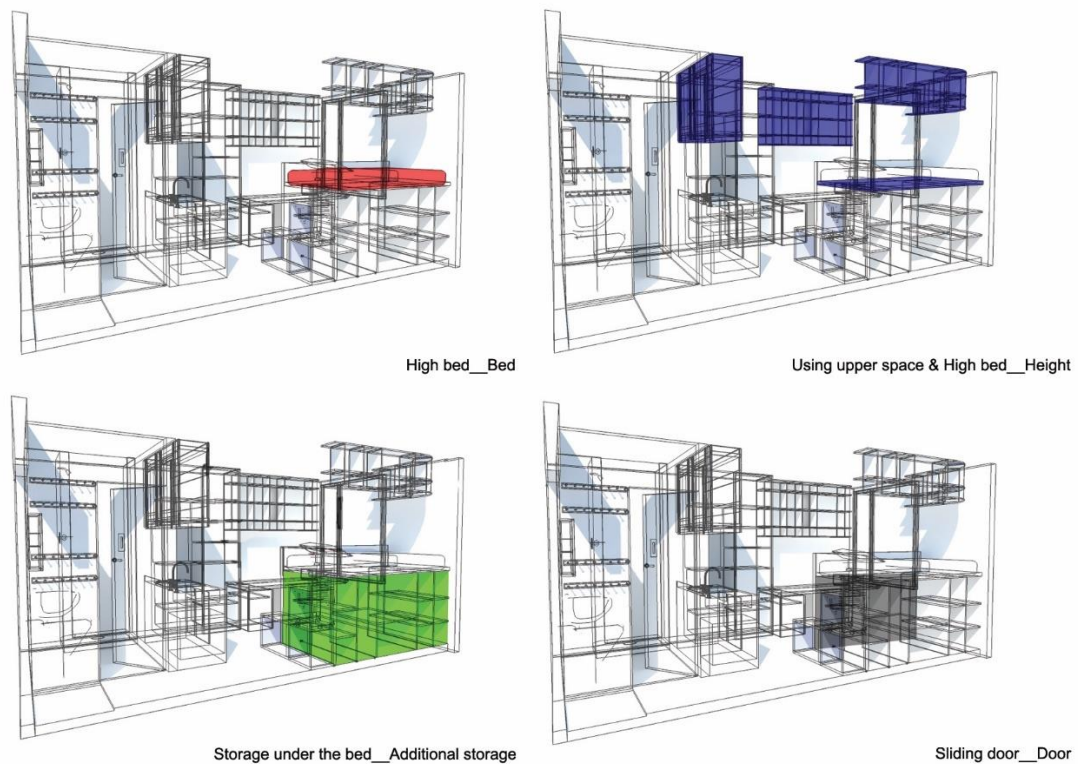
Sliding door__Door

Figure 8-34 Applied Design Languages in High bed TSH

Figure 8-35 A Top View of High bed TSH (Left) and An Interior Scene of the Housing (Right)
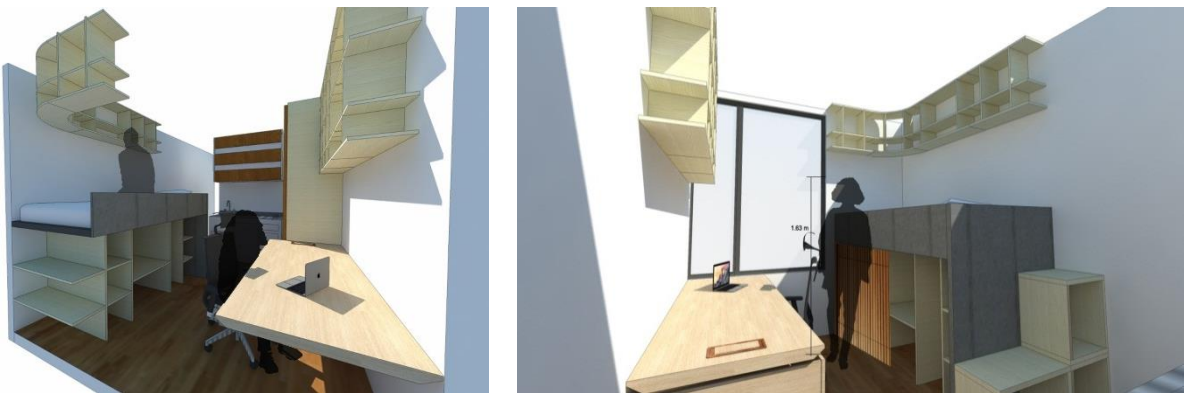
Figure 8-36 Scenes of Interior Space of High bed TSH: A Overhead Storage Space (Left) and a Sliding Door (Right)

(iii) Type 3: Drawer bed TSH

'Drwer bed TSH' is the third type of Tiny and Smart Housing. As seen in the Figure 8-49, a drawer bed, a overhead storage space and frame based funiture wall are applied to this proto type housing. The Figure 8-40 shows interior scenes of the housing, representing how the drawer bed works, and it also shows a top view of the housing. A scene of kitchen area is shown in the Figure 8-41.

Drawer bed__Bed

Using upper space & 1.5 stories__Height

Frame based furniture wall__Additional storage
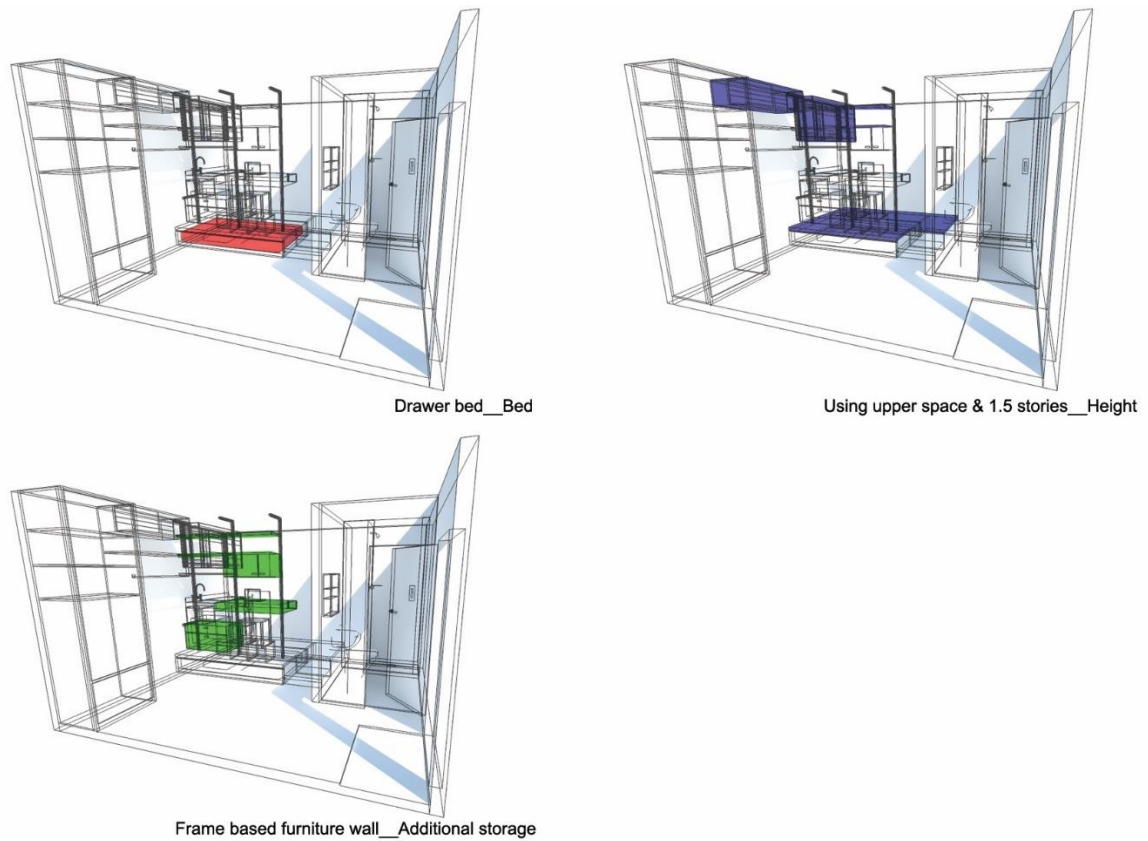
Figure 8-37 Applied Design Languages in Drawer bed TSH
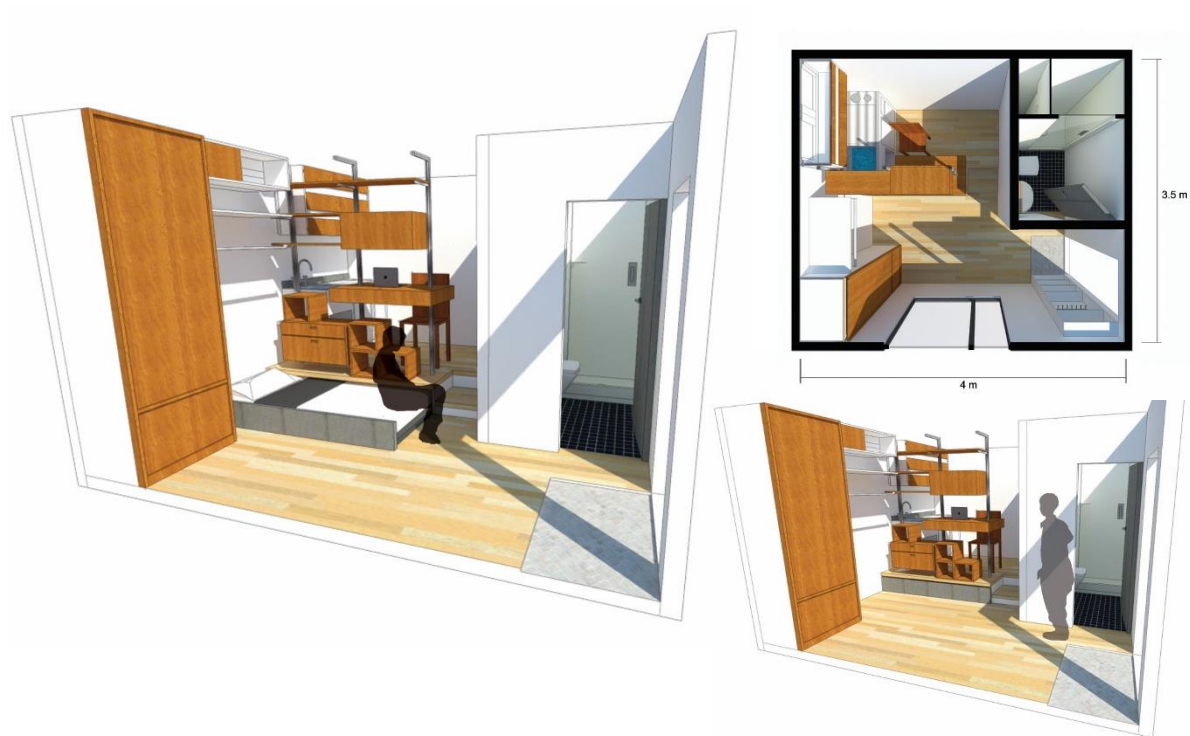
Figure 8-38 Interior Scenes of Drawer bed TSH,
Showing How the Bed Works and a Top View of the Houisng

Figure 8-39 A Scene of the Kitchen Area in Drawer bed TSH

(iv)Type 4: Sofa bed TSH

The fourth type of Tiny and Smart Housing is called 'Sofa bed TSH'. In order to improve space efficiency in the tiny-sized housing, a sofa bed, a overhead storage space, wall shelves and a sliding door are applied to this prototype housing (see Figure 8-42). Also Figure 8-43 shows a top view and inner space of the housing type. In the Figure 8-44, it represents how the sofa bed works.
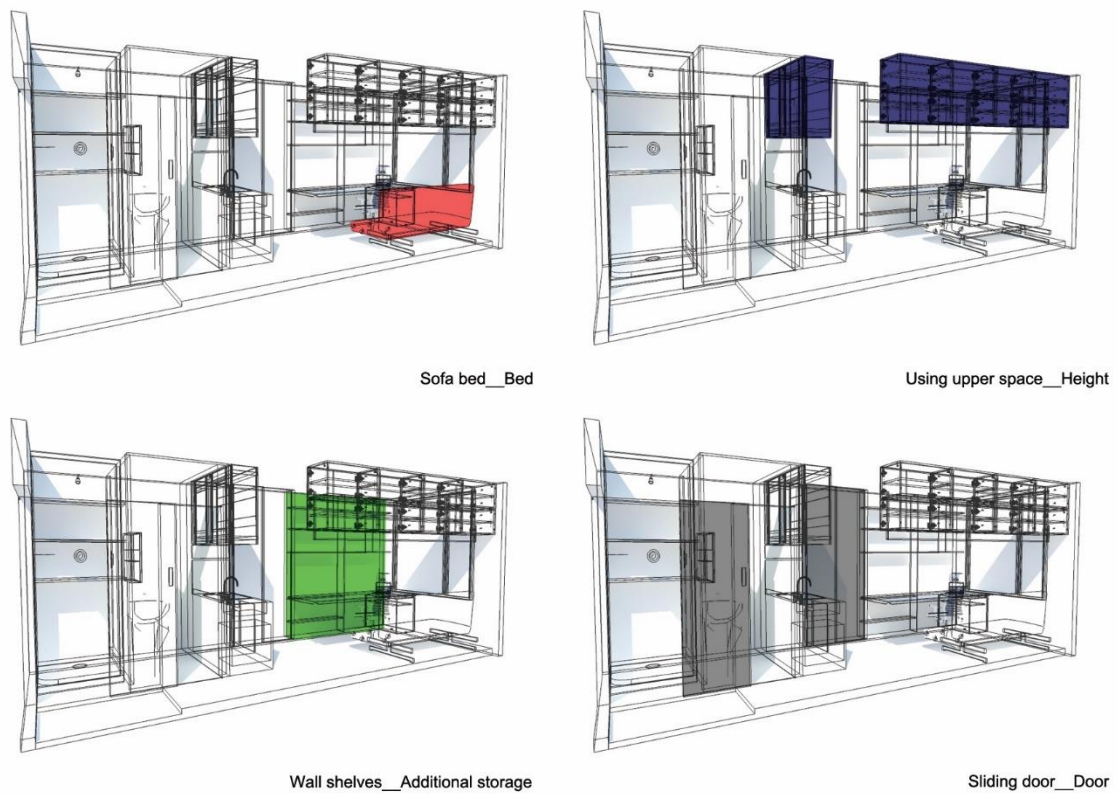
Figure 8-40 Applied Design Languages in Sofa bed TSH

Figure 8-41 A Scene of Interior Space of Sofa bed TSH (Left) and a Top View of the Housing Type (Right)

Figure 8-42 A Scene of Interior Space of Sofa bed TSH, Showing How the Bed Works

Practical Methods for Creating the Housing Alternatives

There are a variety of methods to create the T&S housing such as building new T&S housing or renovating current small-sized housing into micro housing. While the former high cost method causing increases in housing prices, the latter seems to be the more economical approach. Also, technologies such as CNC (Computerized Numerical Control) cutting technology (Guy, 2012) make renovation easier and cheaper. Particularly, CNC plywood cutting is an appropriate way to renovate the housing into T&S housing. According to architect Paul Coudamy, who conducted the renovation of 32 square metres of housing space into a micro apartment by using the CNC-cut plywood technology (see Figure 8-45), plywood was not expensive and crafting the wood by the machine was interesting and easy because he simply inputted the information of intended product though a computer programme, obtain the pieces out of the machine, then put them together (Caudamy, 2014). Another good example of residential space renovation by using technology is the 'Room in a room' conducted by British architect Alex Haw, as shown in Figure 8-46 (Haw, 2013).

Figure 8-43 The Example of Using CNC Plywoods for Housing Renovation: Nuctale
(source: http://coudamyarchitectures.com/en/)

Figure 8-44 The Example of Using CNC Plywoods for Housing Renovation: Room in a Room (source: http://www.atmosstudio.com/Roominaroom)

8.3.3 Local Friendly Housing Environment

Local Friendly Housing Environment (LFHE) aims to increase communication between the young singletons and local neighbourhoods, promoting stronger relationship among them. As known from the case of failure of Urban Lifestyle Housing, the development of a housing environment without considering local areas can cause the young singletons to become isolated in the area or even result in conflicts between them and local residents. In order to prevent this problem, the housing alternative should pursue a balance between the young singletons and local neighbourhoods: LFHE, which is closely related to the urban regeneration scheme in Seoul. One of the interviewed experts researching on single person households in Seoul maintained the deep connection between the rising number of singletons and an urban

regeneration scheme in Seoul context, saying:

> *... When conducting the urban regeneration plan, the single person households, who account for over 25% of the total households in Seoul, can be important participants indeed. It seems to be essential to consider them as major group for the urban redevelopment plan at an early stage.*
>
> *Expert 1: professor of real estate*

Based on the grounds, there are cross section areas (see Figure 8-49) between regional candidates for activating urban renewal scheme in Seoul, as shown in Figure 8-47 (based on decreases in population and poor housing environment) (Yang and Lee, 2013) and areas where young singletons aged 20~30s mainly live in, as shown in Figure 8-48 (Lee and Yang, 2012). It would be most appropriate to develop LFHE to be in these areas.
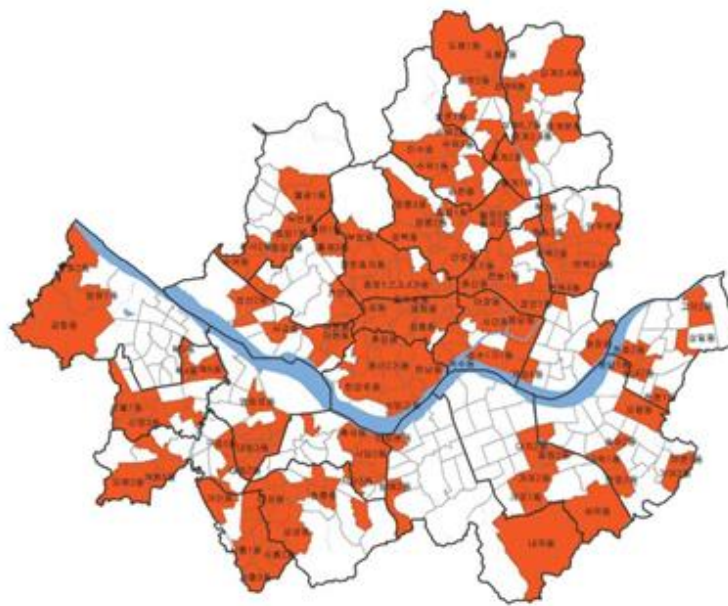
Figure 8-45 Regional Candidates for Activating Urban Regeneration Scheme in Seoul

(Yang and Lee, 2013)

340
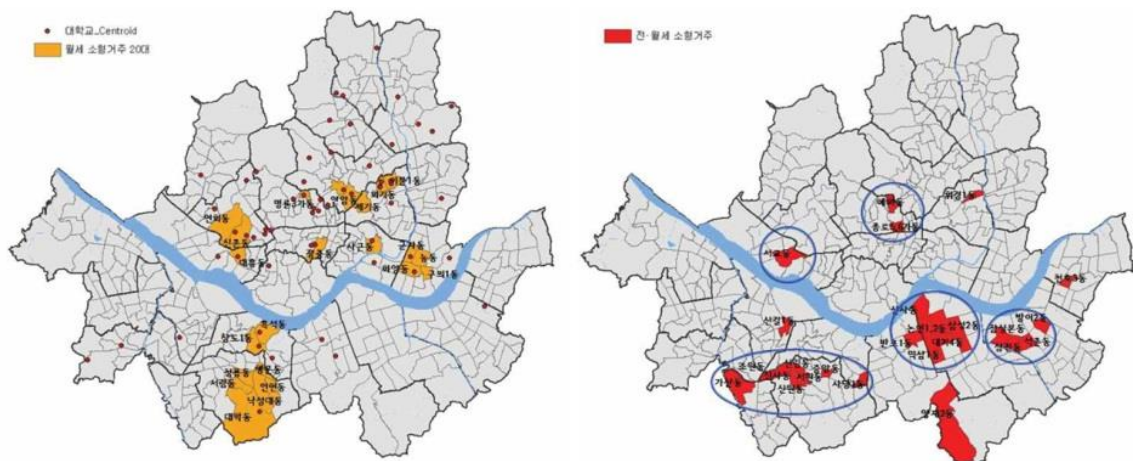
Figure 8-46 Areas Where Young Singletons Aged 20s and 30s mainly Live (Lee and Yang, 2012)

1. Gasan-dong
2. Sinsa-dong
3. Sillim-dong
4. Sinwon-dong
5. Seowon-dong
6. Jungang-dong
7. Seokyo-dong
8. Jongno 5-ga
9. Jongno 6-ga
10. Hwigyeong 1-dong
11. Chunho 3-dong
12. Heukseok-dong
13. Daeheung-dong
14. Jangchung-dong
15. Myeongnyun-dong 3-ga
16. Anam-dong
17. Jegi-dong
18. Heogi-dong
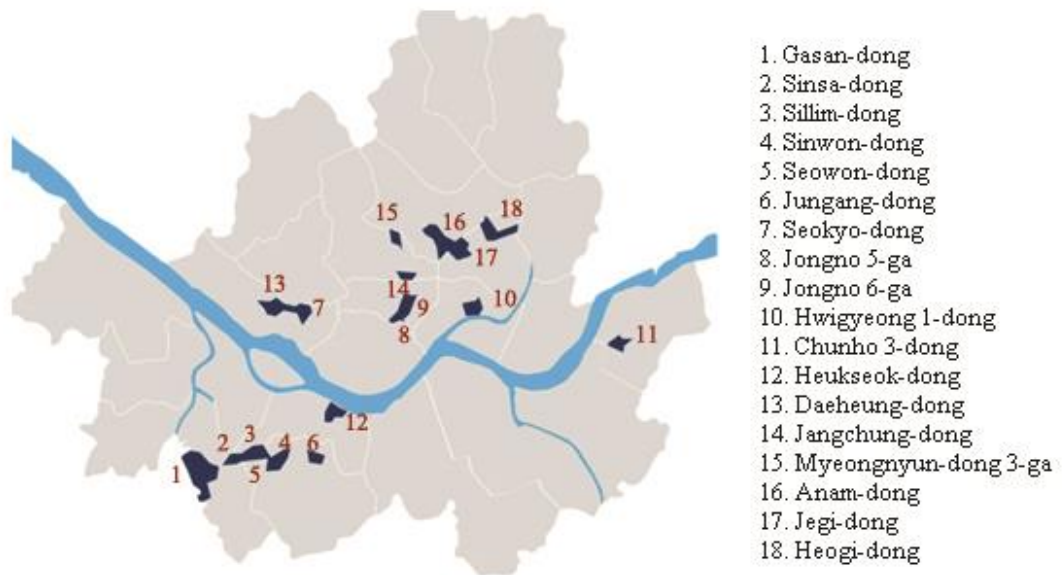
Figure 8-47 The Cross Section Areas for Local Friendly Housing Environment

(Source: Author)

Within the proposed urban renewal schemes by Seoul Metropolitan Government, the neighbourhood renewal plans are closely linked to the issue of single person households. As

seen in Figure 8-50, the neighbourhood scheme is one of the urban regeneration vitalization schemes in South Korean context, and it has four main objectives: improving the environment, expanding the infrastructure for basic livelihood, revitalization of communities, and enlivening local economy (Jeoseop and Jaisoo 2013). In line with the issues, the major plans of local friendly housing environment are closely linked with the neighbourhood renewal scheme, for example firstly the subsidiary facilities, such as café, communal dining rooms, fitness centres and parcel receiving places, are supplied within the local area in order to not only satisfy the singletons' aspirations but also to expand the basic infrastructure; secondly, encouraging the young singletons to participate in the programmes which revitalize local communities such as 'Creating urban village' (Kim, 2013) in order to have a sense of ownership to the area; and thirdly, from the perspective of local economic renewal, the young singletons can be a main generator based on the research that young singletons' consumption power has rapidly increased along with the increases in singletons (Paik, 2014, Koh, 2014). Thus it seems to be essential to make a connection between their patterns or preferences of consumption and local businesses. For example, a grocery store selling food in small portions, a restaurant selling light food for breakfast, a community-run café or a pet shop can meet the young singletons' aspirations. These approaches can eventually bring about a well-connected community, being a bridge between young singletons and local communities, as well as improving the local residential environment. A diagram of the collaboration between the Seoul urban regeneration scheme and the Local Friendly Housing plan is shown in Figure 8-50.

Urban Regeneration scheme hierarchy
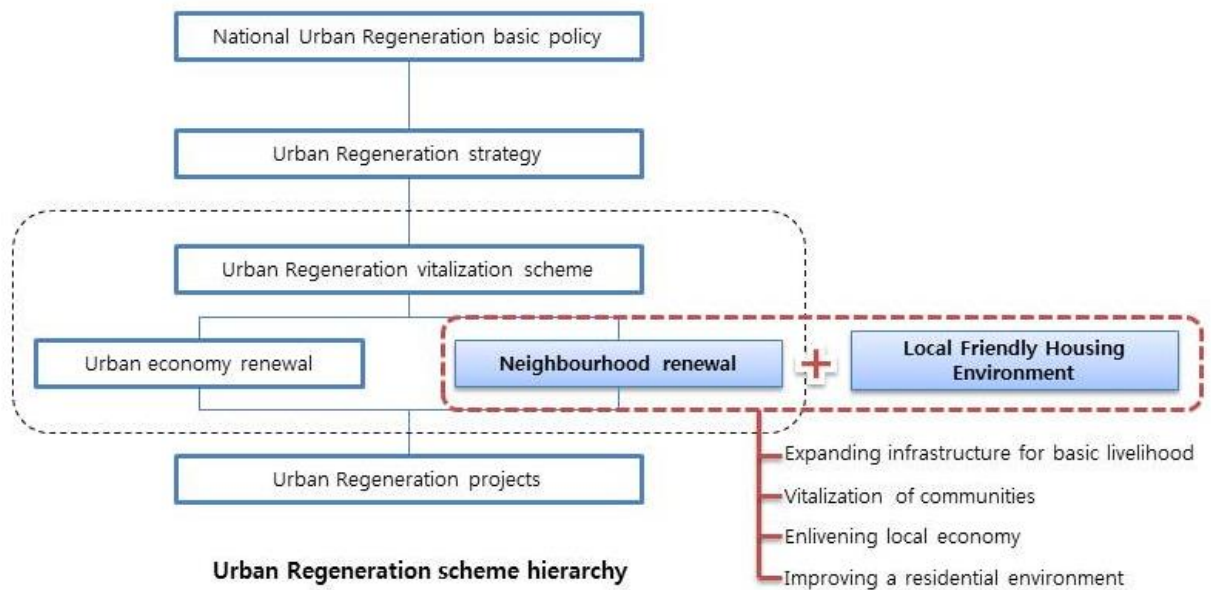
Figure 8-48 Local Friendly Housing Environment Scheme Collaborating with Urban

Regeneration plan

Aiming to address the above issues, Local Friendly Housing Environment (LFHE) scheme

includes a kind of co-housing, living together and supporting each other with different kinds of

households in a same building, including solo dwellers, couples and a family of three or more

(ageUK, 2015). Currently, in Seoul, there are several co-housing projects under way including

'sohangjoo' housing in Sungmisan village (see Figure 8-51) and 'Toad housing' (People and

Village, 2015) . Most co-housing projects in Seoul mainly focus on the elderly or a family with

children (Ibid). In this context, LFHE aims to actively add the young solo living group into the

co-housing environment, based on analysis that majority of the young singletons wanted to live

in the residential building with diverse types of households, rather than with solo households

only.

Figure 8-49 Sohangjoo Housing in Sungmisan Village in Seoul (People and Village, 2015)

Local Friendly Housing Environment (LFHE) has the following guidelines. First, community space or facilities in the housing can be opened to local residents, maximizing communication with diverse local residents. Second, existing old and poor detached, terraced or multi-family houses would be renovated into co-housing, rather than building new co-housing. This is due to supplying affordable housing for not only the 'Tight and Dissatisfied' singleton group, but also economically disadvantaged households such as the elderly. This affordable housing can also prevent gentrification. The renovation of poor quality housing can be supported by government policies; the empty house renewal scheme that Seoul Metropolitan Government (2015) renovates poor quality and empty houses into private rental housing, and supplies the housing to the elderly, university students, and women at affordable prices (80% of its market value) for six years (see Figure 8-52).

Figure 8-50 Empty House Renewal Scheme (Source: Seoul Metropolitan government)

Third, the housing provides well-managed residential service by the dwellers together. Finally, all residents, especially young singletons, need to have a responsibility to participate in events or programmes of the urban renewal scheme in order to develop a sense of ownership to the local area.

One of the cross section areas between regional candidates for activating urban renewal scheme in Seoul is Seokyo-dong (see Figure 8-53). Many young singletons live in the area, experiencing poor quality of housing environment and a lack of green and community space and social relationship with local neighbouhoods (see Figure 8-54). In this situation, this research conducted to apply LFHE and other housing alternatives on the area, considering sustainable urban planning.

Figure 8-51 The Location of Seokyo-dong in Seoul

Figure 8-52 Old and Poor Residential Buildings and a Lack of Green and Community Area in Seokyo-dong (Source: Google)

As seen in Figure 8-55, a part of residential zone in Seokyo-dong was targeted in order to activate of social relationships between the young singletons and local neighbourhoods, revitalizing local economy. It indicated a potential sustainable urban design and planning in the area, applied to the urban regeneration plan and the concept of Local Friendly Housing Environment, inspired by some international cases of sustainable urban regeneration such as the development in Vancouver, Stockholm and Copenhagen as shown in Chapter 3 (section 3.2, p, 50). In the selected site, light blue coloured buildings are co-housing(LFH); yellow buildings are other types of housing for single person households including Balanced Housing and Tiny and Smart Housing; and red buildings are community centres, supplying diverse amenities such as café, fitness centre, communal dining room and parcel keeping space. Green and community spaces are created, linking to LFH and community centres in order to increase social networks within local communities and activate sharing economic environment. This kind of zone for social inclusion is called 'Social Activity Zone', and a link between the zones can make a walkable street in this area. With this urban planning in Seokyo-dong, well-designed and sustainable living environment can be established, enabling the singletons to get more into the local communities; to share human service and daily resources with neighbourhoods; and to live in the area for a long period of time.

Figure 8-53 Urban Design on a Part of Residential Zone in Seokyo-dong in Seoul

Legend:
- Community Centre
- Local Friendly Housing (LFH)
- Residential Building for Singletons
- Walkable Street
- Green and Community Space
- Social Activity Zone

20 m

8.3.4 Qualitative Criteria and Originality of the Housing Alternatives

As seen in section 8.3, the potential housing typologies and detailed prototype dwelling designs are proposed based on the major findings from the synthesis, development indicators and singleton typologies. Through the process of discovering new housing alternatives, the qualitative criteria for the assessment in practice of existing housing types and the potential housing typologies were formed. Also, it is important to clarify the relationship between the current housing options available to the young singletons, suggested housing alternatives, and prototype housing designs that are being proposed in the section 8.3. The relationship clearly illustrates the differences in the potential housing alternatives assessed by the qualitative criteria.

Qualitative Criteria for the Evaluation of Housing for Young Singletons

The qualitative criteria presented in this research are designed to encourage better housing design for the young professional singletons in Seoul. They can also contribute to better urban design of the area where the singletons live, being considerate of neighbourhoods in the residential environment. The criteria focus on three main objectives: integrating into neighbourhoods, meeting singletons' housing requirements and creating ways to revitalise local economy. The criteria are closely related to the three research key issues as seen in Table 8-11, and each point is followed by a series of additional questions and recommendations. These are designed to inspire discussions with key stakeholders including architects, urban designers, planners, building owners, developers, and relevant housing companies to find appropriate housing solutions for the singletons based on the three perspectives.

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The detailed information of the qualitative criteria including objectives, qualities, related questions and recommendations is showed in Table 8-11. 'Integrating into neighbourhoods' is the first objective of the qualitative criteria and highly related to the human relationship issue. The detailed qualities of the objective are 'Community space', 'Residents' privacy' and 'Mixed community'. The following questions and recommendations to the qualities are designed to assess the current situation of the singletons' human relationship in the housing environment and to pay particular attention to their neighbourhoods and local areas. Second, 'Meeting singletons' housing requirements' is another important objective of the criteria and this aims to understand the young singletons' housing design aspirations. The objective and relevant qualities ('Housing opportunity &choice' and 'Housing design aspiration') are addressed through the appropriate questions as seen in Table 8-11. The following recommendations are designed to improve housing design issues such as poor spatial efficiency and lack of residential unit options. Third, 'Creating ways to revitalise local economy' is the last objective and highly associated with the singletons' economic circumstances as well as urban regeneration issues in Seoul. The qualities such as 'Economic revitalisation' and 'Singleton economy' are important factors to assess the economic situation of the housing environment for the young singleton. The following questions and recommendations aims to approach the economic situation of young professional singletons in line with promoting local economic revitalization.

Table 8-11 Qualitative Criteria and Recommendations

Key issues	Qualitative Criteria			
	Main objectives	Qualities	Questions	Recommendations
Human Relationship	Integrating into neighbourhoods	Community space	-Is there a need for community space for solo dwellers in their housing environment?	-Think about where community spaces can and should be made -Secure private space as well -Be a considerate of local area and neighbourhood
		Residents' privacy	-Do they have well-secured personal privacy in the residential environment?	
		Mixed community	-Are the different types of residents integrated to form a well-mixed community in a local area?	
Housing Design	Meeting singletons' housing requirements	Housing opportunity & choice	-What types of homes, housing designs are needed in the residential environment?	-Aim for providing diverse residential unit options -Provide the residential units, maximizing spatial efficiency -Consider residents' aspirations for housing design
		Housing design aspiration	-What are the young singletons' residential aspirations?	
Economic aspect	Creating ways to revitalise local economy	Economic revitalisation	-Is there any economic consideration for the housing development to promote local economic revitalisation?	-Explore opportunities to revive local economy -Reflect the young singletons' consumption trend, lifestyle and economic aspirations
		Singleton economy	-What are important economic considerations of the young professional singletons?	

The Relationships between the Current Housing Types for the young singletons, Potential Alternatives and Suggested Dwelling Designs

It is important to clarify the relationship between the existing housing options available to young professional singletons in Seoul, the suggested housing alternatives for them and the prototype design, in order to understand differences and originalities of the new housing options, compared to the current housing types. Based on major findings from in this research, there are main three types of housing options for the young professional singletons in urban areas; one-room or small sized housing (sized under 10 pyeong), share house and ULH. First, the type of one-room or small sized housing is a major housing option for the young singletons in Seoul context as mentioned in Chapter 4 (p.101), and it includes multi-household housing, multi-family housing, apartments, officetel and gosiwon. Secondly, share house has recently emerged as a housing option in urban areas in South Korea, aiming to provide affordable housing and promoting stronger relationship among house mates. This housing type includes multi-household housing apartments and accommodations. Finally, ULH is a kind of housing alternative for one or two person households in the urban areas, easing architectural regulations and aiming for supplying affordable housing for them, and the housing option is classified as apartments, terraced house, multi-family housing and officetel.

Based on the evaluation of the current housing options for the young singletons according to the qualitative criteria, numerous shortcomings have been found in the perspectives of human relationship, housing design and economic aspect. In this context, potential housing alternatives and prototype dwelling designs are proposed, reflecting the young singletons' residential

aspirations. These alternatives can complement the defects of the current housing types and residential environment.

As seen in Table 8-12, the relationship between the current housing options, potential housing alternatives and prototype designs illustrates a kind of a process of compensating the residential limitations. At first, based on the qualitative criteria and research outcomes, shortcomings of one-room and small-sized housing such as poor quality of housing design and lack of space efficiency, community space and communication with other tenants are uncovered. Coping with these drawbacks, O&C housing (BH) and T&S housing are proposed. To be specific, O&C housing addresses the lack of community space and communication with neighbours, that are being showed in the one-room and small-sized residential building as drawbacks. This alternative provides practical community space such as a mini café or cafeteria in the residential building. Also T&S housing provides high spatial efficiency through creative design languages including 'Bed', 'Height', 'Additional storage' and 'Door' in order to enhance poor design quality and lack of space efficiency that are pointed out as limitations of the small-sized housing type. Based on these design languages, four prototype housing designs are expressed as seen in Chapter 8 (p.330~338).

Second, limitations of the existing share house are mainly poor housing qualities and double-occupancy type, grounded on research findings. These shortcomings are addressed in SRO share house, which is a housing alternative and aims to make sure securing personal privacy, and enabling communication with other house mates. As seen in the images of prototype of

SRO share house (Chapter 8, p.319~321), every resident can have their own room and the housing provides well-designed kitchen, toilet and door in order to make a harmony among the residents.

Thirdly, the negative phenomenon caused by the market-driven development of ULH are an affordability crisis and lack of consideration for local communities due to a focus only on business value. These drawbacks are addressed in the alternative of housing environment: Local Friendly Housing Environment (LFHE). LFHE aims to increase communication between the young singletons and local neighbourhoods by supplying co-housing; having 'Social Activity Zone'; and encouraging the young solo residents to participate in local events and to have a sense of ownership to the area. The detailed district design is seen in the case of prototype of LFHE in Seokyo-dong area in Seoul (Figure 8-53, p.349).

Finally, Table 8-12 summaries the process of compensating the housing shortcomings and shows the relationship between the current housing types, potential alternatives and suggested dwelling designs.

Table 8-12 The Relationship between The Current Housing Typologies for the Singletons, Potential Alternatives and Prototype Dwelling Designs

The Current Housing Typologies for the Singletons		Shortcomings	Potential Housing Alternatives	Prototype Dwelling Designs	
One-room or small-sized housing (sized under 10 pyeong)	-Multi-household housing -Multi-family housing -Apartments -Officetel -Gosiwon	-Lack of community space -Poor design qualities -Lack of space efficiency -Lack of communication	O&C Housing (BH)	-Add practical community space -Mini café, cafeteria -Share items and having programmes or events	
			T&S housing	-Maximize space efficiency -Bed, Height, Additional storage and Door	
Share house	-Multi-household housing -Accommodation	-Poor housing qualities -Double-occupancy type	SRO Share house (BH)	-Secure privacy and having community space -Door lock and well-designed kitchen and toilet -Single room occupancy	
Urban Lifestyle Housing	-Apartments -Terraced house -Multi-family housing -Officetel	-Lack of considerations for local areas, focusing only on business value -Affordability crisis	LFHE	-Co-housing -Social Activity Zone - Participation in local events and having a sense of ownership to the area	

8.3.5   Summary of the Housing Alternatives for the Singletons

This section has presented the housing alternatives for the young singletons in Seoul. Those are Balanced Housing, focusing on human relationship aspects, Tiny and Smart Housing, emphasizing spatial efficiency, and Local Friendly Housing Environment, pursuing a harmony with local communities. The inner space efficiency issues can be applied to all three alternatives. Particularly, O&C Housing has to be applied to the effectiveness aspect. The 'Divided space' indicator can also be applicable in the small-sized residential unit in the form of one and half (1.5) room, divided by a sliding door or a partition. It is of fundamental importance to understand the young singletons' housing aspiration; to promote the new housing types; and to get political support from the Seoul Metropolitan Government for housing alternatives being accepted as new and reliable residential options in the housing market. The key aspects of the suggested housing alternatives along with development indicators, the young singleton typology, and characteristics of the housing are tabulated in Table 8-13.

Table 8-13 The Potential Housing Alternatives for the Young Singletons in Seoul

New housing alternatives		Development Indicators	Typology	Characteristics
Balanced Housing (BH)	Single Room Occupancy share house (SRO share house)	'Balanced relationship', 'Management' and 'More options'	'Relaxed and Dissatisfied group'	- Premiere share house - Single room occupancy - Apartment share house - Maximize communication
	One-room and Community space Housing (O&C Housing)	'Balanced relationship' 'Divided space' and 'More options'	'Relaxed and Dissatisfied group' and 'Adapted group'	- Current one-room building + community space - Improving communication with other tenants
Tiny and Smart Housing (T&S Housing)		'Effective space', 'DIY', and 'More option'	'Tight and Dissatisfied group' and 'Adapted group'	- Micro but big space - Highly effective space (smart space) - Focusing on Privacy - Good sound proof
Local Friendly Housing Environment (LFHE)		'Urban renewal', 'Balanced relationship', 'Management' and 'More options'	'Tight and Dissatisfied group' and 'Adapted group'	- Co-housing - Applied to Urban renewal scheme - Seeking urban village - Participation on local events and having a sense of ownership to the area

8.4 Conclusion

In summary, this chapter has made a comprehensive analysis toward main research points based on all the research findings, both quantitative and qualitative, and in light of literature in early chapters. The development indicators and the typologies have then been addressed in order to specify the young singleton group and to identify and consider potential housing alternatives. Based upon all the sources, eventually, new housing options have been suggested.

The housing alternatives are Balanced Housing, Tiny and Smart Housing, and Local Friendly Housing Environment. Balanced Housing is a housing type, particularly concentrating on the

perspective of human relationship issues. The housing type is categorized into two sub-types: SRO share house and O&C housing. The former type is a kind of share house, with an emphasis on securing private space, and later one is a kind of current one-room based housing environment, actively adding community space. The main purpose of Balanced Housing is to create an appropriate balance between personal privacy and communication with other tenants in housing environment. Tiny and Smart Housing is a micro housing type, a globally leading housing trend for the young singletons in city centres. It is a housing option that is developed and improved in spatial efficiency and qualities compared to the existing Korean style micro housing, gosiwon. This housing type has many architectural design languages for maximizing space effectiveness, creating as much storage space as possible. Finally, Local Friendly Housing Environment (LFHE) is a sort of co-housing, living together with diverse kinds of households. The housing type basically seeks to improve social relationships between the young singletons groups and local communities. In line with the social connection, urban renewal schemes launched by Seoul Metropolitan Government are closely associated with the LFHE issues. Thus, it seems to be essential that the housing type is developed as part of urban renewal. The suggested housing alternatives can be an appropriate guideline to solve the major housing problems for the young singletons in Seoul: poor housing quality, standardized housing type, social isolation within neighbourhoods, and economic depression in the local context. They are also to bridge the gap separating the government-led solutions to the issues, provider-led housing environments and the realistic aspirations of young professional singletons.

The housing alternatives presented here have distinct characteristics compared to the current housing types or environments in Seoul in four respects: various housing types fitting for

diverse types of young professional singletons, maximizing space efficiency, practical and feasible housing alternatives based on the statistics and empirical data, and enabling socio-economic renewal in local context. This chapter has developed a typology of the young professional singletons, and then proposed the alternatives for each type. This differentiated approach can contribute to the housing offer, enabling it to supply appropriate housing options for each type of singletons. Also, the alternatives are designed to have as much efficient space as possible such as the T&S housing type, and these approaches seem realizable through developed technologies such as CNC (Computerized Numerical Control) plywood cutting technology, saving money and time. Finally, unlike the previous indiscriminate development of housing schemes for the singletons in the local context, the alternatives consider social connections, economic revitalizations in local areas, applying co-housing types and sharing environment on the issue.

The suggested housing types, therefore, are appropriate residential environments for the young professional single person households in Seoul. If the housing alternatives are to be settled successfully into the housing market in Seoul, it is essential that the stakeholders including house builders, building owners, planners and the government understand the young solo dwellers' residential situations; follow up-to-date housing trends, and aspirations; and support them by particular policies related to the housing issues.

CHAPTER 9

CONCLUSION

9.1 Introduction

The rise of single person households and housing environment for them has been a significant issue in Seoul. However, the rapid development of housing sector without due consideration to have resulted in significant problems in three major perspectives: the nature of social relationship, housing design and quality, and economic aspects. In addition, although many scholars have investigated the issue of single person households in Seoul, majority of researches has focused on elderly group who lived alone. In this situation, this thesis aims to addresses the solo dweller issue but has significant differences compared to the previous researches. First, it focuses on single person households in Seoul, who are in their 20s and 30s and in employment, rather than targeting the elderly group. Second, it suggests specific and new alternatives for the housing environment for the singletons, bridging the research gap. The housing alternatives are then expressed in 3D modeling images.

Mixed methods were undertaken in relation to the target group, the young singletons in Seoul; the online survey was conducted as a quantitative research and in-depth interviews were

conducted. The mixed methods have indicated the current housing environment of singletons; the weak points of this environment and the singletons' aspirations for it; and professional advices including political opinions. All the findings could provide the ingredients for potential alternatives.

This chapter summarises the main conclusions on the major research topics with regard to human relationships, housing design and economic issues, discussing possible questions on the suggested alternatives for the housing environment. The chapter then considers the contribution of the thesis to both the study of housing environments for young single person households in urban planning, and practical projects related to the issue. Next, limitations of the research are addressed, and potential future research in this area of study are finally discussed.

9.2　The Main Conclusion on the Research Topics

9.2.1　Key Findings of the Thesis

This thesis has addressed the three main research topics through a mixed methods approach that was conducted in Seoul: the human relationship issue concerning the balance between 'personal privacy' and 'interaction with neighbours' in the singleton residential environment; the housing design issues for suggesting a well-designed housing environment that meets the aspirations of the singletons; and the economic issues for discovering appropriate economic

aspects to be considered in order to improve the quality of housing environments for the singletons in both personal and local contexts. Through the analysis of the mixed research, the key findings in terms of the three major issues are as follows:

Key Findings 1: Human Relationships

With regard to the human relationship issue, the issue of privacy has generally been regarded as significant in solo living, and the perspective of community (relationships with the neighbours), on the other hand, tends to be ignored in terms of the housing environments for singletons in Seoul (Lee and Yang, 2012). The field research also showed that desire for privacy took precedence over the community issue. The importance of communication with neighbours, however, has gradually increased in the singleton residential environment. Florida (2002) noted that, compared to the traditional communication with neighbours, a weak relationships which are fast and easy to get involved in communities and share information have been dominant among the creative class generation. Communication also plays a significant role in relieving negative emotional symptoms such as loneliness or suicidal thoughts (Herttua et al., 2011b, You et al., 2011a, Hughes and Gove, 1981, Byun et al., 2008). The quantitative research has also shown that the rates of the singletons' intention to have communication and live in share house were higher than the intention for other alternatives or arrangements. In addition, many young singletons in Seoul were in favour of interacting with the local neighbourhoods (Yang and Lee, 2013). To make an appropriate balance between 'personal privacy' and 'interacting with neighbours' in the housing environment for the young singletons in Seoul, forming community

space in the residential building is consequently required for the single tenants in order to make casual communication between each other, while still fully securing personal space. In the local context, then, it is a priority to encourage the singletons to join urban renewal programmes such as 'Creating Urban Villages' in order to create a sense of social connectedness.

Key Findings 2: Housing Design

The thesis has shed light on the housing design issue in order to suggest a well-designed housing environment that meets the aspirations of the singletons. In Seoul, the local authorities and private sectors have tried to meet the rise of single person households by supplying residential properties and relevant policies such as 'Urban Lifestyle Housing', and it has been successful from a quantitative perspective (Yang and Lee, 2013, Lee and Yang, 2012). However the main problem has been quality issues: poor architectural design and limited housing choices. To overcome and compensate for the weaknesses in the housing issues, well-designed housing which meets both practical and artistic aspects (CABE, 2010, DCLG, 2015, DCLG, 2011) has been devised, based on the surveyed and interviewed singletons' housing dissatisfactions and aspirations. The mixed research approach has shown four main points of ideal housing unit requirements: high space efficiency, personal interior design, 10-20 pyeong in size, and good quality amenity space. It has also been shown that, in terms of building perspectives, they wanted to live in small-sized apartments or officetel which were tower-type buildings with an efficient security system, and located near station areas. The thesis then focused on appropriate furniture for the single person households. Issues surrounding the bed space seemed to be

important with regards to their lifestyle and, in line with the aspiration of spatial effectiveness. Convertible and multi-functional furniture (Pratt and Bradley, 2008) seemed to be a significant issue for them. Finally, the thesis has shown that the feasibility of housing design with advanced technologies such as ICT (Information and Communication Technology) and IoT (Internet of Things) would be negative in the Seoul context. This is because an awareness of the housing design making use of those technologies seemed to be lacking, even to young singletons, based on the field research. Also, the level of IoT in South Korea needs to be developed enough to apply to the housing environment (Accenture, 2015). In terms of the final outcome, well-designed housing for the young professional singletons in Seoul is for high-quality residential space with high spatial efficiency that reflects their lifestyle and residential aspirations, and offers diverse housing types.

Key Findings 3: Economic issues

With regard to the economic issues facing the young professional singletons in Seoul, the thesis approached the issue from the perspective of the individual young singletons' economic burden related to housing prices, and from a perspective of 'Urban Regeneration' in the local context, revitalization socio-economic relationship between newly increasing younger generation and local residents. Firstly, many scholars (Byun et al., 2008, Lee and Yang, 2012, Kang et al., 2011), and other commentators (Koh, 2014) and the press (fnnews, 2013, Jang, 2014, Kim, 2014, Lee, 2013c, Paik, 2014) maintain that the young singletons are suffering from unaffordable housing prices. Based on the mixed method research approach, they felt the

economic burden, but their stance on the housing expenses was complicated. Some of them wanted to move to more expensive housing (increasing by 10-15%) than current one, if the housing met their housing aspirations. It indicates that they tended to be highly dissatisfied with the current housing, and they were even willing to spend more on moving to a better-developed housing environment. Secondly, the research has dealt with the economic issue from the perspective of 'Urban Renewal', considering the relationship between the rise of young singletons and local communities. The 'Share Economy' can be an appropriate socio-economic environment for both the singleton and local neighbourhoods because the former can access daily goods and social services from local communities (Nielsen, 2014), and the latter are also able to get economic profits from the young singletons who have strong spending power in the local economy (Koh, 2014, Klinenberg, 2013). Furthermore, it could be beneficial to encourage the singletons to participate in urban renewal programmes such as 'Creating Urban Village' (People and Village, 2015) in order to realise their aspirations for subsidiary facilities including café, fitness centre, communal dining room and parcel receiving space in the local context, and thereby improve the relationship between the increasing young professions and the local neighbourhoods.

9.2.2 Potential Alternative Housing Environments for Young Singletons in Seoul

What potential alternatives of housing environments for the young professional singletons in Seoul can improve their residential qualities and revitalize local environments? The thesis suggests three developed housing types: Balanced Housing, Tiny and Smart (T&S) Housing

and Local Friendly Housing Environment (LFHE). All the alternatives are based on seven detailed development indicators which are derived from the synthesis: Balanced Relationship, Urban Renewal, Divided Space, DIY Design, Effective Space, More Options and Management. Balanced Housing is an enhanced housing type seeking to vitalise communication among solo tenants while simultaneously securing personal space. The type can be categorized into two sub options: Single Room Occupancy (SRO) Share house and One-room and Community (O&C) Housing. Tiny and Smart Housing, secondly, is a kind of micro house, following the minimum exclusive residential area in Seoul and seeking to maximise space efficiency. Four prototypes of the T&S housing have been suggested in this thesis. Finally, LFHE scheme includes a residential property alternative and suggestion of urban plan related to the Seoul urban renewal scheme.

The housing alternatives have been developed from both the outcomes of the synthesis of the research and a wide range of design languages derived from relevant literatures. Some of the design languages or housing options which have not previously been applied to the Seoul context have been used reflecting the housing environment in Seoul. Examples include Tiny and Smart Housing which provides diverse types of beds and architectural design, emphasizing on space effectiveness and Local Friendly Housing Environment plan, bringing together the issue of housing environment for young singletons and the perspective of urban regeneration in Seoul.

9.3   Contribution of the Thesis

9.3.1   Uniqueness of the Thesis

This thesis has investigated the current residential situation of young single person households in Seoul and then suggested potential alternatives of housing environments for them based on their aspirations in terms of human relationships, housing design and economic issues. This thesis is distinctive in its approach to investigate the issue of housing environment for the young professional single person households in detail through both detailed statistical and empirical research on the target group, and then formulates both the development indicators for potential housing alternatives and a typology of the young and professional singleton groups. In addition, it is the first research to suggest developed housing alternatives for the singletons in Seoul, expressing them in 3D modeling by using computer-based software programmes such as Sketchup, V-ray, and Photoshop. No former researchers have approached the housing issue and the target group using the methodology used in this research. Finally, the thesis is also the only one to adopt the young single person household perspective on a urban regeneration process in Seoul, suggesting methods of socio-economic revitalisation in local areas.

9.3.2   Contributions

Building upon the key research findings and suggested alternatives for the housing environment of the young professional singletons in Seoul, the significant contributions of the

thesis can be stated, providing the inspiration for re-considering the existing housing environments in Seoul. The contributions are as follows.

Convergence between Sociological Approaches on the Singleton Issue, and Built Environmental and Architectural Design Aspects

There have been many academic approaches to the dynamic social and demographic trends of the rise of singletons and their city centre living as seen in the reviews in Chapter 2. Among the literature, *Going Solo: The Extraordinary Rise and Surprising Appeal of Living Alone* written by Eric Klinenburg in 2013, has been massively inspiring on this research in terms of the sociological aspects of solo living issues in city centres. It provides a new understanding of solo dwellers who live in the central area unlike the traditional perspective of them leading unhappy or socially isolated lives (Klinenberg, 2013). This thesis has built upon the socio-demographical research on city centre solo dwellers, explicitly focusing on living environment for young and professional singleton in the central area. Also the sociological approach to the singletons brought together with debates in urban and built environment perspectives in this research. This thesis then produced a more comprehensive academic framework on the issues of young and professional singletons, and developed housing alternatives for them based on urban and architectural design approaches.

In particular, the suggested potential alternatives of housing environments for the singletons were created based on a careful consideration of the socio-demographic understanding of the rising population including their lifestyles and residential aspirations; their built environmental circumstances in the target site - Seoul metropolitan area - in terms of economic aspects; and urban and architectural design aspects considering well-designed residential units and local environments and reflecting the aspirations of the young solo dwelling group.

Confirming a Shift in emphasis in Housing Environment for the Young Singletons in City Centres

The thesis has also contributed to confirm a shift in emphasis in the housing debates related to the single person households in the city from focusing on supply issues to considering quality. Particularly, in the case of the housing sector in Seoul, small-sized housing mainly for single person households was over-supplied in the market (Lee, 2013a), and housing-related problems such as the affordability crisis and poor quality of residential environments have emerged, causing increases in residential dissatisfaction of the young singletons. In this situation, the thesis can contribute to changes of approaches on the housing issues in Seoul, providing specific information on what the housing related aspirations of young professional singletons are and how the quality of residential environment can be developed.

Providing Prototypes of Urban and Architectural design

In line with the development of housing and urban planning sector for the singletons, the thesis has also contributed to the practical built environment area. In particular, it has not only shown the practical prototypes of housing alternatives including Balanced Housing, Tiny and Smart Housing and Local Friendly Housing Environment, visualizing them in 3D rendering images, but also feasible methodology for the alternatives.

To be specific, Balanced Housing, Single Room Occupancy (SRO) Share house and One-room and Community (O&C) Housing can be good examples for the existing housing sector actors including building owners and companies that run share houses and small-sized housing businesses in order to improve the quality of the residential environment, particularly in terms of human relationship and community aspects. Also, Tiny and Smart (T&S) Housing can have an influence on the housing-related design sector including architectural design firms and industries of furniture or household items, in terms of maximising spatial efficiency in such small-sized housing. Finally, LFHE plan can influence urban design and planning sector to improve socio-economic revitalisation in the local context and especially the relationship between the rising population of young and professional singletons and the established local communities and neighbourhoods. Therefore, these alternatives in the thesis can be meaningful examples for the related stakeholders including architects, urban designers, planners, building owners, developers and relevant housing companies, who are in charge of designing housing units and building for the young singletons, and running housing businesses and planning the

residential environment for the population.

Policy Aspect: Developing Housing Policies for the Singletons and Building Social Inclusion in the Local Context

Finally, this thesis has contributed to a better connection between housing policies and the critical issues for the rising young professional single person households in Seoul. The interviews with relevant experts have shown the negative aspects of the previous housing policies such as Urban Lifestyle Housing system by the government for solving the housing-related shortcomings such as expensive housing cost and poor quality of housing environment. The ULH scheme did not fully take account of residential aspirations of the young single person households in terms of the economic issues, housing design and social inclusion. The relevant key findings of the thesis - the young and professional singletons' thoughts on the housing cost, their detailed housing aspirations, and appropriate approaches to build social integration in local context - can contribute to improving upon the ULH scheme.

With respect to social inclusion, the thesis suggests collaboration between the urban regeneration scheme by Seoul Metropolitan Government and the development of housing environment for the young singletons, in order to improve participation of the young singletons into local societies and to revitalize the local economy through the newly emerging purchasing power of the young population. This approach can be useful for policymakers to create

appropriate housing policies for enhancing socio-economic relationship between the rising singleton groups and the local neighbourhoods.

In summary, this thesis has established the convergence between sociological considerations of the rising number of young and professional single person households in global city centres and the built environment context including urban, housing design and economic considerations. Also, the key findings and potential housing alternatives in the thesis can fill the gap between the poor-quality housing environment already supplied for the rising young solo dwellers in Seoul and their detailed aspirations for improving housing qualities, the relationship with the neighbourhoods, and economic aspects. Moreover, the thesis provides a developed analytical framework which can be applied to investigating the housing issues for the young and professional singletons and relevant urban issues in other city centres of industrialised countries.

9.4 Limitations and Inspirations

Although this thesis has the potential to contribute to academic, practical housing and political sectors, inspiring future research, it also has limitations in terms of collecting samples, long-term investigation on share house issues and evolving economic contexts in South Korea.

Scale of Research Samples and the Need to Spatial Targeting in Seoul

In the data collection process, there were two main limitations, namely the sampling number and the targeted site for collecting samples. First, the research collected statistical and empirical data through mixed research methods: 160 online survey responses and 55 in-depth interviews. Although the sampling was collected though a thorough overhaul, it was hard to perfectly represent majority of young professional singletons in Seoul with the number from the sampling. Second, the targeted site for the mixed method studies was the whole of the Seoul metropolitan area although the specific regions in Seoul in which the young and professional singletons mainly lived were found out through the review of relevant literature (Chapter 4, Section 3.2). It seems to be more effective to conduct mixed studies targeting specific regions in Seoul rather than targeting the whole Seoul area. But the field research conducted the data collecting process in the whole area, mainly because of a lack of time and financial support. It was hard to find participants for the online survey or in-depth interviews who fit the demographic characteristics of the young and professional singletons as well as the geographical factor within the limited timescale and financial constraints.

These limitations indicate how an individual researcher might have difficulties when examining a highly complicated social trend by using mixed methods. Future research on this issue would need to have a well-planned data collecting process and focus on the specific regions in Seoul where the targeted singletons mainly dwell, backed by relevant organizations' financial support.

The Need to Conduct Long-Term Investigation on Share house Issues

There was a limit at the moment, particularly during the field research, to see how the share house living progresses in a long-term view, because the share house was a newly emerging social trend in Seoul. According to the in-depth interviews with managers in share house companies such as WOOZOO and ROOT IMPACT, the share house business was in the initial stage, which started two years ago in the case of WOOZOO and one month previously in the case of the D-well community house. Given this situation, it is necessary to ensure a long-term investigation on the progress of share house business as well as the changes of residents' experiences of share house living. If the research can keep conducting further researches on the share house issues over the next few years, the research outcomes such as motivations and satisfaction about share house living could be explicit.

Considering the National Economic Depression with the Housing Sector for the Singletons

Since 2010, the recession, low economic growth, and unemployment have emerged in South Korea, and many commentators maintain the negative national economic situation may deepen still further (Park et al., 2013). In particular, the housing sector in Seoul has been significantly impacted by the stagnation, sharply increasing the price of rental housing, and the young singleton group has been a major victim, struggling to afford to live in a suitable house even if they are employed (Park, 2011).

Although the housing alternatives have carefully considered the economic situation of the singletons, suggesting the alternatives to each of the singleton groups in different economic situations - Relaxed and Dissatisfied, Adapted and Tight and Dissatisfied group, - it is still necessary to reflect the economic situation in Seoul in a long-term perspective, considering the impact the dawn of an age of austerity in South Korea has had on both the lifestyle of the singletons and the housing market.

9.5 Future Research

Based on the contributions and the limitations of the thesis, the research on the housing issues for the young singletons in Seoul can be developed in the future by increasing the number of the targeted samples for the mixed method research and spending a longer period of time on case-studies. For example, in the process of surveys or in-depth interviews, increasing the number of samples and widening the range of the young professional single person household groups could produce more accurate and credible outcomes. Furthermore, an investigation over a longer period time on the share house living would track how the satisfaction of the living of dwellers changed and how the relationship among housemates has increased.

The thesis has shown the necessity of socio-economic collaboration between the young singletons and the local neighbourhoods in the name of urban regeneration in Seoul. The thesis

however represents only the initial concept of the young singletons-involved in urban renewal, based on the academic research, so it is necessary to evaluate the issue in political and practical aspects. For instance, policymakers need to consider the impact of the rise of young professional singletons on the Seoul context in economic and built environmental aspects in detail. According to a report by Seoul Metropolitan Government, it can be predicted that the number of single person households will account over 30% of the total population of Seoul by 2030 (Jeong, 2015). This means that the young singletons should be major participants in the urban development scheme, and developing the housing environment for the rising generation should be a more significant issue, impacting on demographic, social, economic, and geographic aspects. Therefore, there is plenty of scope for future and further research on the young professional singleton groups, their housing environments, and collaborative urban regeneration in Seoul.

APPENDIX

Appendix 1: Questionnaire for Online Survey (Information sheet and Consent form)

<table>
<tr><td>UNIVERSITY OF BIRMINGHAM
No.</td><td></td><td></td><td></td></tr>
</table>

A questionnaire about single person households in Seoul

Information of the research

You are invited to take part in a questionnaire survey exploring 'Developed housing design for single person households in Seoul'. The aim of the study is to investigation of the emerging housing trends for young single person households in Seoul, understanding problems of the issue, and suggesting alternatives in design dimension. Questions will be asked about the characteristics of the housing where you live now, the satisfaction of the house living, life pattern and dwelling awareness, and desired the housing where you want to live. By having the survey, it is expected that a contribution can be made to effective housing design for the singletons, furthermore, it is hoped to help recovering the relationship with neighbourhoods and local communities. The questionnaire takes about 10 minutes.

According to the Statistics Act No.13,14, and 33 all data collected will be kept confidential and used for research purpose only. There are no right or wrong answers. Please fill out all questions with deliberation. Your name or any identifying characteristics will not be available to anyone, other than my supervisors and me, at any point. If you have any questions you may contact me.

Thank you for your time and consideration.

Your sincerely

Consent

1.   I have read the information about this study
2.   I understand that my participation is voluntary and that I am free to stop at any time, without giving any reason
3.   I understand that my research data may be used for a further project in anonymous

form
4.	I agree to take part in this study

Name of Participant	**Date**	**Signature**

August 2014

The university of Birmingham

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Survey conducting institute : Research Plus
Q&A : Research Plus director : Jang hyunjoong (▮▮▮▮▮▮▮), ▮▮▮▮▮▮▮

■ **Basic information for the targeted group filtering**

SQ1	Living alone	Are you living alone? ① Yes ② No (☞ **survey stop**)
SQ2	Job	Do you have a job now? ① Yes ② No (☞ **survey stop**)
SQ3	Address	▶ Where are you living now? ① Seoul : ( )Gu ( )Dong ② Not in Seoul (☞ **survey stop**)
SQ4	Age	How old are you? ① 20s ② 30s ③ more than 40s (☞ **survey stop**)

A. The characteristics of the housing where I am living now

A1. Please ✓ in the box or fill in the blank in regards to your housing characteristics.

	The housing		
1) Type of housing	□ Detached house □ Terraced/Multi-family house □ Urban Lifestyle Housing □ Accommodation	□ Multi-households house □ Officetel □ Gosiwon □	Other (_____)
2) Type of residence	□ Owner-occupied □ Lease with guarantee □ Free (ex….parents' house) □ Other (_____)	□ Lease □ Lease without guarantee □ Lodging	
3) Period of residence	_____year _____month		
4) Rental fee and maintenance cost	Lease_____won Deposit_____won Monthly rent_____won Maintenance cost_____won		
5) Size of the house	_____Pyung (1Pyung=3.3m2)		
6) Room	□ Bed room(_____) □ Toilet(_____) □ Sitting room □ kitchen □ dining room □ Balcony □ Storage room		
-One room	□ Yes □ No		
7) Local environment	□ Apartment area	□ Multi-family house area	
	□ University area	□ Office building area	
	□ Commercial area	□ Other(_____)	
8) Station area	□ Yes □ No		
9) Parking	□ Ground parking □ Underground parking □ No		
10) Security	□ 24hr concierge	□ No	
	□ CCTV	□ Other(_____)	

A2. What are all furniture and appliances in your house? Please ✓ them all in the box or fill in the blank.

□ Bed	□ Desk	□ Bookshelf	□ Storage closet	□ Chest of drawers	□ Built-in wardrobe	□ Hanger	□ Dressing table
□ TV	□ Computer	□ Sofa	□ Fridge-freezer-	□ Sink	□ Micro wave	□ Dining table	□ Washing machine
□ Air conditioner	□ Sports equipment	□ Mirror	□ (_____ _____)				Other

A3. What are reasons to choose the house where you are living now? Please select three reasons in order of importance or fill in the blank.

The 1st:_____   The 2nd:_____   The 3rd:_____

① Affordable housing cost	② Proximity to work	③ The convenience of public transportation	④ Proximity to amenities
⑤ Housing size	⑥ Housing type	⑦ Housing facility level	⑧ Comfort of the indoor environment
⑨ Comfort of the outdoor environment	⑩ Security	⑪ Proximity to culture and welfare facilities	⑫ Proximity to green space
⑬ Affordable maintenance cost	⑭ Proximity to family members' house	⑮ Service for resident life aids	16 Other(_____)

A4. Which storage space have you thought that there is very little storage space? Please ✓ them all in the box or fill in the blank.

□ Wardrobe	□ Shoe rack	□ Storage closet in kitchen	□ Storage closet in Bath room	□ Storage closet for households items
□ Storage space for a rubbish bin	□ Storage room	□ (_____)		Other

B1. Which of the following categories best describes your current experience of the house living? Would you say that your experience is:
1) Very unsatisfied   2) Somewhat unsatisfied   3) Neutral
4) Somewhat satisfied   5) Very satisfied

B2. How much do you satisfy? Please rate ✓ .

(you do not need to rate on the section which does not apply to you)

Housing index		Very unsatisfied	Somewhat unsatisfied	Neutral	Somewhat satisfied	Very satisfied
The characteristics of location	Proximity to public transportation					
	Proximity to educational, commercial, and medical facilities					
	Proximity to work					
	Convenience of commute					
	Use of parking					
The characteristics of the building	Exterior design of the building					
	Elevator					
	Corridor and stairs					
	Stores in the building					
The characteristics of interior space	Housing size					
	Interior facilities (kitchen, bath room, toilet….)					
	Housing ground plan(structure and the flow of human traffic)					
	Interior design					
	Bath room					
	Kitchen					
	Enough storage space					
Indoor environment	Ventilation					
	Light					
	Sound proof					
	Cooling system (air conditioning)					
	Heating					
Social Environme	Neighbourhood intimacy					
	Neighbourhood level					

nt	Proximity to famility, friends					
	Privacy level from neighbours					
Economic issue	Rental cost					
	Maintenance cost					
Communit y space	Communal laundry					
	Communal dining room					
	Communal kitchen					
	Lounge					
	Parking					
	Management condition of the community facilities					

B3. Pleas respectively select three satisfactory/unsatisfactory factors of the house living in order of importance.

1) Satisfactory factors	The 1st:_____ _	The 2nd:_____ _	The 3rd:_____ _
2) Unsatisfactor y factors	The 1st:_____ _	The 2nd:_____ _	The 3rd:_____ _

① The characteristics of location	② The characteristics of the building	③ The characteristics of interior space	④ Indoor environment
⑤ Social Environment	⑥ Maintenance	⑦ Economic issue	⑧ Community space

C1. How about time spending in the house?

	Weekdays(Mon~Fri)	Weekend(Sat~Sun)&holiday
1) Total living time without sleeping hours	Average_____hours a day	Average_____hours a day
2) Sleeping hours	Average_____hours a day	Average_____hours a day
3) How often do you have a meal in the house	Average_____time(s) a week	Average_____time(s) a week
4) How often do you use washing machine?	Average_____time(s) a week	Average_____time(s) a week
5) How often do you clean the house?	Average_____time(s) a week	Average_____time(s) a week

C2. Which space do you mainly spend time? Please select three spaces in order of time spending.
The 1st:_____ The 2nd:_____ The 3rd:_____

① On the bed	② Floor	③ Desk	④ Dining table	⑤ bath room	⑥ Common kitchen
⑦ Lounge	⑧ Other (_____)				

C3. Which behaviour occurs the most in the house? Please select three behaviours in order of occurring numbers.

The 1st:_____ The 2nd:_____ The 3rd:_____

① Having a meal	② Taking a rest	③ Studying	④ Watching TV	⑤ Doing house chores	⑥ Enjoying a friendship
⑦ Sleeping	⑧ Surfing the internet	⑨ Working	⑩ enjoying dilettante life(hobby)	⑪ Other(_____)	

C4. Which space do you think the most important? Select the space in order of importance.

	ranking		
1) The most important space	The 1st:_____	The 2nd:_____	The 3rd:_____
2) The space which should be wide and	The 1st:_____	The 2nd:_____	The 3rd:_____

large	

① Bed room	② Living room	③ Kitchen/dining room	④ Bath room/toilet	⑤ Terrace	⑥ Utility room
⑦ Dress room	⑧ Dressing table	⑨ Storage room	⑩ Other(_____)		

C5. Which type of commute do you prefer? and how long to work place?

	The characteristics of commute					
1) Type	□ On foot	□ Tube	□ Bus	□ Car	□ Bicycle	□ Other(_____)
2) Time	One way	Total(_____)hours	(_____)min			

C6. Are you living in 'Share house'?

1) Yes (☞ **go to C6-1**)   2) No (☞ **go to C6-2**)

C6-1. Which of the following categories best describes your current experience of living in 'Share house'?
Would you say that your experience is:
1) Very unpleasant   2) Somewhat unpleasant   3) Neither pleasant nor unpleasant
4) Somewhat pleasant   5) Very pleasant

C6-2. Do you have any intention to live in 'Share house'? 'If you so, please select conditions (✓) for living in the 'share house'.

1) Intention to live	□Yes	□No	□ I don't know		
2) Which space do you prefer sharing with dwellers? Please select all	□Bed room □Sitting room □Kitchen □Dining room □Bath room □Laundry room □Other(_____)				
3) How many people do you want to live together in the house?	□Small scale group(2~5)		□Medium scale group(6~20)	□Large scale group(over20)	
4) Type of the house	□House sharing type			□Accommodation sharing type	
5) Type of dwellers	□Living with only office workers			□Living with a diverse range of people	
6) Needed	□Communal	□Communal	□Communal	□Cafe	□Library	□AV

facilities	dining room	kitchen	laundry room			room
	□Fitness centre	□Lounge	□Room for hobbies	□Computer room	□Other(_____)	

C7. What kind of relationship with neighbourhoods do you want to have? (Neighbourhoods in the same building)

1) I don't want to have any communication with them(indifference) (☞ **go to C9**)

2) Just having a nodding acquaintance   3) I want to communicate with them

C8. Which method or activity do you think to be able to improve the level of communication among residents living in the same building? Please select two of them in order of importance.

The 1st:_____   The 2nd:_____

① Have off line community for the residents	② Create more community space	③ Have online community for the residents (an online messenger or an online bulletin board for the residents only)
④ Offer culture welfare programmes(cooking, music, and flower class)	⑤ Hold neighbourhoods meeting periodically	⑥ Other(_____)

C9. In regards to setting up shops in the single person households building, which store do you think is the most needed?

1) Convenience store   2) Laundry   3) PC room   4) Cafe   5) Restaurant   6) Other(_____)

C10. Which one do you think is the most needed factor in regards to the housing for single person households? Please select three factors in order of importance.

The 1st:_____   The 2nd:_____   The 3rd:_____

① Supply cheaper rental housing	② Enlarge the size of the living space	③ Develop a diverse type of small housing design
④ Maximize the effectiveness of interior design (having more storage space)	⑤ Construct more small housing in city centres	⑥ Supplement the housing policy
⑦ Economic support	⑧ Develop facilities or programmes to increase relationship among neighborhoods in the same building	⑨ Develop communal facilities to increase communication with local neighbourhoods

D. Desired housing

(Please answer the questions from D1 to D4 within the expectations of your budgets, considering your economic capacity, and within 3 years.)

D1. Please ✓ in the box or fill in the blank in regards to characteristics of the desired housing where you want to live in.

1) Type of housing	□ Detached house □ Terraced/Multi-family house □ Urban Lifestyle Housing □ Accommodation □ Other (_____)	□ Multi-households house □ Officetel □ Gosiwon □ Apartment
2) Type of residence	□ Owner-occupied □ Lease with guarantee □ Free (ex….parents' house) □ Other (_____)	□ Lease □ Lease without guarantee □ Lodging
3) Desired rental fee and maintenance cost	Lease_____won Deposit_____won/ Monthly rent_____won Maintenance cost_____won	
4) Desired size of the house	_____Pyung (1Pyung=3.3m2)	
5) Desired location of housing	Seoul _____Gu_____Dong	
7) Desired local environment	□ Apartment area □ University area □ Commercial area	□ Multi-family house area □ Office building area □ Other(_____ __)
8) Station area	□ Yes	□ No
9) Parking	□ Ground parking □ Underground parking	□ No
10) Security	□ 24hr concierge □ CCTV	□ No □ Other(_____)

D2. Please ✓ in the box or fill in the blank in regards to characteristics of the desired housing where you want to live in.

	Architectural characteristics of the desired housing		
1) Building arrangement	□ Detached building	□ Complex building	□ Other(_____)

type			
2) Building composition	□ Building for residence only	□ A multipurpose building	□ Other(_____)
3) Mixed housing or not	□ Building for singletons only	□ Combination of single person households and multi-households	□ Other(_____)
4) Building type	□ Flat type	□ Tower type	□ Courtyard type('□' shape) □ Other(_____)
5) Building height	□ Less than 5 stories	□ 6~10 stories	□ 10~15 stories □ More than 16 stories □ No preference
6) The number of households	□ Less than 10 households	□ 11~50 households	□ 50~100 households □ More than 100 households □ No preference
7) Desired space (Number)	□ Bed room(___) □ Toilet(___) □ Sitting room □ Kitchen □ Dining room □ Terrace □ Storage room		
- One room	□ Yes	□ No	
8) Floor type	□ One story house	□ Duplex type (two stories house)	□ Other (_____)

D3. What kind of built-in furniture and equipments do you want to have in the house? Pleas select all

□ Bed	□ Desk	□ Bookshelf	□ Storage closet	□ Chest of drawers	□ Built-in wardrobe	□ Hanger	□ Dressing table
□Dressing table	□Dress room	□Mirror	□Sofa	□Dining table	□Fridge-freezer	□Micro wave	□Dish dryer
□TV	□Computer	□Air conditioner	□Shower booth	□Bath	□Washing machine	□Home network system	
□ Other(_____ _____)							

D4. Please ✓ in the box or fill in the blank in regards to characteristics of the desired housing design.

	Housing design plan	
1) Interior space division	□ Space zoning by walls □ Space zoning by sliding doors □ Other(_____)	□ Space zoning by system furniture or variable walls □ Just one room
2) Disposition of sitting room, bed room, and dining room/kitchen	□ Separate into each space □ Sitting room + Dining room/kitchen □ Communal dining room/kitchen □ Other(_____)	□ Sitting room + Bed room □ All together (One room type) □ Communal sitting room
3) Arrangement of toilet	□ toilet+basin+shower booth in one space □ Setting basin separately □ Communal toilet □ Other(_____)	□ Setting toilet separately □ Setting shower booth separately □ Communal shower room
4) Storage space (you can select more than one)	□ Do not want to have storage space (prefer empty space and buy storage personally) □ Hiding storage space by system furniture □ Other(_____)	□ Built-in storage space (Maximize storage space) □ The maximum use of overhead areas
5) Furniture (you can select more than one)	□ No bed (it takes up much space and I do not want to use an used bed) □ Supply basic bed, desk, and table □ Other(_____)	□ No desk and dining table (it takes up much space) □ Set transforming system furniture for spatial effectiveness (rental cost or deposit might increase a bit)

D5. Which subsidiary facilities do you want to have? Please select all.

□ Communal dining room	□ Communal kitchen	□ Communal laundry room	□ Cafe	□ Library	□ AV room
□ Fitness centre	□ Lounge	□ Room for hobby	□ PC room	□ Parcel receiving storage (unmanned)	□ Bicycle rack
□ Guest room	□ Meeting room	□ Green space	□ Personal storage room	□ Other(_____)	

E. Respondents characteristics

E1. What is your sex?

1)Male   2)Female

E2. What is your educational background? Graduate from:

1) Middle school 2) High school 3) College 4) University (undergraduate) 5) University (postgraduate)

E2. What is your current occupation?

     1) Office job (white colour) 2) Professional manager   3) Self-employed
     4) Manufacture job (blue clour)   5) Sales and service   6) Other(   )

E3. Do you own a car?

     1) Yes(_____)   2) No

E4. How much is your monthly income?

1) 100만원 미만 2) 100~199만원   3) 200~299만원   4) 300~399만원

5) 400~499만원 6) 500~599만원   7) 600~699만원   8) 700~799만원

9) 800만원 이상

◼ Thank you very much ◼

Appendix 2: Raw Data and Output Tables of the Online Survey

2.1 Raw Data of Online Survey

- A Part of raw data set of online survey (Question SQ3 to A1_4)

ID	SQ3	SQ4	SQ5	A1_1	A1_2	A1_3_11	A1_3_12	A1_3_21	A1_3_22	A1_3_31	A1_4
1	20	1	1	1	1						2
2	24	1	1	4	2	30000	20				2
3	20	1	1	8	1						3
4	12	2	2	3	2	10000	2				2
5	20	1	1	1	1						1
6	20	1	2	4	2	12000	10				2
7	18	2	1	4	3			50	1000		2
8	8	1	2	8	2	22500	15				2
9	6	1	1	2	4					50	2
10	1	2	2	3	2	10000	50				2
11	22	1	2	2	2	5000	1				3
12	14	1	2	4	3			50	1000		1
13	21	2	2	5	2	3500	10				1
14	5	1	1	3	2	10000	15				2
15	7	1	2	3	2	6000	10				2
16	22	1	1	8	2	15000	60				3
17	6	2	2	5	3			60	300		1
18	17	2	2	8	1						3
19	11	2	2	1	3			30	500		1
20	2	2	2	4	2	8000	7				1
21	14	2	1	5	3			44	500		1
22	21	2	1	3	3			25	3000		1
23	21	1	2	3	3			50	1000		3
24	6	1	1	3	3			30	1000		1
24	6	1	1	3	3			30	1000		1
25	10	1	2	2	3			42	500		2
26	4	1	2	3	2	4500	0				2
27	12	1	2	3	2	9000	5				2
28	17	1	1	5	3			35	3000		1
29	8	1	1	3	1						4
30	21	2	2	4	2	20000	10				2
31	23	1	2	4	3			50	5000		1
32	21	2	1	3	3			42	2300		1
33	7	1	1	4	3			40	2000		2
34	12	1	1	3	1						2
35	21	2	2	4	2	20000	10				2
36	23	1	1	8	2	10000	15				2
37	7	1	1	5	1						2
38	8	1	1	6	4					32	1
39	20	2	2	4	3			100	1000		2
40	11	1	1	5	1						2
41	25	2	1	4	3			45	1000		1
42	21	1	1	5	3			43	500		1
43	16	1	1	8	2	20000	20				3
44	24	1	2	8	1						4
45	24	2	2	3	2	13000	5				2
46	23	1	2	3	3			50	3000		2
47	23	2	1	4	2	5500	5				2
48	17	2	2	4	2	6000	10				2
49	11	1	1	6	4					50	1
50	5	1	2	3	3			51	1000		1
51	14	2	2	2	1						2
52	3	1	2	4	2	22000	20				3
53	17	2	2	8	1						3
54	8	1	2	3	3			50	8000		2
55	4	1	2	4	2	10000	10				1
56	21	2	2	5	3			40	500		2
57	25	1	1	1	1						2
58	20	1	1	4	3			25	300		1
59	10	2	2	8	3			35	2000		2
60	1	2	2	2	2	25000	10				2
61	23	2	2	3	2	18000	1.5				2
62	17	2	2	8	1						2
63	18	1	1	5	2	8000	10				1
64	5	2	2	5	2	8000	5				1
65	11	2	1	5	3			45	600		1
66	2	2	1	4	1						3
67	19	1	2	8	1						3
68	14	2	2	3	2	12000	3				3
69	19	1	2	4	3			50	1500		2
70	7	2	2	8	5						4
71	23	2	2	3	3			40	3000		1
72	25	2	2	4	2	2000	15				3
73	18	2	2	4	7						3
74	17	2	1	4	4					44	1
75	20	2	1	3	1						3
76	23	2	1	5	3			50	1000		1
77	10	2	1	5	4					50	2
78	8	2	1	5	3			28	3000		1

2.2 Output Tables of the Data

Section A. The characteristics of the housing where I am living now (A1-1 ~ A1-4, A7)

A1-1. What's your housing type where you are living in now?										
		Number	Housing type							
			Detached/Multi households house		Terraced/Multi-family house		Officetel/ULH		Apartment	
			N	%	N	%	N	%	N	%
Total		160	22	13.8	45	28.1	67	41.9	26	16.3
Sex	Male	82	17	20.7	19	23.2	30	36.6	16	19.5
	Female	78	5	6.4	26	33.3	37	47.4	10	12.8
Age	20s	56	5	8.9	11	19.6	32	57.1	8	14.3
	30s	104	17	16.3	34	32.7	35	33.7	18	17.3
Income (10,000 won)	Less than 300	75	11	14.7	21	28.0	38	50.7	5	6.7
	300~500	60	7	11.7	19	31.7	19	31.7	15	25.0
	Over 500	25	4	16.0	5	20.0	10	40.0	6	24.0
Residence type	Owner-occupied	27	4	14.8	7	25.9	4	14.8	12	44.4
	Lease(Jeongse)	61	9	14.8	15	24.6	28	45.9	9	14.8
	Monthly rent	67	8	11.9	23	34.3	34	50.7	2	3.0
	Free/Other	5	1	20.0	0	.0	1	20.0	3	60.0
Housing size (Pyung, 1pyung=3.3m2)	Less than 10	55	10	18.2	12	21.8	33	60.0	0	.0
	10~20	70	8	11.4	26	37.1	27	38.6	9	12.9
	Over 20	35	4	11.4	7	20.0	7	20.0	17	48.6
Oneroom	Yes	95	16	16.8	20	21.1	59	62.1	0	.0
	No	65	6	9.2	25	38.5	8	12.3	26	40.0
Car ownership	Yes	88	16	18.2	22	25.0	32	36.4	18	20.5
	No	72	6	8.3	23	31.9	35	48.6	8	11.1

(BASE : All respodents (N=160))

A1-2. What's your residence type?										
		Number	Residence type							
			Owner-occupied		Lease(Jeonse)		Monthly rent		Free/Other	
			N	%	N	%	N	%	N	%
Total		160	27	16.9	61	38.1	67	41.9	5	3.1
Sex	Male	82	16	19.5	31	37.8	33	40.2	2	2.4
	Female	78	11	14.1	30	38.5	34	43.6	3	3.8
Age	20s	56	14	25.0	13	23.2	29	51.8	0	.0
	30s	104	13	12.5	48	46.2	38	36.5	5	4.8
Income (10,000 won)	Less than 300	75	5	6.7	30	40.0	39	52.0	1	1.3
	300~500	60	15	25.0	18	30.0	25	41.7	2	3.3
	Over 500	25	7	28.0	13	52.0	3	12.0	2	8.0
Housing type	Detached/Multi households house	22	4	18.2	9	40.9	8	36.4	1	4.5
	Terraced/Multi-family house	45	7	15.6	15	33.3	23	51.1	0	.0
	Officetel/ULH	67	4	6.0	28	41.8	34	50.7	1	1.5
	Apartment	26	12	46.2	9	34.6	2	7.7	3	11.5
Housing size (Pyung, 1pyung=3.3m2)	Less than 10	55	1	1.8	16	29.1	38	69.1	0	.0
	10~20	70	12	17.1	32	45.7	25	35.7	1	1.4
	Over 20	35	14	40.0	13	37.1	4	11.4	4	11.4
Oneroom	Yes	95	8	8.4	31	32.6	55	57.9	1	1.1
	No	65	19	29.2	30	46.2	12	18.5	4	6.2
Car ownership	Yes	88	19	21.6	35	39.8	31	35.2	3	3.4
	No	72	8	11.1	26	36.1	36	50.0	2	2.8

(BASE : All respondents (N=160)

A1-3. How much is your hosuing cost?- Lease(Jeonse)		Number	Lease cost	Maintenance cost
			Average(10,000 won)	Average(10,000 won)
Total		61	10795.1	11.8
Sex	Male	31	11000.0	14.2
	Female	30	10583.3	9.4
Age	20s	13	12000.0	19.3
	30s	48	10468.8	9.8
Income (10,000 won)	Less than 300	30	8783.3	8.2
	300~500	18	12694.4	11.3
	Over 500	13	12807.7	21.0
Housing type	Detached/Multi households house	9	8666.7	8.8
	Terraced/Multi-family house	15	10566.7	9.2
	Officetel/ULH	28	10803.6	12.2
	Apartment	9	13277.8	18.2
Housing size (Pyung, 1pyung=3.3m2)	Less than 10	16	7125.0	8.4
	10~20	32	11734.4	12.3
	Over 20	13	13000.0	14.9
Oneroom	Yes	31	9016.1	10.8
	No	30	12633.3	12.9
Car ownership	Yes	35	11728.6	14.3
	No	26	9538.5	8.5

(BASE : Lease(Jeonse) residents (N=61))

A1-3. How much is your housing cost? - Monthly rent with deposti		Number	Monthly rent cost	Deposit
			Average(10,000 won)	Average(10,000 won)
Total		60	43.4	1830.0
Sex	Male	30	42.5	2116.7
	Female	30	44.3	1543.3
Age	20s	22	39.2	1477.3
	30s	38	45.8	2034.2
Income (10,000 won)	Less than 300	35	38.6	1591.4
	300~500	22	51.4	2090.9
	Over 500	3	40.0	2700.0
Housing type	Detached/Multi households house	7	36.9	828.6
	Terraced/Multi-family house	23	38.2	2213.0
	Officetel/ULH	28	47.0	1682.1
	Apartment	2	75.0	3000.0
Housing size (Pyung, 1pyung=3.3m2)	Less than 10	34	38.6	1802.9
	10~20	22	48.0	1927.3
	Over 20	4	58.8	1525.0
Oneroom	Yes	50	42.6	1706.0
	No	10	47.2	2450.0
Car ownership	Yes	30	47.6	1780.0
	No	30	39.1	1880.0

(BASE : Monthly rent with deposti residents (N=60))

A1-3. How much is your housing cost? - Monthly rent without deposit		Number	Monthly rent cost(10,000won)
			Average
Total		7	41.6
Sex	Male	3	44.0
	Female	4	39.8
Age	20s	7	41.6
Income (10,000 won)	Less than 300	4	39.8
	300~500	3	44.0
Housing type	Detached/Multi households house	1	50.0
	Officetel/ULH	6	40.2
Housing size (Pyung, 1pyung=3.3m2)	Less than 10	4	40.3
	10~20	3	43.3
Oneroom	Yes	5	41.2
	No	2	42.5
Car ownership	Yes	1	50.0
	No	6	40.2

(BASE : Monthly rent without deposit residents (N=7))

A1-4. How big is your residential space?		Number	Housing size							
			Less than 10		10~20		20~30		over 30	
			N	%	N	%	N	%	N	%
Total		160	55	34.4	70	43.8	31	19.4	4	2.5
Gender	Male	82	28	34.1	32	39.0	19	23.2	3	3.7
	Female	78	27	34.6	38	48.7	12	15.4	1	1.3
Age	20s	56	25	44.6	21	37.5	9	16.1	1	1.8
	30s	104	30	28.8	49	47.1	22	21.2	3	2.9
Income (10,000 won)	Less than 300	75	41	54.7	28	37.3	6	8.0	0	.0
	300~500	60	11	18.3	34	56.7	13	21.7	2	3.3
	Over 500	25	3	12.0	8	32.0	12	48.0	2	8.0
Housing type	Detached/Multi households house	22	10	45.5	8	36.4	4	18.2	0	.0
	Terraced/Multi-family house	45	12	26.7	26	57.8	6	13.3	1	2.2
	Officetel/ULH	67	33	49.3	27	40.3	6	9.0	1	1.5
	Apartment	26	0	.0	9	34.6	15	57.7	2	7.7
Residence type	Owner-occupied	27	1	3.7	12	44.4	12	44.4	2	7.4
	Lease	61	16	26.2	32	52.5	13	21.3	0	.0
	Monthly rent	67	38	56.7	25	37.3	3	4.5	1	1.5
	Free/Other	5	0	.0	1	20.0	3	60.0	1	20.0
Car ownership	Yes	88	18	20.5	43	48.9	25	28.4	2	2.3
	No	72	37	51.4	27	37.5	6	8.3	2	2.8

(BASE : all respondents (N=160))

A7. Reasons for Choosing the Housing

A2. What's the reason why you've chosen the house where you are living in now?																													
		Reasons																											
	Number	Affordable housing cost		Proximity to work		The convenience of public transportation		Housing facility level		Comfort of the outdoor environment		Housing size		Security		Affordable maintenance cost		Proximity to family members' house		Other		Proximity to amenities		Housing type		Comfort of the indoor environment		Proximity to green space	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Total	160	62	38.8	43	26.9	23	14.4	7	4.4	6	3.8	5	3.1	3	1.9	3	1.9	2	1.3	2	1.3	1	.6	1	.6	1	.6	1	.6
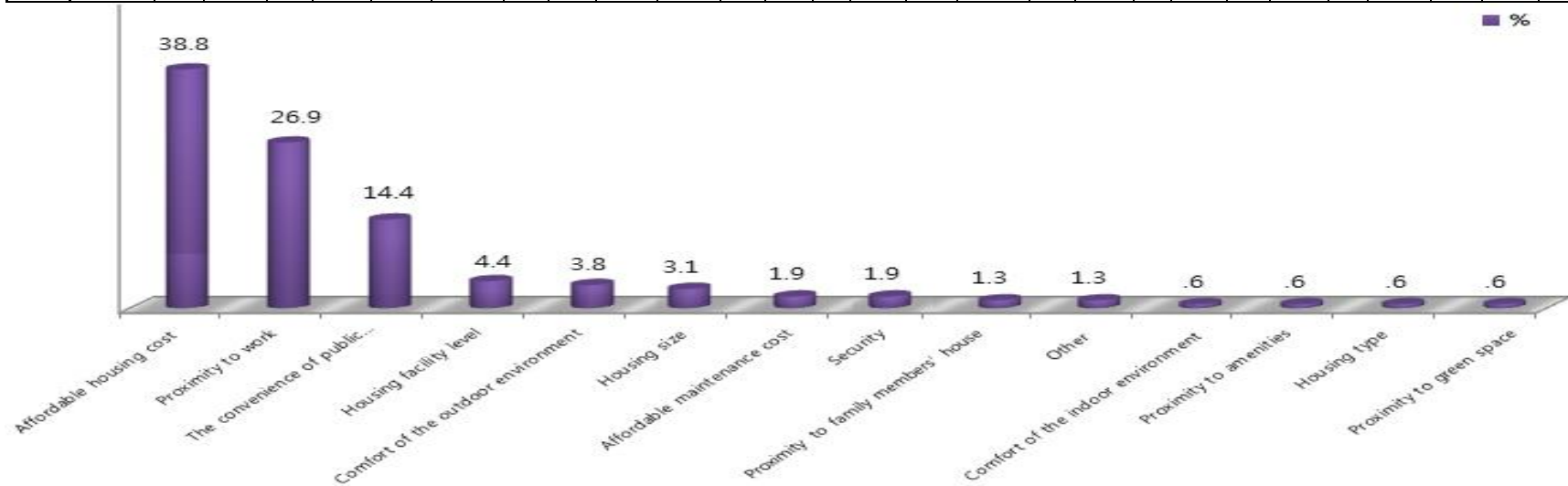
Section B. House living satisfaction (B1~B2)

B1. Which of the following categories best describes your current experience of the house living?

		Number	very unsatisfied N	%	somewhat unsatisfied N	%	neutral N	%	Somewhat satisfied N	%	very satisfied N	%	unsatisfied %	neutral %	satisfied %	average in 5
Total		160	7	4.4	31	19.4	60	37.5	54	33.8	8	5.0	23.8	37.5	38.8	3.2
Sex	Male	82	4	4.9	17	20.7	30	36.6	26	31.7	5	6.1	25.6	36.6	37.8	3.1
	Female	78	3	3.8	14	17.9	30	38.5	28	35.9	3	3.8	21.8	38.5	39.7	3.2
Age	20s	56	1	1.8	8	14.3	18	32.1	23	41.1	6	10.7	16.1	32.1	51.8	3.4
	30s	104	6	5.8	23	22.1	42	40.4	31	29.8	2	1.9	27.9	40.4	31.7	3.0
Income (10,000 won)	Less than 300	75	4	5.3	12	16.0	34	45.3	21	28.0	4	5.3	21.3	45.3	33.3	3.1
	300~500	60	2	3.3	12	20.0	21	35.0	21	35.0	4	6.7	23.3	35.0	41.7	3.2
	Over 500	25	1	4.0	7	28.0	5	20.0	12	48.0	0	.0	32.0	20.0	48.0	3.1
Housing type	Detached/Multi households house	22	1	4.5	8	36.4	10	45.5	3	13.6	0	.0	40.9	45.5	13.6	2.7
	Terraced/Multi-family house	45	4	8.9	8	17.8	18	40.0	12	26.7	3	6.7	26.7	40.0	33.3	3.0
	Officetel/ULH	67	1	1.5	11	16.4	24	35.8	27	40.3	4	6.0	17.9	35.8	46.3	3.3
	Apartment	26	1	3.8	4	15.4	8	30.8	12	46.2	1	3.8	19.2	30.8	50.0	3.3
Residence type	Owner-occupied	27	1	3.7	4	14.8	7	25.9	13	48.1	2	7.4	18.5	25.9	55.6	3.4
	Lease	61	2	3.3	8	13.1	23	37.7	26	42.6	2	3.3	16.4	37.7	45.9	3.3
	Monthly rent	67	4	6.0	17	25.4	29	43.3	13	19.4	4	6.0	31.3	43.3	25.4	2.9
	Free/Other	5	0	.0	2	40.0	1	20.0	2	40.0	0	.0	40.0	20.0	40.0	3.0
Housing size (Pyung, 1pyung=3.3m2)	Less than 10	55	4	7.3	13	23.6	25	45.5	10	18.2	3	5.5	30.9	45.5	23.6	2.9
	10~20	70	2	2.9	10	14.3	23	32.9	32	45.7	3	4.3	17.1	32.9	50.0	3.3
	Over 20	35	1	2.9	8	22.9	12	34.3	12	34.3	2	5.7	25.7	34.3	40.0	3.2
Oneroom	Yes	95	4	4.2	18	18.9	40	42.1	28	29.5	5	5.3	23.2	42.1	34.7	3.1
	No	65	3	4.6	13	20.0	20	30.8	26	40.0	3	4.6	24.6	30.8	44.6	3.2

(BASE : All respondents (N=160))

B2. Satisfaction - The characteristics of location 1) Proximity to public transportation

		Number	very unsatisfied N	%	somewhat unsatisfied N	%	neutral N	%	Somewhat satisfied N	%	very satisfied N	%	unsatisfied %	neutral %	satisfied %	average in 5
Total		160	6	3.8	10	6.3	46	28.8	64	40.0	34	21.3	10.0	28.8	61.3	3.7
Sex	Male	82	4	4.9	6	7.3	24	29.3	37	45.1	11	13.4	12.2	29.3	58.5	3.5
	Female	78	2	2.6	4	5.1	22	28.2	27	34.6	23	29.5	7.7	28.2	64.1	3.8
Age	20s	56	2	3.6	3	5.4	12	21.4	23	41.1	16	28.6	8.9	21.4	69.6	3.9
	30s	104	4	3.8	7	6.7	34	32.7	41	39.4	18	17.3	10.6	32.7	56.7	3.6
Income (10,000 won)	Less than 300	75	1	1.3	5	6.7	25	33.3	25	33.3	19	25.3	8.0	33.3	58.7	3.7
	300~500	60	2	3.3	5	8.3	12	20.0	31	51.7	10	16.7	11.7	20.0	68.3	3.7
	Over 500	25	3	12.0	0	.0	9	36.0	8	32.0	5	20.0	12.0	36.0	52.0	3.5
Housing type	Detached/Multi households house	22	3	13.6	4	18.2	9	40.9	4	18.2	2	9.1	31.8	40.9	27.3	2.9
	Terraced/Multi-family house	45	1	2.2	0	.0	13	28.9	21	46.7	10	22.2	2.2	28.9	68.9	3.9
	Officetel/ULH	67	2	3.0	3	4.5	19	28.4	25	37.3	18	26.9	7.5	28.4	64.2	3.8
	Apartment	26	0	.0	3	11.5	5	19.2	14	53.8	4	15.4	11.5	19.2	69.2	3.7
Residence type	Owner-occupied	27	2	7.4	3	11.1	7	25.9	10	37.0	5	18.5	18.5	25.9	55.6	3.5
	Lease	61	2	3.3	3	4.9	19	31.1	23	37.7	14	23.0	8.2	31.1	60.7	3.7
	Monthly rent	67	1	1.5	3	4.5	20	29.9	28	41.8	15	22.4	6.0	29.9	64.2	3.8
	Free/Other	5	1	20.0	1	20.0	0	.0	3	60.0	0	.0	40.0	.0	60.0	3.0
Housing size (Pyung, 1pyung=3.3m2)	Less than 10	55	2	3.6	4	7.3	20	36.4	19	34.5	10	18.2	10.9	36.4	52.7	3.6
	10~20	70	2	2.9	3	4.3	17	24.3	30	42.9	18	25.7	7.1	24.3	68.6	3.8
	Over 20	35	2	5.7	3	8.6	9	25.7	15	42.9	6	17.1	14.3	25.7	60.0	3.6
Oneroom	Yes	95	5	5.3	5	5.3	27	28.4	37	38.9	21	22.1	10.5	28.4	61.1	3.7
	No	65	1	1.5	5	7.7	19	29.2	27	41.5	13	20.0	9.2	29.2	61.5	3.7
Car ownership	Yes	88	5	5.7	8	9.1	26	29.5	33	37.5	16	18.2	14.8	29.5	55.7	3.5
	No	72	1	1.4	2	2.8	20	27.8	31	43.1	18	25.0	4.2	27.8	68.1	3.9

(BASE : All respondents (N=160))

Section C. Life pattern and dwelling awareness (C1-1~C2)

C1-1. How long do you spend time on living hours in the house without sleeping?				
		Number	Living time (weekdays)	Living time (weekend/holiday)
			Hours a day	Hours a day
Total		160	5.9	9.3
Sex	Male	82	5.7	9.2
	Female	78	6.1	9.3
Age	20s	56	5.9	8.6
	30s	104	5.9	9.6
Income (10,000 won)	Less than 300	75	6.1	9.2
	300~500	60	5.8	8.9
	Over 500	25	5.7	10.2
Housing type	Detached/Multi households house	22	6.5	8.8
	Terraced/Multi-family house	45	5.5	9.4
	Officetel/ULH	67	5.8	9.1
	Apartment	26	6.3	9.9
Residence type	Owner-occupied	27	6.9	9.8
	Lease(Jeongse)	61	5.3	9.3
	Monthly rent	67	6.2	8.9
	Free/Other	5	5.0	10.4
Housing size (Pyung, 1pyung=3.3m2)	Less than 10	55	5.7	8.7
	10~20	70	6.0	9.6
	Over 20	35	6.1	9.3
Oneroom	Yes	95	5.9	8.9
	No	65	6.0	9.8
Car ownership	Yes	88	5.8	9.5
	No	72	6.0	8.9

(BASE : All respondents (N=160))

C1-2. How long do you spend time on sleeping in the house?				
		Number	Sleeping time (weekdays)	Sleeping time (weekend/holiday)
			Hours a day	Hours a day
Total		160	6.6	8.1
Sex	Male	82	6.4	7.9
	Female	78	6.8	8.4
Age	20s	56	6.5	7.9
	30s	104	6.6	8.2
Income (10,000 won)	Less than 300	75	6.6	8.2
	300~500	60	6.6	8.0
	Over 500	25	6.6	8.4
Housing type	Detached/Multi households house	22	6.8	7.9
	Terraced/Multi-family house	45	6.7	8.4
	Officetel/ULH	67	6.4	8.0
	Apartment	26	6.5	8.1
Residence type	Owner-occupied	27	6.6	7.5
	Lease(Jeongse)	61	6.6	8.1
	Monthly rent	67	6.5	8.2
	Free/Other	5	6.2	9.6
Housing size (Pyung, 1pyung=3.3m2)	Less than 10	55	6.6	8.2
	10~20	70	6.6	8.1
	Over 20	35	6.4	8.1
Oneroom	Yes	95	6.6	8.1
	No	65	6.6	8.1
Car ownership	Yes	88	6.5	8.1
	No	72	6.7	8.1

(BASE : All respondents (N=160))

C1-3. How often do you have a meal in the house?			Having a meal (weekdays)	Having a meal (weekend/holiday)
		Number	Hours a day	Hours a day
Total		160	1.4	1.9
Sex	Male	82	1.4	2.0
	Female	78	1.3	1.8
Age	20s	56	1.3	1.8
	30s	104	1.4	2.0
Income (10,000 won)	Less than 300	75	1.3	1.9
	300~500	60	1.5	2.0
	Over 500	25	1.4	2.1
Housing type	Detached/Multi households house	22	1.7	2.0
	Terraced/Multi-family house	45	1.4	1.8
	Officetel/ULH	67	1.2	1.9
	Apartment	26	1.5	2.2
Residence type	Owner-occupied	27	1.7	2.1
	Lease(Jeongse)	61	1.2	1.9
	Monthly rent	67	1.4	1.9
	Free/Other	5	.4	1.6
Housing size (Pyung, 1pyung=3.3m2)	Less than 10	55	1.3	1.8
	10~20	70	1.3	1.9
	Over 20	35	1.6	2.1
Oneroom	Yes	95	1.4	1.9
	No	65	1.3	2.0
Car ownership	Yes	88	1.4	2.0
	No	72	1.3	1.9

(BASE : All respondents (N=160))

C2. Which space do you mainly spend time in the house?			Space												
		Number	On the bed		Floor		Dest		Community space		Kitchen		Other		Bath room
			N	%	N	%	N	%	N	%	N	%	N	%	N	%
Total		160	73	45.6	41	25.6	31	19.4	7	4.4	4	2.5	3	1.9	1	.6
Sex	Male	82	41	50.0	18	22.0	17	20.7	4	4.9	1	1.2	1	1.2	0	.0
	Female	78	32	41.0	23	29.5	14	17.9	3	3.8	3	3.8	2	2.6	1	1.3
Age	20s	56	28	50.0	16	28.6	10	17.9	1	1.8	0	.0	1	1.8	0	.0
	30s	104	45	43.3	25	24.0	21	20.2	6	5.8	4	3.8	2	1.9	1	1.0
Income (10,000 won)	Less than 300	75	34	45.3	26	34.7	11	14.7	1	1.3	2	2.7	1	1.3	0	.0
	300~500	60	27	45.0	12	20.0	12	20.0	4	6.7	2	3.3	2	3.3	1	1.7
	Over 500	25	12	48.0	3	12.0	8	32.0	2	8.0	0	.0	0	.0	0	.0
Housing type	Detached/Multi households house	22	10	45.5	2	9.1	6	27.3	1	4.5	2	9.1	1	4.5	0	.0
	Terraced/Multi-family house	45	17	37.8	15	33.3	7	15.6	4	8.9	1	2.2	1	2.2	0	.0
	Officetel/ULH	67	35	52.2	17	25.4	13	19.4	1	1.5	0	.0	0	.0	1	1.5
	Apartment	26	11	42.3	7	26.9	5	19.2	1	3.8	1	3.8	1	3.8	0	.0
Residence type	Owner-occupied	27	9	33.3	8	29.6	6	22.2	3	11.1	1	3.7	0	.0	0	.0
	Lease(Jeongse)	61	26	42.6	15	24.6	12	19.7	3	4.9	1	1.6	3	4.9	1	1.6
	Monthly rent	67	36	53.7	17	25.4	12	17.9	0	.0	2	3.0	0	.0	0	.0
	Free/Other	5	2	40.0	1	20.0	1	20.0	1	20.0	0	.0	0	.0	0	.0
Housing size (Pyung, 1pyung=3.3m2)	Less than 10	55	26	47.3	18	32.7	10	18.2	0	.0	1	1.8	0	.0	0	.0
	10~20	70	34	48.6	16	22.9	12	17.1	4	5.7	2	2.9	2	2.9	0	.0
	Over 20	35	13	37.1	7	20.0	9	25.7	3	8.6	1	2.9	1	2.9	1	2.9
Oneroom	Yes	95	50	52.6	23	24.2	17	17.9	1	1.1	3	3.2	0	.0	1	1.1
	No	65	23	35.4	18	27.7	14	21.5	6	9.2	1	1.5	3	4.6	0	.0
Car ownership	Yes	88	40	45.5	19	21.6	16	18.2	6	6.8	4	4.5	2	2.3	1	1.1
	No	72	33	45.8	22	30.6	15	20.8	1	1.4	0	.0	1	1.4	0	.0

(BASE : All respondents (N=160))

D1-1. What's your desired housing type?

		Number	Apartment N	Apartment %	Officetel N	Officetel %	Detached house N	Detached house %	Urban Lifstyle Housing N	Urban Lifstyle Housing %	Terraced/Multi-family house N	Terraced/Multi-family house %	Share house N	Share house %	Multi-households house N	Multi-households house %	Gosiwon N	Gosiwon %
Total		160	67	41.9	37	23.1	16	10.0	14	8.8	12	7.5	7	4.4	6	3.8	1	.6
Sex	Male	82	33	40.2	20	24.4	8	9.8	7	8.5	5	6.1	2	2.4	6	7.3	1	1.2
	Female	78	34	43.6	17	21.8	8	10.3	7	9.0	7	9.0	5	6.4	0	.0	0	.0
Age	20s	56	20	35.7	16	28.6	7	12.5	7	12.5	2	3.6	2	3.6	1	1.8	1	1.8
	30s	104	47	45.2	21	20.2	9	8.7	7	6.7	10	9.6	5	4.8	5	4.8	0	.0
Income (10,000 won)	Less than 300	75	25	33.3	23	30.7	7	9.3	10	13.3	4	5.3	5	6.7	1	1.3	0	.0
	300~500	60	30	50.0	8	13.3	8	13.3	3	5.0	6	10.0	1	1.7	3	5.0	1	1.7
	Over 500	25	12	48.0	6	24.0	1	4.0	1	4.0	2	8.0	1	4.0	2	8.0	0	.0
Housing type	Detached/Multi households house	22	5	22.7	2	9.1	5	22.7	1	4.5	2	9.1	4	18.2	3	13.6	0	.0
	Terraced/Multi-family house	45	19	42.2	8	17.8	6	13.3	5	11.1	6	13.3	0	.0	1	2.2	0	.0
	Officetel/ULH	67	23	34.3	24	35.8	5	7.5	8	11.9	2	3.0	2	3.0	2	3.0	1	1.5
	Apartment	26	20	76.9	3	11.5	0	.0	0	.0	2	7.7	1	3.8	0	.0	0	.0
Residence type	Owner-occupied	27	16	59.3	1	3.7	1	3.7	2	7.4	2	7.4	3	11.1	0	.0	0	.0
	Lease(Jeongse)	61	30	49.2	15	24.6	3	4.9	3	4.9	4	6.6	2	3.3	4	6.6	0	.0
	Monthly rent	67	17	25.4	21	31.3	10	14.9	9	13.4	5	7.5	2	3.0	2	3.0	1	1.5
	Free/Other	5	4	80.0	0	.0	0	.0	0	.0	1	20.0	0	.0	0	.0	0	.0
Housing size (Pyung, 1pyung=3.3m2)	Less than 10	55	10	18.2	21	38.2	6	10.9	9	16.4	4	7.3	3	5.5	1	1.8	1	1.8
	10~20	70	36	51.4	11	15.7	9	12.9	4	5.7	4	5.7	3	4.3	3	4.3	0	.0
	Over 20	35	21	60.0	5	14.3	1	2.9	1	2.9	4	11.4	1	2.9	2	5.7	0	.0
Oneroom	Yes	95	28	29.5	30	31.6	11	11.6	11	11.6	5	5.3	6	6.3	3	3.2	1	1.1
	No	65	39	60.0	7	10.8	5	7.7	3	4.6	7	10.8	1	1.5	3	4.6	0	.0
Car ownership	Yes	88	44	50.0	18	20.5	8	9.1	4	4.5	5	5.7	3	3.4	6	6.8	0	.0
	No	72	23	31.9	19	26.4	8	11.1	10	13.9	7	9.7	4	5.6	0	.0	1	1.4

(BASE : All respondents (N=160))

D1-2. What's your desired residence type?

		Number	Owner-occupied N	Owner-occupied %	Lease(Jeonse) N	Lease(Jeonse) %	Monthly rent with deposit N	Monthly rent with deposit %	Monthly rent without deposit N	Monthly rent without deposit %	Free N	Free %
Total		160	76	47.5	60	37.5	18	11.3	4	2.5	2	1.3
Sex	Male	82	40	48.8	26	31.7	12	14.6	4	4.9	0	.0
	Female	78	36	46.2	34	43.6	6	7.7	0	.0	2	2.6
Age	20s	56	24	42.9	23	41.1	6	10.7	2	3.6	1	1.8
	30s	104	52	50.0	37	35.6	12	11.5	2	1.9	1	1.0
Income (10,000 won)	Less than 300	75	24	32.0	40	53.3	10	13.3	0	.0	1	1.3
	300~500	60	35	58.3	16	26.7	6	10.0	3	5.0	0	.0
	Over 500	25	17	68.0	4	16.0	2	8.0	1	4.0	1	4.0
Housing type	Detached/Multi households house	22	8	36.4	10	45.5	4	18.2	0	.0	0	.0
	Terraced/Multi-family house	45	25	55.6	15	33.3	3	6.7	1	2.2	1	2.2
	Officetel/ULH	67	26	38.8	28	41.8	9	13.4	3	4.5	1	1.5
	Apartment	26	17	65.4	7	26.9	2	7.7	0	.0	0	.0
Residence type	Owner-occupied	27	22	81.5	1	3.7	3	11.1	0	.0	1	3.7
	Lease(Jeongse)	61	33	54.1	27	44.3	0	.0	1	1.6	0	.0
	Monthly rent	67	20	29.9	29	43.3	15	22.4	3	4.5	0	.0
	Free/Other	5	1	20.0	3	60.0	0	.0	0	.0	1	20.0
Housing size (Pyung, 1pyung=3.3m2)	Less than 10	55	16	29.1	27	49.1	10	18.2	2	3.6	0	.0
	10~20	70	39	55.7	24	34.3	4	5.7	2	2.9	1	1.4
	Over 20	35	21	60.0	9	25.7	4	11.4	0	.0	1	2.9
Oneroom	Yes	95	39	41.1	38	40.0	14	14.7	3	3.2	1	1.1
	No	65	37	56.9	22	33.8	4	6.2	1	1.5	1	1.5
Car ownership	Yes	88	51	58.0	25	28.4	9	10.2	2	2.3	1	1.1
	No	72	25	34.7	35	48.6	9	12.5	2	2.8	1	1.4

(BASE : All respondents (N=160))

D7. Desired subsidiary facilities

		Which subsidiary facilities do you hope to have?																													
	Number	Desired subsidiary facilities																														
		Café		Fitness centre		Communal Dining room		Pacel receiving storage (unmanned)		Library		Communal Kitchen		Bicycle rack		Green space		Lounge		PC room		Communal laundry room		Room for hobby		AV room		Meeting room		Personal storage room	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Total	160	40	25.0	32	20.0	26	16.3	21	13.1	12	7.5	5	3.1	5	3.1	5	3.1	4	2.5	3	1.9	2	1.3	2	1.3	1	.6	1	.6	1	.6

Desired subsidiary facilities (%)
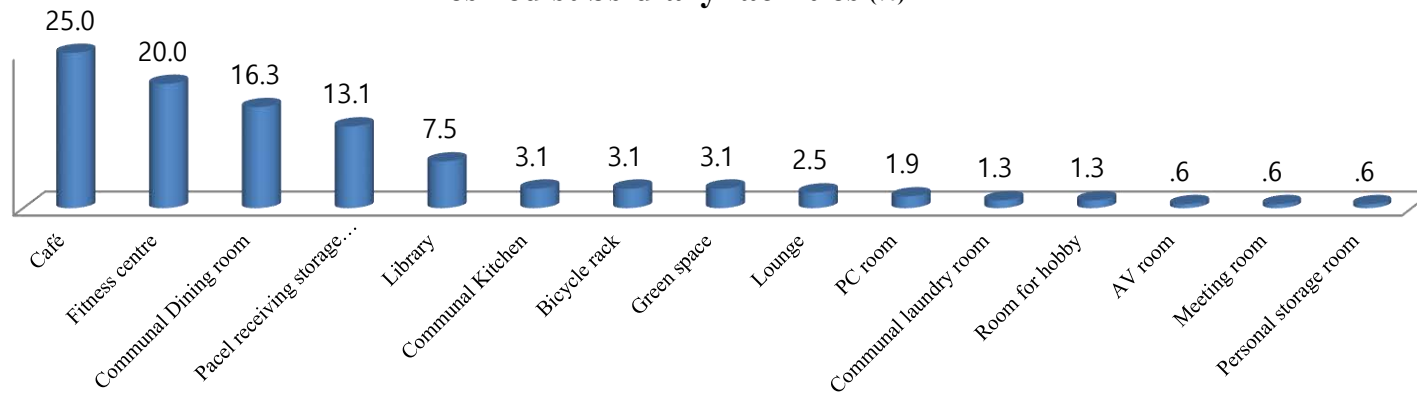
Appendix 3: List of Interviewees and Site Visits for the Qualitative Study

3.1 List of Interviewees of young professional single person households in Seoul

No	Occupation and Company	Experience of Residence type		Time & Place
		Living alone	House sharing	
1	Researcher, Seoul Institute	O		09:00~10:00, 13th Oct 2014, Seoul Institute, Seocho-dong, Seoul
2	Researcher, Seoul Institute	O		16:00~17:00, 13th Oct 2014, Seoul Institute, Seocho-dong, Seoul
3	Architectural designer, Archium	O		17:00-20:00, 28th Sep 2014, a Cafe in Seocho, Seoul
4	Architectural designer, SKM Architect	O		19:00-21:00, 28th Sep 2014, a Cafe in Seoul
5	Engineer, Continental	O		11:30-12:30, 2nd Oct 2014, a Cafeteria in Continental building, i-chun, Kyunggi-do
6	Engineer, Continental	O		12:30-13:30, 2nd Oct 2014, a Cafeteria in Continental building, i-chun, Kyunggi-do
7	Engineer, Continental	O		14:30-15:30, 2nd Oct 2014, a Cafeteria in Continental building, i-chun, Kyunggi-do
8	Engineer, Continental	O		15:30-16:30, 2nd Oct 2014, a Cafeteria in Continental building, i-chun, Kyunggi-do
9	Casino dealer, Kangwonland	O		17:00-19:00, 14th Oct 2014, a Café in Gangnam station, Seoul
10	Programmer, SK Planet	O		12:00-13:00, 6th Oct 2014, Café in SK Planet building, Pangyo, Kyunggi-do
11	Programmer, SK Planet	O		13:00-14:00, 6th Oct 2014, Café in SK Planet building, Pangyo, Kyunggi-do
12	Programmer, SK Planet	O		14:00-15:00, 6th Oct 2014, Café in SK Planet building, Pangyo, Kyunggi-do
13	Programmer, SK Planet	O		15:30-16:30, 6th Oct 2014, Café in SK

				Planet building, Pangyo, Kyunggi-do
14	Programmer, SK Planet	O		12:00-13:00, 7th Oct 2014, Café in SK Planet building, Pangyo, Kyunggi-do
15	Programmer, SK Planet	O		13:00-14:00, 29th Oct 2014, Café in SK Planet building, Pangyo, Kyunggi-do
16	Assistant manager, Samsung Electronics	O		13:00-14:00, 17th Oct 2014, Café in Samsung building, Suwon, Kyunggi-do
17	Assistant manager, Samsung Electronics	O		14:00-15:00, 17th Oct 2014, Café in Samsung building, Suwon, Kyunggi-do
18	Employee, Samsung Electronics	O		15:00-16:00, 17th Oct 2014, Café in Samsung building, Suwon, Kyunggi-do
19	Senior manager, Samsung Electronics	O		17:00-18:00, 17th Oct 2014, Café in Samsung building, Suwon, Kyunggi-do
20	Assistant manager, Samsung Electronics	O		18:00-19:00, 17th Oct 2014, Café in Samsung building, Suwon, Kyunggi-do
21	Employee, Samsung Electronics	O		13:00-14:00, 18th Oct 2014, Café in Samsung building, Suwon, Kyunggi-do
22	Assistant manager, Samsung Electronics	O		14:00-15:00, 18th Oct 2014, Café in Samsung building, Suwon, Kyunggi-do
23	Assistant manager, Samsung Electronics	O		15:00-16:00, 18th Oct 2014, Café in Samsung building, Suwon, Kyunggi-do
24	Assistant manager, Samsung Electronics	O		16:00-17:00, 18th Oct 2014, Café in Samsung building, Suwon, Kyunggi-do
25	Employee, Samsung Electronics	O		17:00-18:00, 18th Oct 2014, Café in Samsung building, Suwon, Kyunggi-do
26	Assistant manager, Samsung Electronics	O		13:00-14:00, 20th Oct 2014, Café in Samsung building, Suwon, Kyunggi-do
27	Assistant manager, Samsung Electronics	O		14:00-15:00, 20th Oct 2014, Café in Samsung building, Suwon, Kyunggi-do

28	Employee, Dae Kyo	O		13:00-15:00, 27th Oct 2014, Café in Dae Kyo building, Shindorim, Seoul
29	Assistant manager, Dae Kyo	O		15:00-16:00, 27th Oct 2014, Café in Dae Kyo building, Shindorim, Seoul
30	Employee, Dae Kyo	O		16:00-17:00, 27th Oct 2014, Café in Dae Kyo building, Shindorim, Seoul
31	Employee, Dae Kyo	O		17:00-18:00, 27th Oct 2014, Café in Dae Kyo building, Shindorim, Seoul
32	Employee, Dae Kyo	O		18:00-19:00, 27th Oct 2014, Café in Dae Kyo building, Shindorim, Seoul
33	Assistant manager, GE	O	O	18:00-19:00, 29th Oct 2014, a Café in Gangnam, Seoul
34	Assistant manager, SAJO	O	O	14:00-16:00, 30th Oct 2014, a Café in Gangnam, Seoul
35	Employee, Samsung Electronics	O	O	13:00-15:00, 20th Oct 2014, Café in Samsung building, Suwon, Kyunggi-do
36	Project manager, Seoul Design Foundation		O	14:00-16:00, 4th Oct 2014, a Café in Gangnam, Seoul
37	Manager, &I Coffee shop	O	O	16:00-18:00, 4th Oct 2014, a Café in Gangnam, Seoul
38	Employee, Hankuk Tyre	O	O	18:00-20:00, 4th Oct 2014, a Café in Gangnam, Seoul
39	Government employee, Busan Government	O		16:00~18:30, 23rd Oct 2014, a coffee shop in Gangnam, Seoul
40	Employee, LG Electronics	O	O	19:00~21:30, 23rd Oct 2014, a coffee shop in Gangnam, Seoul
41	Nurse, Anam hostpital		O	14:00~16:30, 6th Nov 2014, a coffee shop in Chungdam, Seoul
42	Banker, Woori Bank	O	O	14:00~16:00, 7th Nov 2014, a coffee shop in SNU station, Seoul
43	Assistant manager, SEJEONG	O		16:00~18:00, 7th Nov 2014, a coffee shop in SNU station, Seoul
44	Researcher, Seoul Institute	O	O	14:00~18:00, 15th Nov 2014, a coffee shop in Karak town, Busan

3.2 List of Interviewees of relevant experts

No	Interviewee's Postion	Time & Place
1	Professor of Real Estate in Kangwon University	12:00~16:00, 8th Oct 2014, Kangwon University, Kangwon-do
2	Honory Professor of Urban Planning in Kyunghee University, Director and urban planner of Nepo, and Bundang new urban development in South Korea, Also member of The presidential Commission on Architecture Policy	16:30~17:30, 7th Oct 2014, Kyunghee University, Suwon
3	Marketing manager in WOOZOO	16:00~18:00, 1st Oct 2014, WOOZOO building in SWU station area
4	CEO and Landlord of Richeverhouse	14:30~17:00, 22nd Oct 2014, Café and Richever building, Sungnam, Seoul
5	Manager of co-working space for change makers in in **Root impact,** and in charge of **D-well** project	13:00~15:30, 23rd Oct 2014, D-well house, Sungsoo-dong, Seoul
6	Architectural designer, Archium	17:00-20:00, 28th Sep 2014, a Cafe in Seocho, Seoul
7	Architectural designer, SKM Architect	19:00-21:00, 28th Sep 2014, a Cafe in Seoul
8	Architect and Interior Designer, Archisphere	14:00~17:00, 30th Sep 2014, Architecture studio in Nonhyun-dong, Seoul
9	Head of a department in Research Plus	12:00~14:00 23rd Sep 2014, a coffee shop in SNU station area, Seoul
10	Senior researcher in SI	13:00~15:00, 13th Oct 2014, Seoul Institute, Seocho-dong, Seoul
11	Team leader, RIVART	13:00-16:00, 14th Oct 2014, a Café in Gangnam station, Seoul

3.3 Site Visits Images

D-well Community House
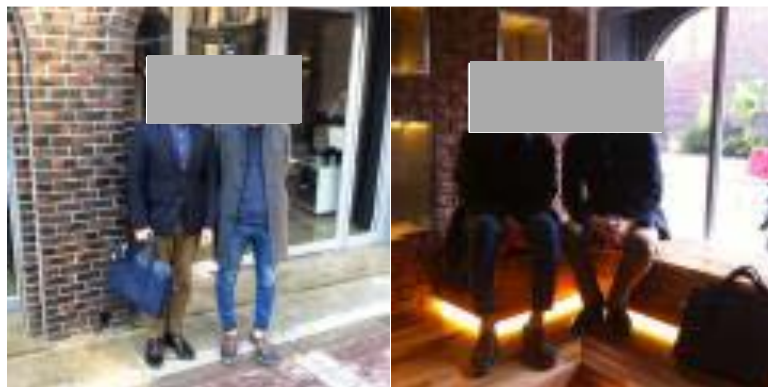
Meeting with the manager of D-well community house
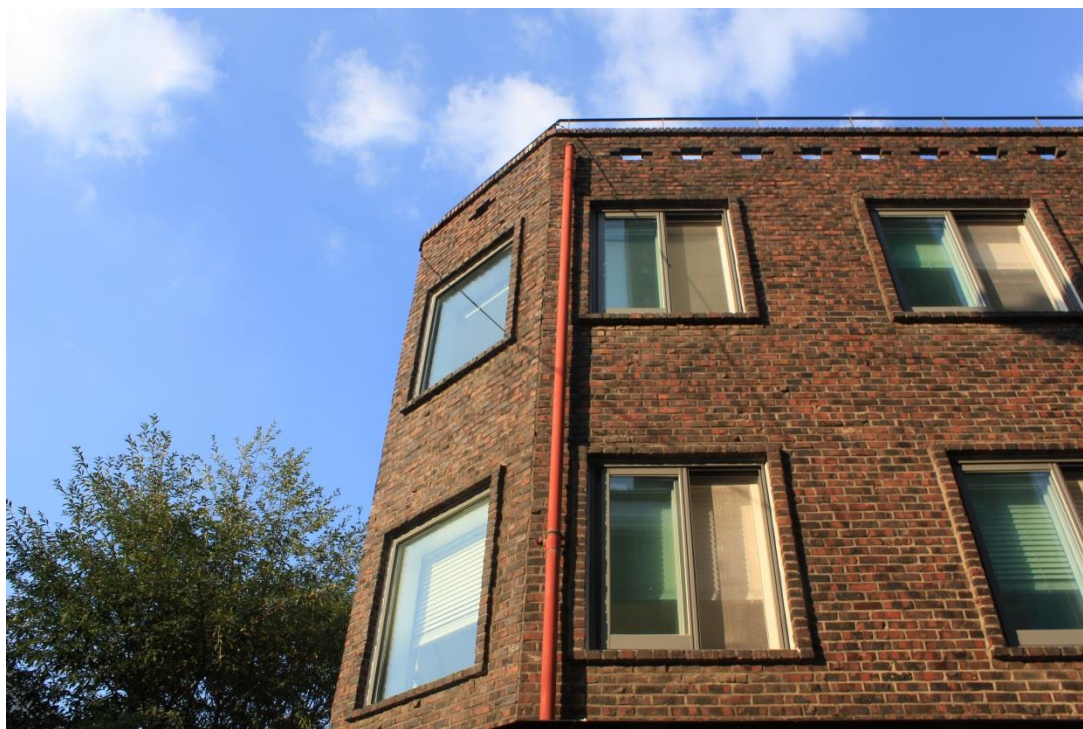
Exterior scene of D-well community house

One of the four living rooms
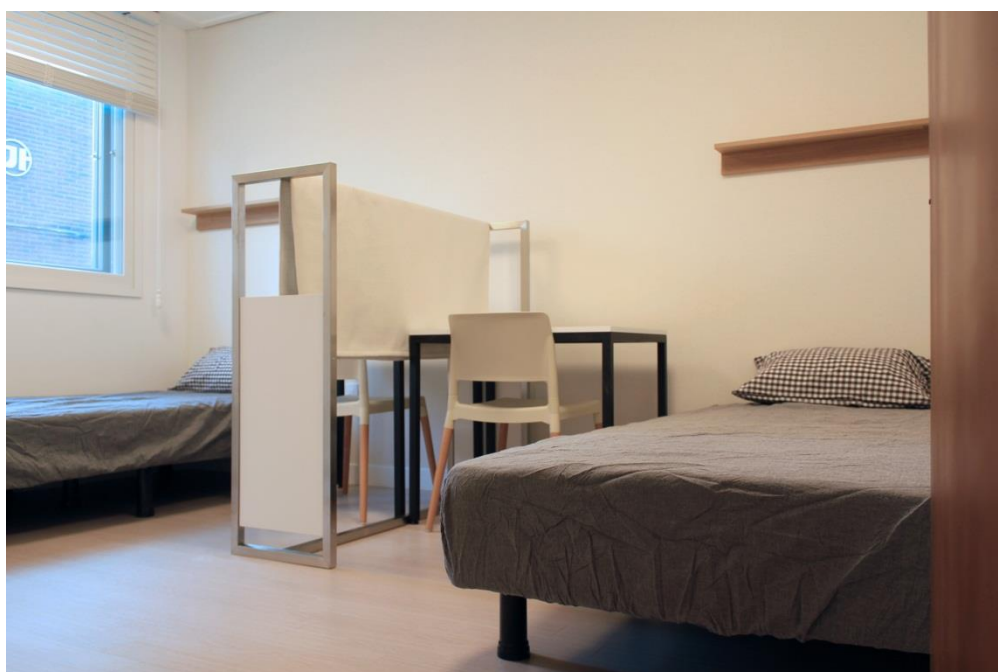
Room 203

Kitchen scene

Roof garden scene

RICHEVER House

Meeting with a chairman of RICHEVER

Exterior scene of RICHEVER house

Hallway scene
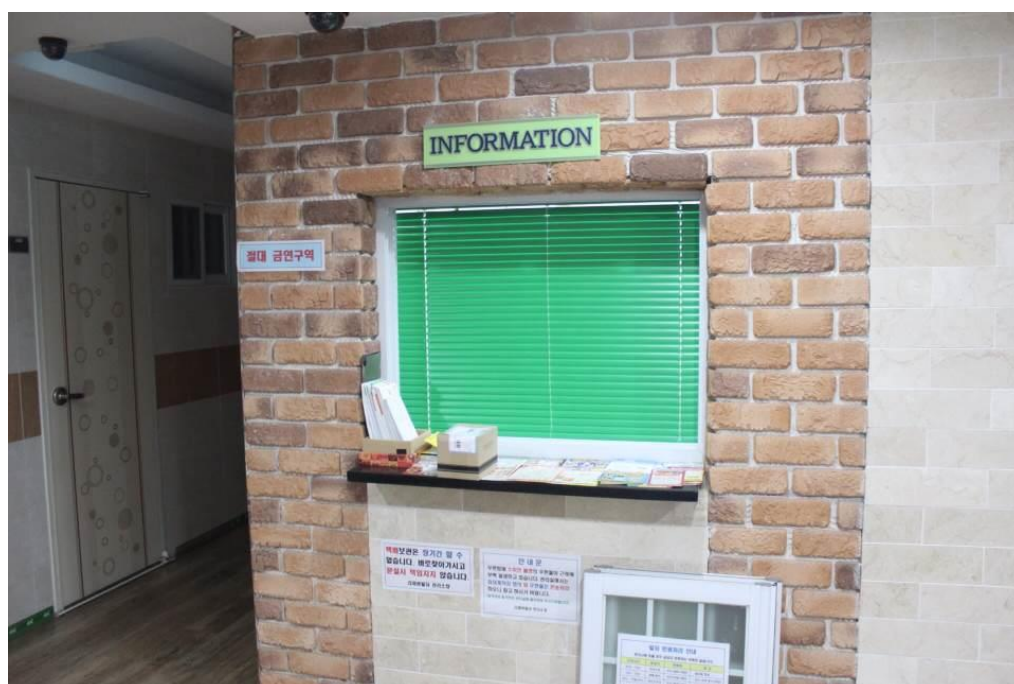
2nd floor reception

Appendix 4: Topic Guide for the Qualitative Study to be Used in Interviews with the Young Professional Singletons and Relevant Experts

4.1 Interview Topic Guide for the Young Professional Singletons

Questions for Living Alone Interviewee Group

1. Greeting and introduction

2. Housing space zoning and basic structure

- Could you describe me the space zoning and architectural structure of housing in which you are living?

3. Satisfaction, complain points of living the housing

- What do you think are the advantages and disadvantages of living alone, particularly in terms of housing environment?

- How satisfied are you with your solo living and its residential environment?

4. Detailed questions about bath room, kitchen, bed room and furniture

- How big is the bath room? and is there shower room in the bath room?

- How about ventilation and humidity conditions in the housing?

- How big is the kitchen area in the housing, and how often do you have a meal at home?

- How big is the bed room area, and do you have bed in the housing?

- How satisfied are you with the condition of storage space in the housing?

- Which option do you prefer, furnished or unfurnished housing?

5. Relationship with neighbours, and about Share house living such as intention to live

- Do you personally know your neighbourhoods, including other tenants in the building and residents in the local area?

- Do you have communication of the neighbourhoods? and do you want to do that?

- What do you think are the appropriate methods to arise the communication with other renterers in the building?

- What do you think of creating community space in the residential building for activating communication among residents?

- Do you have an intention to live in share house?

6. Any comments for improving the housing type

Questions for Share house living Interviewee Group

1. Mainly about detailed relationship issues

- How satisfied are you with the relationship with house mates in the share house?

- Have you ever conflicted with the share house mates or roommates? If so, could you tell me the reasons?

- How satisfied are you with sharing a room with a roommate?

2. Overall satisfaction of share house living

- How satisfied are you with overall share house living in terms of architecture, relationship and economic aspects?

3. Advantages and disadvantages

- What do you think are the advantages and disadvantages of share house living?

- If you have experiences of living alone in a house, could you tell me the advantages and

disadvantages, compared to the solo house living?

4. Stay longer or not?

- Do you have an intention to live in the share house henceforth? (If you are living in the housing now), or do you have an intention to live the housing again? (If you are living in other housing types now)

- If say no, could you let me know the reasons of it, and which housing type you hope to live in?

4.2 Interview Topic Guide for the Relevant Experts

Questions for WOOZOO & D-WELL

1. Motive of establishing the company

- When, how, why did you start the share house business?

- What is the vision of WOOZOO share house company?

2. Concept of WOOZOO

- What are the major design concepts of WOOZOO share houses?

3. Satisfaction of the residents

- As a manager of WOOZOO share house company, how often do you communicate with residents of the share houses?

- How satisfied are the residents with the share house living, and have you heard feedbacks about this from the dwellers?

- How about the rate of renewal of tenancy?

4. Memorable events

- What are the most difficulties when running the business, in terms of policy, relationship, economy and house design aspects?

- What are the most memorable events so far?

5. Economic and financial issues

- How much are the monthly living and maintenance costs of WOOZOO share houses?

- Could you let me know the overall profit structure of WOOZOO share house company?

- Is the share house business profitable?

6. Further plans?

- What are the future plans of WOOZOO, and what do you think are the business prospects of the share house industry for next few years?

Questions for RICHEVER

1. Motive of establishing the company

- When, how, why did you start the RICHEVER housing business?

- What is the vision of RICHEVER company?

2. Concept of RICHEVER

- What are the major design concepts of RICHEVER house?

3. Satisfaction of the residents

- How satisfied are the residents with the living in RICHEVER housing?

- Have you ever heard feedbacks about the satisfaction from the dwellers?

- How about the rate of renewal of tenancy?

4. Economic and financial issues

- How much are the monthly living and maintenance costs of RICHEVER house?

- Could you let me know the overall profit structure of RICHEVER house?

- Is the housing business for single person households profitable?

5. Community space and relationship issues

- As a chairman of RICHEVER, have you consider the residents' community issues in the building? (For example, creating community space or holding regular events for the residents)

- How often do the residents use the community spaces in the building?

- What do you think of communication condition among the residents in the RICHEVER building?

6. Further plans

- What are the future plans of RICHEVER, and what do you think of the business prospects of the house industry for single person households for next few years?

Questions for other Relevant Experts such as Architects, Researchers and Furniture Designers

Main questions for Architects

- What do you think of the future of micro housing as an alternative of residential unit option

for the young professional single person households in the Seoul?

- In what ways is human relationship development among tenants affected by community space

in the residential building?

- Do you have any design considerations for the micro housing plan?

- Do you have any creative ideas to improve spatial efficiency in the small-sized housing?

- What do you think of the prospects of the micro housing for single person households for next few years?

Main questions for Urban Planning Researchers

- In what ways is the young professional singleton issue affected by urban regeneration scheme in Seoul?

- What causes the young singletons to participate into the local events?

- What are the main objectives of Seoul urban regeneration scheme?

- What is the impact of urban regeneration on the housing environment for the young single person households?

Main questions for Furniture Designers

- What is the impact of the rise of single person households in Furniture industry?

- Is the lifestyle of the young single person households important to the development of furniture design?

- What kind of new furniture design for the young singletons does your furniture company have?

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