STUDY OF SPATIAL CONFIGURATION AND THE SENSE OF
BELONGING IN TWO GATED COMMUNITIES IN SHENYANG, CHINA

A Thesis in
Architecture
by
Qingyang Yu

©2013 Qingyang Yu

Submitted in Partial Fulfillment
of the Requirement
for the Degree of

Master of Architecture

August 2013
The thesis of Qingyang Yu was reviewed and approved* by the following:

Alexandra Staub
Associate Professor of Architecture
Thesis Adviser

Eliza Pennypacker
Professor of Landscape Architecture

Katsuhiko Muramoto
Associate Professor of Architecture

Mehrdad Hadighi
Professor of Architecture
Head of the Department of Architecture

*Signatures are on file in the Graduate School
ABSTRACT

My study examines how residents of the gated communities springing up across China today find a sense of belonging. I have examined this question through observation of residents’ outdoor behaviors and an analysis of activity patterns in various open spaces within the gated communities. This has allowed me to make assessments of various factors of these communities’ design, and how they relate to residents’ sense of attachment. By recording and mapping outdoor spaces in communities, I have determined which locations attract people, as well as the characteristics of these spaces. I have found that three aspects affect residents’ sense of belonging: good view of a space plus the activity of opportunities it affords can help promote visitation and then interaction, different activity areas provide edges and links for transition and activity diversity, and subdivided spaces at the threshold that reinforce residents in their ability to assume a territorial attitude. My paper discusses these three aspects in more detail, with the hope that the answers I have found will be helpful in guiding future community design for a better living environment.

Key words: housing adaptation, living environment, sense of belonging.
TABLE OF CONTENTS

Chapter 1. Introduction .............................................................................................................. 1

Chapter 2. A Brief History of Housing Types in China .......................................................... 5
  2.1. Introduction ...................................................................................................................... 5
  2.2. Traditional Chinese residential housing in Shenyang (before 1840) to the period characterized by uniformity in Chinese housing types (North and South) ................................................................................................................................. 6
  2.3. Early evolvement of modern Chinese residential housing in the North (1840-1949) – Case study of Shenyang “Manchurian Railroad” community ................. 9
    2.3.1. Introduction: Brief overview ....................................................................................... 9
    2.3.2. The Evolution of Housing in Northern China: Manchurian Railroad Community Residences and Shenyang Mantie Residence ............................. 11
    2.3.2.1. Planning and housing ............................................................................................. 14
    2.3.2.2. Evolution—changes made by households and fading away in the city ................ 20
  2.4. Mid-20th Century Chinese Residential Housing (1949-1978) ................................. 24
    2.4.1. Introduction .............................................................................................................. 24
    2.4.2. Soviet-Type Units ..................................................................................................... 25
    2.4.3. Influence of the “Great Leap Forward” and the Cultural Revolution .................. 29
  2.5. Housing development after China adopted Reform and Opening-up Policies (1978-present) ......................................................................................................................... 31
  2.6. Summary ....................................................................................................................... 34

Chapter 3. How Spatial Configurations and a sense of belonging Are Related in China ......................................................................................................................... 36
  3.1. Introduction ...................................................................................................................... 36
  3.2. Studies on Community in Present-Day China: Gated Communities ......................... 37
  3.3. Community and Sense of belonging: Overview and Definition ................................. 42
  3.4. Physical factors related to sense of belonging ............................................................... 45
    3.4.1 Layers of space and the capacity of the physical environment to create perceived zones of territorial influences ................................................................. 45
    3.4.2. The importance of communication space/public space in creating a sense of belonging ......................................................................................................................... 50
  3.5. How and where people to start communicating in public space outside their apartments ...................................................................................................................... 53
    3.5.1 How to start: Contact through seeing and hearing .................................................. 53
    3.5.2. Areas for staying: The edge effect and transitional areas ....................................... 55
  3.6. Summary ....................................................................................................................... 56

Chapter 4. An In-depth Spatial Analysis of Two Chinese Communities ................................. 57
4.1. Introduction of two focal communities and the research methodology……57
4.2. Spatial analysis of the two communities........................................66
  4.2.1. Good view of a space plus the activity opportunities it affords can help promote visitation and then interaction........................................66
  4.2.2. Different activity areas in community providing edges and links for transition and activity diversity..................................................80
  4.2.3. Subdivided spaces at the threshold that reinforce residents in their ability to assume a territorial attitude.........................................85
4.3. Statistical analysis and comparison of the two communities in regard to sense of belonging.................................................................89
  4.3.1. Steps 1-2..........................................................................................90
  4.3.2. Step 3..............................................................................................95
4.4. Conclusion...........................................................................................97

Chapter 5. Final Conclusion.................................................................100

Appendix: Questionnaire.................................................................106

Bibliography.........................................................................................107
Chapter 1. Introduction

The word “community” used in this study is translated from the Chinese words “she-qu” and “xiao-qu,” which refer to both geographical and territorial notions. At present, it is hard to find a community in China that is not gated, which is a result of the developer-driven housing that began when China adopted the Reform and Opening-up Policies in 1978. That is, in many of China’s cities, residential areas are designed to provide security by restricting access to the community to just a few entry ways at each of which either a doorman or a guard is posted. Studies focused on China’s gated communities are influenced to a great extent by scholarship on gated communities in Western contexts, which generally take the position that gated communities have a negative influence on the city in a number of ways, including by isolating residents from a city’s social life (Newman, 1972).

Although a number of studies in the Chinese context are unduly influenced by the conclusions drawn in studies focused on Western contexts, some Chinese scholars have noticed important differences between gated communities in China and those in Western countries (Deng, 2011). For example, the gated communities in China are located in cities and the residents are from all socioeconomic classes. In addition, there is also the fact that enclosed living spaces have long been a feature of Chinese residential life. That is, “walls” have constituted an important idea in Chinese architecture since ancient times: the screens inside a house, the walls of a courtyard house, the walls of a city, even the great wall of the ancient state. Today, as gated communities have emerged in China, these cultures have been translated into the walls of these modern housing communities. This background of Chinese culture and society mean that in terms of definition, the gated communities of China differ
significantly from those of other countries. Yet, Chinese scholars are also concerned that China may face many of the same problems as those identified in Western countries—problems that arise from the breaking up of urban space and the corresponding trend whereby people become isolated from a city’s social life (Miao, 2004; Song & Zhu, 2009). And, compared to older lifestyles, whereby people lived with their members of their extended family in a traditional courtyard house or with colleagues in work-union communities, the new gated living pattern appears to have resulted in residents becoming more isolated from their families and feeling less attached to their communities (Fu, 2005).

However, it is evident from a review of China’s housing history that housing types have changed many times due to changing societal dynamics and government decisions rather than on the basis of what residents’ preferences. But people have adapted to the given environment by both changing their lifestyles and making changes in the places in which they live. More than 30 years after they first appeared in their current incarnation, gated communities have become common in China. And, residents have adapted to them during this period just as they did to other housing configurations in the past. A central question that my study sets out to answer focuses on the relationship between design and belonging: In regard to the design of physical space, how have Chinese residents adapted and used their spaces within them in order to feel a sense of belonging in their current living environment? This question will be answered through research of behavior observation designed to establish the ways in which residents are using their communities’ outdoor space and the changes they have made in the community through their own choices.

By studying and comparing the literature on gated communities in the Western context with the literature on gated communities in the Chinese context, which will be
detailed in next chapter, I concluded that two criteria—residents’ interpersonal relationships in the community and their degree of satisfaction with the community—can be guided by appropriate space configuration designed by architects and planners in order to create a living environment that fosters a sense of belonging. In other words, to generate a sense of belonging using design as a problem-solving strategy, it is necessary to meet the residents’ need to communicate and thus develop interpersonal relationships and their need for safety and control of a certain domain thus develop a territory attitude.

I examined this question by observing and analyzing activities in various open spaces within two gated communities in Shenyang, China: Zhongxingli Community and Fuyunxindu Community, which differ in regard to physical environment and the period during which they were constructed. Residents who have been living in these communities since they were first built have had sufficient time to make changes in regard to their lifestyles and to develop an outdoor living environment. By recording and mapping outdoor spaces in these communities, I determined which locations attract people and established the characteristics of such spaces. I found that three aspects affect residents’ sense of belonging, which respectively and gradually present residents’ needs from outer to inner as established in the literature review: good view of a space plus the activity of opportunities it affords can help promote visitation and then interaction, different activity areas provide edges and links for transition and activity diversity, and subdivided spaces at the threshold of a community reinforce residents’ ability to assume a territorial attitude. I offer a comparison of these physical aspects/characteristics to the extent that they can be identified in these two communities combined with a statistical analysis of both communities designed to establish the extent to which residents feel a sense of belonging to their communities.
In general terms, the data show that residents living in the community with these characteristics evident at a higher level have a stronger sense of belonging as compared with residents living in the community with these characteristics evident at a lower level. Overall, I found that these physical characteristics influence residents’ sense of belonging, and my hope is that the conclusions drawn herein will be useful in guiding future designs for better living environments.
Chapter 2. A Brief History of Housing Types in China

2.1. Introduction

A city can be understood through the history of its buildings. In particular, the residential buildings represent the life of a city in terms of history and culture. They reflect political, social, economic, and technological changes over time. By studying the development of residential buildings, we can learn much about the history of a city. Specifically in the context of China, it is helpful to research the development of modern urban housing. As shown in Table 2.1, during the first 30 years of the “planned economy” in China (1950s–1980s), industry was the primary focus and investment in residential structures and amenities was deficient. Thus, the standard of housing size in urban areas was small. However, investment in residences increased rapidly after the Reform and Opening-up Policy\(^1\) was put in place in 1978. At this time, housing construction was split into four categories based on the size of the construction area. In addition, the standard size of these new residences\(^2\) was larger than that of previous residences (Table 2.1)\(^3\).

---

1 The Reform and Opening-up Policy refers to the program of economic reforms called “Socialism with Chinese Characteristics” in the People’s Republic of China (PRC) that were initiated in December 1978 by reformists within the Communist Party of China (CPC) led by Deng Xiaoping.  
2 Common residential housing types were divided into four categories according to the amount of living areas they had. Due to the Design Code for Residential Buildings in China (1999), the usable areas of these four categories should not be less than: 34, 45, 56, and 68 square meters (from the first category to the fourth one in order). And, it should be noted that these areas do not include balconies. Housing in the first and second categories have living space of between 55 and 70 square meters; those in the third category have between 70 and 90 square meters; and those in the fourth category have between 90 and 120 square meters.  
3 During the period characterized by drawing on the style of the Soviet Union from 1949 to 1957, China adopted Soviet residential standards, even though the standards were considered to represent “rational design and irrational use.” The standards of the 1970s were from “Suggestions on the Revision of Standards for Residential Buildings” by the National Construction Committee (1973). The standards of the 1980s came from “Regulations Regarding Strict Control on Standards of Urban Residential Buildings” of the State Council (December 12, 1983). The standards of the 1990s were based on the “National Standards for Urban Residential buildings,” of the National Residential Construction Conference (1998). Source: Lu, Rowe, & Zhang, 2001, p. 20.
Several periods have had a profound influence on Chinese social structures in such a way as to also affect the forms of housing available in the country. Four periods pertaining to housing will be reviewed in chronological order: traditional Chinese residences (before 1840), colonial residences (1840–1948), contemporary Chinese residences (1949–1978), and residences built after China adopted the Reform and Opening-up Policy, referred to as post-Reform residences (1979–present). In this way, a general view of northern Chinese housing development will be established and an account of how people have adapted to their living environments by both changing external conditions and their expectations and practices will also be presented. Examples in Shenyang, a capital city with long history which can represented the housing development in the northeast of china, will be presented.

2.2. Traditional Chinese residential housing in Shenyang (before 1840) to the period characterized by uniformity in Chinese housing types (North and South)

The Qing dynasty (1612–1912) was the last feudal dynasty in Chinese history. Before the opening of Chinese commercial ports, a direct result of the Opium War
(1840), the plan of the old city of Shenyang was indicative of the characteristics of feudal society. The city was quadrangular and self-sustaining, a place where civil life and social activities took place, and a place that was served by agricultural settlements scattered nearby (Wang J., 2008, p. 27). A typical family in Shenyang was large and extended: three or more generations lived together in one house, all the family members cooked and ate together, and the senior members made the decisions. It was very common for three or four generations to live together, and sometimes residences would house family members from as many as five. A large family was something to be admired. To live separately was not encouraged and even regarded with suspicion, as younger family members were expected to show filial piety by taking care of the seniors. This tradition directly influenced the housing form prevalent in Shenyang. Thus, housing typical of that time consisted of a square courtyard surrounded by housing units along three or four sides of the perimeter with entrances to the houses facing the courtyard. This kind of courtyard house was characterized by what is known as an enclosed living pattern. The houses were enclosed by walls, and porches inside the yard connected the entrances of the individual houses (Fig. 2.1). In fact, such residential structures were common throughout China.

![Figure 2.1 Traditional Chinese courtyard house. Source: Shenyang Library Archive.](image)

As shown in Figure 2.2, this residential arrangement included a main house, which had three or five rooms placed in a line, stood at the axis of the courtyard (Fig. 2.2). It was located at the north of the courtyard and faced south. The side houses were located in the west and east of the courtyard. The gatehouse, i.e., the front area
of the courtyard served as the main entrance, and together with the walls served to enclose the courtyard. A brick pavement connected the main entrance to the main house, and there might also be other pavements leading to the side houses. Senior family members lived in the main house, and other family members occupied the side houses (Zhou, Li, & Qu, 2008).


Source: Author's drawing based on Zhou, Li, & Qu, 2008.

Neither the principal house nor the side houses included a bathroom or a toilet. Instead, residents used a chamber pot, although some families built toilets, tiny individual structures, in a corner of the courtyard, usually close to the backyard garden to make it easy to use human waste in the garden as fertilizer. In addition, people used large wooden barrels as bathtubs to which they added hot water heated on
the stove in the kitchen. Bathing typically took place in a small relatively secluded room such as a bedroom. Residents obtained water for this purpose from a well in the courtyard.

As an individual courtyard, the cortile was at the center of the residents’ daily lives. Many activities occurred in the yard or in the roofed porch facing the yard. (Fig. 2.3) (Zhou, Li, & Qu, 2008). The courtyard house was perfect for this lifestyle because it provided sufficient space for a large family to share and privacy for the family from the outside. In addition, this style expressed a hierarchy among the houses in regard to their locations, sizes and so on (Fei, 2006).

![Diagram of household activities in traditional north courtyard](image)

Figure 2.3 Households’ activities in the traditional north courtyard. Most of the activities, which were important in the daily life, occurred in the porch and the yard. Source: Author’s drawing based on Zhang, 1985.

2.3. Early evolvement of modern Chinese residential housing in the North (1840–1949) – Case study of Shenyang “Manchurian Railroad” community

2.3.1. Introduction: Brief overview
After the Opium War \(^4\) broke out in 1840, the structure of Chinese society changed from being semi-feudal to semi-colonial as well.\(^5\) And, Chinese society did not shift again until 1911 when the Democratic Revolution had taken into place (Hu, 1990). During the semi-feudal and semi-colonial period, the Chinese government was forced to open several commercial ports to the outside world. This period brought in foreigners, new opportunities, and new dynamics to the traditional courtyard structures (Hu, 1990). Especially in the colonial areas in the opened cities, traditional residential houses were developed to satisfy new needs; i.e., foreign residential houses were brought in and adapted to fit in the local context (Wang J., 2008, p. 72). In addition to the forced opening of the cities, during the period of 1896 to 1905, Russia and Japan obtained the right from Chinese government to build railroads in the surrounding residential and commercial areas. Shenyang was one of the rising cities because of the railroads that passed nearby and connected it to other cities such as Dalian and Changchun. After 1895, the development of most cities in northeast China was about the construction and operation of the railroad and its subsidiary enterprises such as management of the Dalian Port and Fushun Coal Mine. From that point to the present day, heavy industry is still an important pillar of Shenyang’s economy (Wang B., 1994).

\(^4\) The Opium Wars, also known as the Anglo-Chinese Wars, comprised the First Opium War (1839–1842) and the Second Opium War (1856–1860). In 1839, Lin Zexu led the army and civilians of Guangzhou against the smuggling of opium into China by the British. In the next year, the British government responded by sending expeditionary forces from India, which ravaged the Chinese coast and dictated the terms of settlement. The wars ended when China signed a series of treaties.

\(^5\) A semi-feudal society represents the development of what had once been an entirely feudal society. Although, formally, such societies are still governed by feudal power and natural economy—some peasants were working for landlords but some peasants also worked only to a self-sustain or make a small, medium, or even large profit by selling goods—they are gradually becoming modern such that capitalism is becoming a growing feature. A semi-colonial society represents the development of what had once been an entirely colonial society. The term refers to independent countries that have their own government in a formal sense, but their polity, economy and other sectors remain under the control of a colonial power. After the Opium Wars, the Britain, France, Tsarist Russia, Germany, the US, and Japan all established colonial rights in China. For more information, see Sheng Hu, *From the Opium War to May 4th Movement*, 1990, Red Flag Publishing House.
During the period of 1840 to 1949, modern urban housing, relative to the definition of traditional urban courtyard housing, gradually emerged. The life style, construction system, and housing form that had endured for thousands of years changed. The single-floor, single-family detached houses built around a central courtyard evolved into low-rise, concentrated row-houses and individual houses. The next section discusses the influences exerted on the style of northern Chinese housing from abroad, which refers to the influence of Japan (itself subject to styles and trends from Europe and the United States, which will be discussed in detail in Section 2.3.2.1.) and how Chinese people adapted to their new living environment.

2.3.2. The Evolution of Housing in Northern China: Manchurian Railroad Community Residences and Shenyang Mantie Residences

The Manchurian Railroad Residences, known as “Mantie residences,” are characteristic of Shenyang’s modern residential buildings (Bao & Shen, 1998). These residences, which were planned and designed mainly by Japanese architects, formed a large community that took up a large area next to the old city center of Shenyang and eventually came to constitute another important center in the city. As I will discuss in detail later in this section, Japan had been exposed to European and U.S. architecture: almost all the planning theories developed in these countries had been introduced to Japan during 1930s (Li & Guo, 2003, p. 46). As Mantie residences were constructed in China, new ideas and concepts from Europe and the United States were brought in (Wang, 2008, p. 72). Those houses constituted the beginning of the development of modern residences in Shenyang.

From 1906 to 1945, the end of the War of Resistance against Japan, the Japanese Southern Manchurian Railroad Association built residences for employees

---

6 Shenyang Mantie Residences are also called “Fengtian Mantie Residences,” because “Fengtian” is the old name for today’s Shenyang. In this thesis, I use “Shenyang Mantie Residences” exclusively.
in the attached land of Southern Manchurian Railroad. These residences were known as the “Manchurian Railroad” community and “Mantie”, names that are still used today (Bao & Shen, 1998, p. 114). The attached land of Southern Manchurian Railroad in Shenyang was built next to the old city and was an important factor in the development of the old closed city into a modern open one. The structure of the old city changed and the lands of the former city walls now led to the attached land. During this period, both the new area and the old area of Shenyang developed such that Shenyang came to have two centers (Fig. 2.4). Shenyang was leading the way to a new development period by the railway construction.

Figure 2.4 Fengtian (Shenyang) urban layout. Source: Wu, 1996.

The first Mantie residences for employees were rebuilt houses, which the Japanese government had originally taken from Russia. Most of these houses had been residences of employees of the Mid-East Railroad Company, a concern under the control of the Russian government. However, it was impossible for Mantie to provide all its employees with houses rebuilt using old ones from Russia. Mantie, therefore, started to both build its own residences for employees and to rent residences from private real estate companies to house its employees (Yasuhiko, 2000). However, Mantie also started to commission such companies to build more residences for its employees. Shenyang’s Mantie employee residences are representative of this latter type of housing, which exists throughout the northeast of China. Although
Mantie referred to these residences as “substitute employee residences,” they were not temporary. And, in terms of scale and quality, they were on a par with the rebuilt Russian residences (Association S. M., 1919, p. 140). In fact, the ratio of Mantie residences built by private companies to the total Mantie residence construction kept increasing after the head office had been moved from Tokyo to Dalian (Table 2.2). Certainly, Mantie would not have been able to achieve its goal of providing each employee with a dwelling without these residences. These were so important that in the following years, Mantie began to design its own substitute residences instead of relying on private real estate companies for this function (Yasuhiko, 2000, p. 89). The residences that remain standing from this period have become one of the characteristics of Shenyang’s modern residential configuration. The planning, group building style, and spatial design of the community unit make the Mantie community a unique residential type (Bao & Shen, 1998).

<table>
<thead>
<tr>
<th>Year</th>
<th>Households in residences built by Manchurian Railroad Association</th>
<th>Households in residences built by private companies</th>
<th>Total households</th>
<th>Percentage of households in residences built by private companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1907</td>
<td>1446</td>
<td></td>
<td>1446</td>
<td></td>
</tr>
<tr>
<td>1917</td>
<td>8775</td>
<td>1280</td>
<td>10055</td>
<td>12.7%</td>
</tr>
<tr>
<td>1927</td>
<td>11323</td>
<td>3062</td>
<td>14385</td>
<td>21.3%</td>
</tr>
<tr>
<td>1937</td>
<td>12645</td>
<td>5654</td>
<td>18229</td>
<td>30.9%</td>
</tr>
</tbody>
</table>

Table 2.2 Changes of Mantie Residence Households

Source: Author’s drawing based on A Ten-year History of the South Manchurian Railroad Association and the Third Ten-year History of South Manchurian Railroad Association, 1919.

7 The number of Mantie employees increased on a yearly basis, which increased the need for employee housing. Not only did Mantie build some of these residences, it also invited private companies to build residences using its own plans and designs. The company adopted a policy of using substitute employee residences in 1911 (Yasuhiko, 2000).
2.3.2.1. Planning and Housing

Influenced by modern architectural concepts used in the US during the 1930s, the concept of the neighborhood unit and the ideas underpinning the Wright Style were brought into the design of planning and housing for Mantie residences (Bao & Shen, 1998, p. 115 & 117). Thus, the Mantie residences constitute an important feature of and promoted the development of Shenyang’s modern residential buildings.

Idea of community planning

The Mantie residential area lies to the south of the railroad attached land, between 3rd South Street and 10th South Street, adjacent to Zhenxing Street and Shayang Road in the east and Shengli Street in the west. The total area is 400 hectares. In terms of residential structures, the area in which the Mantie residences were situated was diverse in nature. The east neighborhood was a commercial area, the west was the Railway Street, the south was the man-made dyke-dam of the Hun River, and the north was Chiyoda Park (today’s Zhongshan Park), the largest park in Shenyang during that time (Bao & Shen, 1998, p. 115). The community also had a convenient traffic connection with west Santiaotong (today’s Taiyuan Street) in the north.

By the 1930s, almost all the early modern urban-planning theories from Europe and the United States had been transmitted to Japan (Li & Guo, 2003, p. 46). Given the influence of early functionalism from Europe and the United States, the new urban area planned by the Japanese was separated according to distinct functions, such as residential areas, commercial areas, industrial areas, and parks (Li & Guo, 2003, p. 45). And, in the years up to 1945, in cities in northeast China, Japanese planners continued to draw on urban-planning theories from Europe and the United States (Li & Guo, 2003, p. 46; Luo, Bao, & Shen, 2009, p. 52).
The neighborhood unit constituted the principal theory applied to the planning of residential areas (Li & Guo, 2003, p. 46; Luo, Bao, & Shen, 2009, p. 53). In 1929, the American planner and sociologist Clarence Arthur Perry (1998 Reprinted) proposed the concept of the neighborhood unit for residential development in metropolitan areas. He established a framework for urban planners to design self-contained, functional, and desirable neighborhoods in industrializing cities (Banerjee & Baer, 1984). These ideas were represented through Japanese architects’ plans for Manchurian residences based on those from Europe and the United States, as stated. Perry’s neighborhood unit concept and the planning concept ("Микрорайон") that China had brought in from the Soviet Union in the 1950s have the same main principles (Zeng, 2006, p. 147), and I will discuss these in detail in the next section. Both influenced the design of new residential communities in China.

It can be seen that the planning of the Mantie residences used the neighborhood unit, which was a very new concept at that time: Areas with distinct functions composed of neighborhood units were bounded by roads, and at the center of the units were primary schools, and commercial service facilities necessary for daily life were set up along the roads of boundary. Roads inside the neighborhood units were no wider than 8 meters, and green space was added on each side of the road. In the west side of the residential area, a circular community center—Takachino Plaza (today’s Xinhua Plaza)—was set up at the intersection point of several main roads. A central green area and several public buildings, such as a post office, a mall and a police station, were placed around the plaza (Fig. 2.5). Each residential house in the unit had its own yard and residents were afforded sufficient sunlight and ventilation (Fig. 2.6) (Bao & Shen, 1998).
Figure 2.5 Fengtian (Shenyang) Railway Station and planning of residences.

Source: http://blog.163.com/huzhiwenlxh@yeah/blog/static/12383730020109137942115/

Figure 2.6 Left: Shenyang Mantie Garden Housing. Photograph at Nanba Road. Song, 2007, p. 49.

Figure 2.7 Left in figure: Mantie railway station and residence area. Right in figure: original center of Shenyang city. Source: Author’s drawing based on Google Earth, Shenyang, China. Edited on Nov. 15th, 2011.

By analyzing the planning, we can see that the neighborhood unit concept had a significant impact on the original urban space structure of Shenyang (Fig. 2.7).
Urban planning in China, as represented by Shenyang, during this period was entirely different from the urban planning of ancient times. The planning of the modern period represents the influences of Europe, the United States, and Japan.

*Features of buildings*

The planning of residences in the attached land of Northeast Mantie made full use of the modern U.S. concepts characteristic of 1930s architecture and planning. In addition to the neighborhood unit concept in the planning of Mantie residences, the Wright Style had been adapted in the building design, which gave the residential area itself a unique identity.

*A unique community—the “Wright Style”*

Around 1900, Frank Lloyd Wright designed a series of Prairie Housing which emphasized the connection between building and nature. In 1919, Wright designed the Imperial Hotel in Tokyo, and then followed up with a series of related architectural designs. Many young Japanese architects served as Wright’s assistants and became instrumental in disseminating his ideas (Yang, 1998, p. 159). When the Manchurian Railroad Association started to build its own employee residences, young architects were invited to participate in the design. Opportunities were given to these architects to practice the new concepts they had learned (Luo, Bao, & Shen, 2009, p. 52), through which Wright’s ideas spread throughout both Japan and China (Wang, 1994, p. 21). The morphology of Mantie residences similarly emphasized Wright’s Prairie House characteristic of extension from interior space to outer space. Each house had pitched roofs reaching out of the eaves and roofs of the house were in different heights. Wright’s style was evident in the horizontal dados, balconies, and window casings (Fig. 2.8) (Song, 2007, p. 50).
The Mantie residences, however, did not copy Wright’s Prairie House in its entirety. Designed in a different culture and situation, and influenced by a different style of living, the Mantie residences differed in important ways from residences designed by Wright, especially in regard to the denser interior space (Fig. 2.9, Fig. 2.10).

Figure 2. 8 Facades of Mantie residences. Left: #27 Minzhu Road. Right: #1 Xinhua Road. Source: Bao, 1998.


Figure 2. 10 Plan of Mantie residence (A+) Source: Bao, 1998, P.123.
In regard to the interior space, there were two types of houses among Japan’s residences: Washitsu (the Tatami house) and Youshitsu (the foreign house) (Zhang & Zhang, 1998). In the late 19th century Japan had opened up for the purpose of trading, and the government sent students and architects to Europe to study. And, in this way, European (British, German, etc.) residential styles found their way to Japan. The traditional style of sitting on the floor gave way to the practice of using chairs (Cai & Zhang, 2003). This kind of new, European-style house was called “Youshitsu” during that time. “You” means “Western” in Japanese, which is defined as places other than the East (i.e., Japan and China). Mantie residences created a mixed living style by bringing European style into traditional Japanese space.

Compared with the strong sense of closure from the outside, the inner space is open and floating. The internal dividing walls were thin and made of laths with a thickness of 180 to 120 mm. Most of the doors in these houses were large, lattice, sliding doors, which could be pushed up or down to create more or fewer rooms, one large permeable space with rooms connected to each other.

One space could be used for various functions such that the inner space had maximum utility. For example, a bedroom, dining room, or study room could be used as a living room. This functionality connects with the Japanese practice of sitting on the ground. And, the Genkan (vestibule) in the entrance space was set up in accord with the Japanese style of living inasmuch as it provides a place for people to take off their shoes upon entering the house. The Genkan connects the inner and outer spaces, with an area of 5 to 6 m² and approximately 200 mm lower than the inner ground (but higher than the outer ground) (Luo, Ren, Cui, & Yang, 1998, p. 126). Two layers of doors were set up for indoor and outdoor respectively and formed a transitive space.

---

8 Washitsu is a traditional kind of Japanese house. The space in Washitsu is lower than the space in U.S. houses. The surrounding interfaces are usually built as sliding doors or windows with large area, to make the rooms feel light and airy.
between the inside and outside spaces. This system of two doors also stopped the wind, sand, and cold from invading the inside space.

Overall, both Japanese tradition and modern architectural concepts created a simple and functional form. And, this form would be important for the modern residential developments in the northeast area of China.

2.3.2.2. Evolution—Changes made by households and fading away in the city

After 1945, these Mantie residences were taken by Chinese citizens (Luo, Ren, Cui, & Yang, 1998). Luo et al. (1998) point out that there was surely a conflict between the Chinese style of living and the Japanese one. These old, historical houses were changed and partly rebuilt by the subsequent residents in keeping with their own lifestyles, and so such houses to a great extent faded away in the burgeoning city.

Typically, the Chinese people and the Japanese people differ in regard to their perceptions of “connecting with nature,” which is expressed in the definition of the openness and closure of a space (Luo, Ren, Cui, & Yang, 1998). Differences can be show by comparing the traditional northeast courtyard house with the Mantie house, the latter of which had its own individual garden. As an individual courtyard, the cortile was at the center of Chinese residents’ daily lives. Many activities, such as trimming vegetable for cooking and needle work, occurred in the yard or in the roofed porch that faced the yard. These two kinds of spaces accommodated most of people’s daily lives (Zhang N., 1985). In contrast, in the Japanese residences, the garden surrounded the individual house, in which most of the activities of daily life took place. Mantie residences had neither an enclosed central cortile nor a roofed porch; therefore, activities that had one taken place outside moved into the house, and the connection between and concepts of public and private spaces changed accordingly.
The Chinese yard was enclosed by high walls. The bounding wall in Japanese residences were always 1.5 meters high—approximately the height of an adult’s shoulder—such that the view from either side of the wall was not obstructed (Song, 2007). This kind of yard is semi-open, quite the opposite of the closure between the inside and outside characteristic of Chinese residences. The Chinese residences separated each inner space with heavy, thick, and unmovable brick walls. In Japanese residences, the thin barriers and sliding doors used for enclosure were considered useless for affording privacy. The differences in the living styles of the two cultures were undoubtedly responsible for these changes. After the Chinese residents moved in, they reconstructed parts of these houses to suit their own ideas regarding private and public space (Luo, Ren, Cui, & Yang, 1998).

The yard was rebuilt to enhance closure (Fig. 2.11). Most of the new households made the bounding walls higher in order to gain more privacy: wood boards were placed on the pierced iron gate to block the view from passersby and rails of balconies were made higher to ensure that the windows of the second floor could not be seen from outside (Song, 2007, p. 69). The bottoms of the external windows were painted also for reasons of privacy because the original window sills were only 500 mm high, which matched the Japanese bended knees living style but was not private enough for a Chinese bedroom (Luo, Ren, Cui, & Yang, 1998, p. 128). Later on, plastic films were attached to the windows instead of painting to enhance privacy, and they were also efficient for stopping the wind in winter (Fig. 2.12). The two entrances of the original house were reduced to one, for the sake of safety, insulation, and the efficiency of the inner space utility (Luo, Ren, Cui, & Yang, 1998, p. 129). Only one entrance door was kept, while the other was closed to become part of the wall or reconstructed as a window (Fig. 2.13).
The inner spaces were also changed by the new households. The number of doors connecting the rooms was reduced (Fig. 2.14) (Song, 2007, p. 70). The thin barriers and sliding doors were replaced by thick walls and side-hung doors, which gave each room a specific function. The closet that had been designed for storing
blankets was dismantled in order to gain a larger space, as it was the Chinese practice, unlike the Japanese practice, to leave blankets on the bed during the day.

![Figure 2.14](image.png)

*Figure 2.14* Original doors (in the circle) were reduced. Source: Song, 2007, p.70.

These residences began to disappear after 1949, by now few of them are in existence throughout the country’s economic growth. In fact, at present, new construction sites are needed for a large number of new residential developments, and Mantie residences are being torn down as they are now considered to be an obstruction (Song, 2007). On the other hand, some Mantie households are being misused. Because of the absence of management, the houses have grown shabby. What had originally been gardens, surrounded by walls made higher by cheap plastic boards, have a new use: storage space for scrap and junk. And garbage is proliferating around the bounding walls. Even some of the bedrooms look directly out onto the garbage. The charm of these places is long gone. They are ugly, depressing places in which to live.

The ever-worsening condition of the Mantie residences and the general environment surrounding them mean that the residents are more than happy to move to other communities. These residences are also left behind by the city because they cannot meet the practical needs, such as requirements of sanitation and convenient
physical environments, of the development of the modern society. At present, it is hard to see Mantie housing in Shenyang. These residences, which used to be gorgeous, now are fading away in the city.

2.4. Mid-20th Century Chinese Residential Housing (1949–1978)

2.4.1. Introduction

On October 1, 1949, Mao Zedong founded the People’s Republic of China (PRC) based on socialist ideals seeking to put an end to the class-based structure of society and pushing toward an agricultural society. During the 30 years following the establishment of the PRC, public-owned residences under the socialist-planned economy system became the mainstay of urban housing. Priority was given to heavy industry by the directive that production comes first and livelihood comes second, thus national investment in the construction of urban housing, which was considered as a non-productive component in the accumulation of capital, was limited (China, 1984) (Table 2.3).

Table 2.3 Trends of Investment in Capital Construction and Non-productive and Residential Construction. Source: China Statistics Year Book, 1984. Table is from Lu, 2001, p.113.
From 1949 to 1952, the newly founded PRC experienced a period of economic recovery. The new country was facing a series of challenges—the most fundamental of which was that of meeting the people’s basic daily needs. In 1953, therefore, China began its “First Five-Year Plan” with the assistance of the Soviet Union. During this period, a highly centralized planned economy system was established, which prioritized industrial and agricultural development, especially heavy industry over people’s living environment (Daily, 2008). As housing was essentially considered to be non-productive, residences were built to meet only the most basic living requirements. And, given a growing population and limited land, people had no choice but to live residences that were highly concentrated. There was a huge problem of residential housing shortage.

2.4.2. Soviet-Type Units

After World War II, the newly founded PRC had a close cooperative relationship with the Soviet Union on political, cultural, economic, and military matters. The new China was influenced by the ideology of the Soviet Union and held close to the Five-Year Plan borrowed from the Soviet Union as stated earlier. In addition to ideas and concepts, the Soviet Union also provided China with technology, equipment, and personnel for a series of projects. The influence of the Soviet Union on the planning and design of China’s urban housing is evident.

At the First and Second Construction and Architectural Conferences of the Soviet Communist Party, China established an industrialized housing policy (Lu, 9

---

9 In August 1952, the Financial and Economic Commission of the Central Party Committee issued “Construction Tasks during the Five Years and Attached Charts.” With respect to industrial construction during the First Five-Year Plan period, “priority was to be given to heavy industry, and … light industry was to be subordinate. In heavy industry, emphasis would be placed on such industries as steel, iron, coal, electricity, petroleum, machine building, military industry, non-ferrous metals and fundamental chemistry. Emphasis in light industry construction would be on textiles, paper-making and pharmaceuticals” (Daily, 2008). Other sectors might develop according to actual needs and consideration of whatever personnel or physical resources were available, but only on the condition that such development did not hinder the development of heavy industry.
Rowe, & Zhang, 2001). Industrialized buildings have several advantages: they can be constructed quickly and inexpensively and they save on labor. They rely on design standardization, systematic construction, and mass production of components. The First Five-Year Plan brought industrialized housing to China and with it a possible solution to the residential housing shortage as mentioned earlier. Thus, this kind of standardized design began to emerge as an important concept in China’s urban housing vocabulary (Min, 1955).

In 1952, the northeast of China became the first area of the country to adopt the standard design with the assistance of Soviet experts. The Ministry of Urban Construction oversaw this design in the construction of housing, and six areas were involved at first: the North, the Northeast, the Northwest, the Southwest, the Southeast, and Central China (Lu, Rowe, & Zhang, 2001, p. 125). Brick and concrete constituted the basic building materials for the standard apartment buildings that were assembled as standard units. Design elements taken directly from the Soviet model were given as references such as the building type, its structure, its water supply, drainage, heating, and lighting (Zhou J. , 1985, p. 348).

As China took its cue from the Soviet Union in borrowing that country’s housing form, the different cultures, expectations, and land use of the two countries were largely overlooked. The Soviet-style housing was summed up by the phrase “rational design, irrational use” as different standards for the floor space required per person prevailed between the two countries. The Soviet standard was nine square meters of floor space per person, whereas the Chinese standard was four square meters of floor space per person (Table 2.4) (China Statistics Yearbook, 1984, qtd. In Lu, Rowe, & Zhang, 2001, p. 22). And the Soviet standard called for housing units with three or four rooms, compared with the Chinese idea of one or two during that
time. Thus one unit of Soviet-type housing was normally shared by more than one family.

### Table 2.4

<table>
<thead>
<tr>
<th>Year</th>
<th>Completed Housing Construction (100 million square meters)</th>
<th>The Average Living Space Per Capita in Urban Areas (square meters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>0.5</td>
<td>3.5</td>
</tr>
<tr>
<td>1981</td>
<td>0.5</td>
<td>3.5</td>
</tr>
<tr>
<td>1982</td>
<td>0.5</td>
<td>3.5</td>
</tr>
<tr>
<td>1983</td>
<td>0.5</td>
<td>3.5</td>
</tr>
<tr>
<td>1984</td>
<td>0.5</td>
<td>3.5</td>
</tr>
<tr>
<td>1985</td>
<td>0.5</td>
<td>3.5</td>
</tr>
<tr>
<td>1986</td>
<td>0.5</td>
<td>3.5</td>
</tr>
<tr>
<td>1987</td>
<td>0.5</td>
<td>3.5</td>
</tr>
<tr>
<td>1988</td>
<td>0.5</td>
<td>3.5</td>
</tr>
<tr>
<td>1989</td>
<td>0.5</td>
<td>3.5</td>
</tr>
<tr>
<td>1990</td>
<td>0.5</td>
<td>3.5</td>
</tr>
<tr>
<td>1991</td>
<td>0.5</td>
<td>3.5</td>
</tr>
<tr>
<td>1992</td>
<td>0.5</td>
<td>3.5</td>
</tr>
<tr>
<td>1993</td>
<td>0.5</td>
<td>3.5</td>
</tr>
<tr>
<td>1994</td>
<td>0.5</td>
<td>3.5</td>
</tr>
<tr>
<td>1995</td>
<td>0.5</td>
<td>3.5</td>
</tr>
<tr>
<td>1996</td>
<td>0.5</td>
<td>3.5</td>
</tr>
<tr>
<td>1997</td>
<td>0.5</td>
<td>3.5</td>
</tr>
<tr>
<td>1998</td>
<td>0.5</td>
<td>3.5</td>
</tr>
<tr>
<td>1999</td>
<td>0.5</td>
<td>3.5</td>
</tr>
<tr>
<td>2000</td>
<td>0.5</td>
<td>3.5</td>
</tr>
</tbody>
</table>

**Table 2.4 Completed Housing Construction and the Average Living Space Per Capita in Urban Areas.**


The Soviet housing unit also influenced the layout of China’s neighborhoods and “was most strongly represented by the appearance of perimeter block neighborhoods” (Lu, Rowe, & Zhang, 2001, p. 123). This type of residential area can usually be found in European cities that often have a distinct axis with houses built along the streets. Buildings in a Soviet type neighborhood in China faced either north to south or east to west, and common buildings were located in the center of the neighborhood, which expressed a strong sense of formalism and order (Fig. 2.15) (Lu, Rowe, & Zhang, 2001, p. 129). However, this arrangement was far from ideal: there was both insufficient sunlight and insufficient ventilation, and there was no protection against the noise from the streets.
“The Worker’s Village” is a huge residential area for workers in the south of Shenyang, which was planned in the Soviet style and is quite similar to the formerly mentioned neighborhood of Changchun as shown in Figure 2.15 (Fig. 2.16).
2.4.3. *Influence of the “Great Leap Forward” and the Cultural Revolution*

The following chronology gives a brief overview of several important movements in recent Chinese history: the First Five-Year Plan, the Great Leap Forward, and the Cultural Revolution. These movements not only brought swift changes to Chinese society, but they also brought different trends to the development of China’s urban housing.

During the period of 1953–1956, as noted earlier, the First Five-Year Plan was in progress, and its focus was effecting on industrial growth and attempting to balance that growth in the interior and coastal regions. Cities of all sizes countrywide, even those in mining areas, constructed multi-story concentrated residences based on the standardized housing concept (Lu, Rowe, & Zhang, 2001, p. 105).

Beginning in the year 1958, the “Great Leap Forward” was implemented. Its emphasis was rapid growth through industrial and agricultural production leading to a radical reorganization of people, communities, and their overall style of living. However, the failure of this program led to famine, the deterioration of industry, and the exhaustion of the people (Dikötter, 2012, p. 333). There was a sharp decline in non-productive accumulation (i.e., the making of assets such as housing that compared to assets associated with heavy industry are not productive, that do not themselves produce anything) during the years of 1958 to 1960, when the non-productive accumulation was minimal (Table 2.5). In the context of the First Five-Year plan, housing construction was considered non-productive. Therefore, it was given a lower priority productive accumulation, e.g., industrial and agricultural production. Given these priorities, it is not surprising that there was insufficient
housing for the population during this period, nor is it surprising that living conditions were poor (Lu, Rowe, & Zhang, 2001, p. 141).

Table 2.5 Changed in the Rate of Accumulation and Nonproductive Accumulation. Note: During period 1985-1960, there was a sharp decline of nonproductive accumulation. Source: China Statistics Yearbook, 1984.

Next came the Cultural Revolution (1966–1976), which brought with it a restructuring of Chinese government as the government purged itself of anyone perceived as holding right-wing or capitalist views and likewise of those considered to be bourgeois. The initial purging, which took place first at the level of personnel in government, became a widespread campaign spread whereby anything thought to be old or not in line with socialist ideals was almost systematically eliminated (Jin, 1996). Certainly, urban construction during this time became stagnant because urban housing development was of little concern to those in power, i.e., the ultra-left with a singular focus on the economy (Lu, Rowe, & Zhang, 2001, p. 170). In the early 1970s, however, the Central Committee began to adjust its approach to national economic development. Premier Zhou Enlai slowly implemented economic reconstruction policies and economic development and began to call for the modernization of
industry, national defense, science, and technology. Those events have active effect on the urban housing production in China.

2.5. Housing development after China adopted Reform and Opening-up Policies (1979–present)

Deng\textsuperscript{10} outlined his plan emphasizing enterprise, openness, and the opening up of cities at the Third Plenum of the Eleventh Central Committee of the CCP. The Reform and Opening-up Policy called for initiatives to increase foreign trade and investment and to promote economic development (Long, 2010). And, in the 1980s, China rejoined the International Monetary Fund and the World Bank. Special Economic Zones were set up in the south of the country in order to accelerate economic development and these zones were deregulated to be such as export processing zones, free ports, and free trade zones (XinhuaNet, 2012). And since then, developer-driven housing emerged and gradually spread throughout the whole of China.

In the early period of the People’s Republic, the economy was weak and commodities were scarce. The Communist government continued with the free or semi-free system of supply that had been in place before it had come to power. Under this system, consumer goods were divided into various categories, such as food and daily necessities, and provided to all government officials and city residents. The purpose of this policy was to guarantee the supply of the most basic consumer goods, and housing was among the items provided. The work union housing, which were provided by the government or employers, however, were not well-designed and met only the most basic of human needs. This type of housing was built with the help of

\textsuperscript{10} Deng, Xiaoping was a politician and reformist leader of the Communist Party of China who, after Mao's death led his country towards a market economy.
advisers from the Soviet Union. This kind of Soviet Style (as discussed earlier in this chapter) survived for many years as a popular house style in the north of China, and it also influenced housing design in the following years—housing built as late as the 1980s in Shenyang still evince the influence of the Soviet Style (Fig. 2.17).

Figure 2.17 These houses were considered modern when they were built in 1980s, when Shenyang was in the exploring stage of new housing. And they are still a little bit like the Soviet type housing we built. Now they are considered old-style today. Most of the new couples who are buying their new houses will not consider a house like this (If they can afford what they want). In fact these houses are less than 30 years; some of them are less than 20 years. All of them are built after China has adopted the Reform and Opening-up policies. Source: http://www.daqi.com/article/2839635_3.html

During the 20-year period following China’s adoption of the Reform and Opening-up Policy (1978), the country experienced swift economic development. A central effect of this policy was that the housing market gradually became integrated into the free economy. Instead of being managed and controlled by the government through such means as employer-provided and government-provided apartments, the market for housing became the purview of developers operating outside government control. Seen as having great potential for growth, the real estate market has boomed since the State Council abolished the welfare housing system. During the last decade of the 20th century, China turned housing consumption into an economic growth engine. Urban housing in China now takes many different forms. Different classes of
people and their diverse demands mean that urban housing must come in various forms in order to meet the needs of market. However, at the present time, concentrated multi-story residences are still a mainstay of urban housing (Wang J., 2008) (Fig. 2.18, Fig. 2.19).

Figure 2. 18 Suburban of Shenyang, 1983. Several new buildings are springing up. As these buildings are increasing, old Shenyang is fading away. Source: http://s.dianping.com/topic/787335

Figure 2. 19 Although there is no shantytown anymore, the new built houses are not pretty. The city seems like has been covered by a grey veil. “Shacks” have advanced with the times to become the present “humble abode”. Local people in Shenyang could tell that this city is better right now – more buildings, more fresh air and cleaner street. Source: http://www.daqi.com/article/2839635_3.html
At the same time the developer-driven housing development process in Shenyang has been slower than that of the cities, such as Shenzhen, in the south of China, where the test zones—Special Economic Zones—were set up. And, although the Opening-up Policy made commodity housing available, most of the residents were unable to afford it. Therefore, they remained in the much cheaper housing provided by their employers. Thus, in Shenyang, housing gradually moved from being work union in nature to being developer-driven.

Up until the present day, a new extended family living pattern has gradually emerged: whereas people once relied on employers to provide housing, including factory dorms, most of them now buy their own apartments. According to the results of a 2011 survey of families in Chinese cities published by HorizonKey Research Consulting (HorizonKey, 2011), urban residents would prefer that parents and their grown up children live close to each other rather than in the same quarters. This is the case in northern cities such as Shenyang (where the author conducted the research published herein), Dalian and Jinan.

In today’s Shenyang, it is hard to find those traditional courtyard houses. Most have been torn down to make away for new housing. Some old multi-story residential buildings can be found, but these are being revamped or demolished so that new neighborhoods can be built. Neighborhoods built only 30 years ago are already considered old ones such that preparations are under way to replace them.

2.6. Summary

Before 1949, design and planning concepts from Europe and the United States had been put into practice in colonial areas controlled by Japan. Then the Soviet-type
unit was adopted for residential design. Given China’s reliance on design and planning concepts from abroad, urban housing in Shenyang now bears little resemblance to the country’s traditional residences. At present, China is continuing its search for better residential housing. And, at the same time, the Chinese people are trying hard to adapt to the changing living environment. The next section presents a literature review of studies that theorize the relationships between living environment and people’s behavior and account for housing—gated communities—in China after the adoption of the Reform and Opening-up Policy.
Chapter 3. How Spatial Configurations and a Sense of Belonging Are Related

3.1. Introduction

The word “community” as used in this study is translated from the Chinese word *she-qu* or *xiao-qu*, which refers to geographical and territorial notion. This term is starting to have a limited modern use, as it is hard to find a community in China that is not gated, which resulted from the developer-driven housing that began when China adopted the Reform and Opening-up Policy in 1978. Designed to be private and safe for the people living in them and inaccessible to others, gated communities are defined by a physical design wherein security is facilitated by the presence of only one or two entry points each watched over by a doorman or a guard. Such communities have come in for considerable criticism in China in particular because they are often constructed on a large scale (Fu, 2005; Sun, 2007). The large scale is expected to lead to problems similar to those experienced in Western countries, wherein the breaking up of urban space has isolated people from a city’s social life. Research about gated communities in China has been influenced greatly by the Western literature, as the latter constitutes a broad and diverse body of knowledge. However, even so, Western studies only relate to the Chinese situation in limited ways if at all. Chinese scholars also point out that there are differences between Chinese examples and Western examples, which will be discussed in more detail later in this chapter: unlike the West, where such communities are a phenomenon associated with higher socioeconomic status, in China people from all social classes live in communities designed in this way. In fact, these ubiquitous communities now form the residential areas in center of every city, and the higher urban density in China as compared to the West means that the physical distance between the
communities in the Chinese context are much shorter than they are in the West. Therefore, in this context, theories pertaining to how a sense of community (sense of belonging) and the physical environment (spatial configurations) are related have been studied in this chapter.

3.2. Studies on Community in Present-Day China: Gated Communities

That gated communities abound in China is in one way in keeping with Chinese culture inasmuch as communities have traditionally had a sort of “gated” aspect to them. That is, walls were traditionally built around people’s home (please see Chapter 2 for a discussion of how the Chinese adapted the Japanese Manchurian Railroad homes by putting walls around them and boarding up the windows for the sake of privacy). In this chapter, a detailed discussion of the some of the many studies on gated communities in Western countries is offered. Likewise, a detailed discussion of studies conducted by scholars in the Chinese context—some of whom have been influenced by western scholars—is also presented. Most of studies of gated community are in the realm of sociology and management as well as operation of owner’s committee (Foldvary, 1994; McKenzie, 1994; Deng, 2003 (2); Zeng, 2002). The rest offer research from the standpoint of urban planning in order to analyze the gated community’s impact on the city.

It is commonly believed that gated communities help reduce crime and that they also isolate people from vibrant city life—at least in the Western context. However, few studies have concluded that gated communities effectively decrease crime rates in the areas that were gated in the Western context. Examples of research studies that do draw such a conclusion, however, include Atlas and Leblanc (1994) in a study of Miami, FL, and Foeler and Mangione (1986) in a study of Hartford, CT.
Most of the research studies published to date, though, show that gated communities do not truly reduce the crime rate (Ft Lauderdale Police Department, 1990; Helsley & Strange, 1998; Low, 2001; Marcuse, 1997). But, the safety precautions that are characteristic of gated communities, such as gates, barriers, walls, and guards who control access, still provide residents with a feeling of safety. Overall, the Chinese, like the U.S. population, tend to consider gated communities to be safe. When Zhang (2008) conducted an interview with a resident in a community that had been enclosed by walls, he found that although this had been a government decision the residents had supported it. The resident stated that

“Now that the walls have been built, it is not as convenient as before because we need to detour to the other side of the community to get in and out, so do the vehicles. The house numbers have remained the same as before and thus the postman could not find my home at first. But we are still glad that the walls were built, because we think, at least psychologically, that the community is much safer than it used to be.” (Zhang, 2008, p. 3)

For the second common belief, a belief that pertains to “isolation,” Newman pointed out that in the Western context, thousands of feet of street are removed from all forms of visual and social contact and that this results from “walling off a two- to ten-acre housing complex from the surrounding neighborhood” (Newman, 1972, p. 15). Not only do gated communities sacrifice a natural mechanism for providing safety to the streets, i.e., the general surveillance provided by people on the streets, but also the lives of those within the community become separated from the vibrant city. This walled-off phenomenon does have some bearing in China, as its gated communities have the same physical aspects as those in the West. But it is hard to say
whether the ramifications of the physical design are the same for China as for the West, as little research has been conducted in this area. In fact, there is no research to show that this is the case, and some Chinese scholars apply Newman’s point of view to China and have the same expectations whereas others offer a counterpoint argument.

In one of his early papers Miao (2004) argued that gated communities are like cancer in the city because they inflict great damage to the fabric of social life. According to Miao (2004), community—which he defined as a bounded residence with separate buildings and yards in it—will disappear in his problem-solving design proposal. Instead, a unit of defense will be a building cluster with only one or two entrances, rather than a whole community itself. For Song and Zhu (2009), gated communities in China will lead to the breaking up of urban spaces and the privatizing of common spaces. This will aggravate social isolation and social injustice. In Sun’s (2007) view, in addition to enclosing, the sticking point of the gated community’s problem, which is walling off a huge area from the city, is that they are over-sized and have improperly designed boundaries. Taking a similar view, Fu (2005) observed that a difficulty arises between choosing a closing or an opening: he proposes to resolve this in terms of “small closing and big opening”, which ensures residents’ safety and privacy as well as reduces the negative influence of a huge wall-off area to the city.

On the whole, the research on gated communities in China shows a strong Western influence. But scholars have also realized that the term gated community has different connotations in China than it does in the West. For Foucault, the Western vision of

\[\text{11 Song and Zhu (2009) define “privatization of common spaces” by referring to the work of Western scholars, among whom the notion of gated communities is widely held to mean that rules inside the community exist and are observed by community members, that the space is presented as separate from the surroundings by physical barriers such as fences and gates, and that they use an entrance guard to exclude some groups that do not belong to the community. This kind of privatization means that these spaces have their own jurisdiction wherein the members use laws or rules to administer the community. It is in this way that “Privatopias” of specific groups are developed (Harvey, 2000).}\]
China sees the country enclosed by walls in a number of ways—psychologically, temporally, physically:

In our traditional imagery, the Chinese culture is the most meticulous, the most rigidly ordered, the one most deaf to temporal events, most attached to the pure delineation of space; we think of it as a civilization of dikes and dams beneath the eternal face of the sky; we see it, spread and frozen, over the entire surface of a continent surrounded by walls. (Foucault, 1970, p. Preface xix)

This is the China described by Foucault in *The Order of Things: An Archaeology of the Human Sciences*. To the eyes of foreigners, walls—their physical presence, defining, and enclosing qualities—stand for something essential in China. As introduced in Chapter 2 of the present study, it can be seen that Chinese urban housing has evolved through the courtyard house gave way to the work unit, which, in turn, gave way to the gated community. In Chinese residential history, various scales and types of enclosed living patterns have been tried and accepted by the nation’s people. Psychologically, this pattern is closely connected to privacy, to a sense of security, of comfort, and of belonging. Thus, it may be that the Chinese people tend to consider gated communities as representing traditional residential culture in contemporary Chinese society. Also, gated communities in China differ from those in the United States: in the U.S., as noted earlier, gated communities are the preserve of the upper classes, whereas in China people from all classes live in communities defined as gated—in fact, such communities are fast becoming the norm. It is, then, quite common for people to live in a community with walls and other security features such as guards, and residents are used to this type of housing. Thus, there is no
dispute in regard to the rights and wrongs of gated communities among the general populace. And, cities in China have a higher population density than do cities in the United States, and in China, too, the distances between communities are much shorter. This weakens the possibility that people will become isolated from the rest of city life if they live in gated communities (Deng, 2011, p. 5). Compared to the traditional courtyard house life-style, the gated community enhances the residents’ privacy by acting as a courtyard house, but on a larger scale: the buildings have become the rooms, and the element “wall” has enlarged to cover the whole community instead of just one courtyard. Residents now have a larger courtyard to share and more opportunities to get to know others. It is also argued that gated communities can provide residents with a semi-private transition space (Fu, 2005) from their quiet apartments to the noisy streets.

Another change that China is encountering in regard to community is that the people are moving from their old communities into relatively newer ones. It takes some time for new residents to adapt to new environments and during this process physical changes can be also found in the community. In a larger background, it has become well known that many traditional courtyard buildings were torn down to make way for the Beijing Olympic Games of 2008, and that the people who had occupied those buildings were literally forced to move into new “modern, Western-style” developments. There is evidently a culture and lifestyle conflict between the old courtyards and the new high-rise buildings. But in Shenyang, traditional housing such as the courtyard residences were torn down much earlier, such that most residents in this city did not have the experience of living in a courtyard house. As

12 If I think hard, I can recall that there was some yard housing when I was a very little child. I remember that my mother would always take me for a walk after dinner, and each time we would visit an old lady who lived in a one-story house with a tiny yard. At first, we did not know each other. But I liked her cat, who I followed into the yard, and so I mentioned this to her. The next day, I did the same.
discussed in Chapter 2 of the present study, city development in present-day Shenyang has no obvious traditional residential houses or lifestyles such as those expressed through the courtyards of Beijing. Nor does Shenyang have any particular conflicts between old and new. But the neighborhoods have changed, and they keep changing. Through public comments and studies in college it can be noticed that there is some concern about issues that pertain to cultural conflicts for the people who transfer from courtyards to high-rise buildings, such that some are highly critical of the latter. Yet, some people are happy to move into a new place because the new neighborhoods are perceived as better: i.e., they are newly constructed and have more amenities. 13 This perception is especially likely to hold when there is more effort to match the right people with the right environment.

Thus, my hypothesis is that residents are adapting to the current living environment by both adjusting their expectations and their lifestyles and by adapting and using the places in which they are they are living. A question this thesis sets out to answer is how residents find a sense of belonging in their current living environments.

3.3. Community and Sense of belonging: Overview and Definition

The term “community” is used in two realms. The first is the geographical and territorial notion of community: neighborhood, town, city. The second is “relational,” pertaining to the “quality or character of human relationships, without reference to location” (Gusfield, 1975). “Sense of community” in this thesis is concerned with

Soon, we had become friends. Many years later, that yard no longer exists. High-rise buildings are built on that site.

13 In a random interview conducted in a community that was about 30 years old, when asked the question “Would you like to move to a newer community which has better facilities?” most people said “yes.” They expressed that although they did not want to leave their neighbors and friends in the old community, they were very glad to move to a new place because the physical environment would be better.
both the territorial and the relational realms, which can also be understood as “sense of belonging” to a neighborhood. Further, the idea of the “gated community”—in which I conducted my own observations—and the word “community” both refer to a territorial definition: i.e., they both refer to a neighborhood.

The importance of conducting research into ideas associated with sense of belonging is discussed next. Ahlbrant and Cunningham (1979) considered a sense of belonging to be essential to a person’s commitment to a neighborhood and to having a sense of satisfaction with it. They found that residents who viewed their neighborhoods as a small community in the realm of city were more satisfied and committed to their neighborhoods compared to those who did not share this view. Predictably, residents who viewed their neighborhoods in this way also had a stronger sense of loyalty to their neighborhoods than to other areas of the city, and they tended to feel that their neighborhoods offered particular activities to its residents. These characteristics are the basis for the definition of “sense of belonging” as used in this thesis.

Scholars have pursued research in regard to the factors that can influence a sense of belonging. Kasarda and Janowitz (1974) identified the following factors as influencing community attachment: duration of residence, networks in the community, participation in community activities, degree of satisfaction, and socioeconomic status. And, Chinese scholars have obtained similar results in their own research. Shan (2006) concluded that six factors are referred to by scholars in discussions about what factors affect residents’ sense of community attachment: the residents’ socioeconomic status, duration of residence, interpersonal relationships in the community, extent of their participation in community activities, their degree of satisfaction with the community, and their perceptions of community development. Shan found that all these factors
have identifiable effects on the development of community attachment, though the last two factors have the most marked influence (Shan, 2006).

Qiu (1989) found that two factors relate particularly closely to residents’ sense of belonging in Hongkong (Sha Tin District) and Guangzhou (Zhuhai District), China: interpersonal relationships (or network) in the community and satisfaction with the community. Of these two factors, network is more influential in Guangzhou communities, whereas in regard to Hongkong the opposite holds. Qiu reasoned that compared with people in Hongkong the people in Guangzhou are more influenced by the traditional culture and attach more importance to gaining emotional satisfaction from communicating with family and friends. On the other hand, the Hong Kong residents are influenced more by Western individualism and have more isolated personal lives such that they give greater emphasis to the physical environment and facilities. However, the more satisfied Hongkong residents are with these, the stronger their sense of belonging (Qiu, 1989).

These two factors have also been considered influential by other scholars. According to Ahlbrant and Cunningham (1979), social fabric, defined as the “strengths of interpersonal relationships” measured on the basis of various types of interactions among neighbors, contributes to residents’ commitment to their neighborhood and their satisfaction with it (Ahlbrandt & Cunningham, 1979). And, the second factor, connection between residents’ community attachment and their satisfaction with the community is also considered important by scholars both in the West and in China. Christenson (1979) has argued that residents’ degree of satisfaction with the service facilities available suggests their quality of life, and he proposed using community attachment as a basis for evaluating this. Dong (1988) observed that residents develop a sense of belonging to the degree that a community
successfully facilitates a good person–environment fit whereby residents’ needs are met.

Among these factors, the residents’ interpersonal relationship with the community and their degree of satisfaction with the community can be fostered by appropriate space configuration designed by architects and planners. These are the principal factors that guide the rest of my review of the literature, since other factors are in the realm of operation of owner’s committee and personal status. The following section details the connection between space configuration (physical factors) and sense of belonging.

### 3.4. Physical factors related to sense of belonging

The literature on community indicates that several physical characteristics play a role in residents’ sense of belonging: subdivided spaces that reinforce residents in their ability to assume a territorial attitude (Newman, 1972; Ma, Hu, & Li, 2006), and common spaces to provide opportunities for residents to get to know each other (Gehl, 1987; Mcmillan & George, 1986; Liu & He, 2007).

#### 3.4.1. Layers of space and the capacity of the physical environment to create perceived zones of territorial influence.

The division of territory is seen as an important aspect that can closely affect the extent to which residents develop a sense of belonging, by providing a feeling of safety and self-identity—both of which affect residents’ satisfaction with the community (Ma, Hu, & Li, 2006, p. 17). Research in this area shows that explicit territory scope and boundary markers are essential to achieving effective communication and developing self-identity in the community (Nie & Song, 1997). The courtyard space, which is an aspect of Chinese architecture culture, has the
configuration of enclosed space and strong cohesion. It inculcates a strong sense of territory. Thus, the concept of the courtyard is the device used most often to improve communication in neighborhoods when living environments are designed in China.

Most influential research studies are about the territory of the traditional courtyard. These include Liangyong Wu’s “homo-courtyard” (Zhu, 2001, p. 156), and the living form called the “homo-linong”14 (Guan, 2000), represented in Wenyi Zhu’s “Greenfield and Linong” project (Zhu, 1997).

A similar theory regarding the separation of domains is given by Rapoport (1969), who refers to crowding as an aspect of territoriality. He observed that the work of ethnologists such as Calhoun, Christian, and Chombart de Lauwe suggests that no less than animals, humans are subject to stress when their personal space “bubble” is penetrated. Humans are better able to deal with such stress than, for instance, rats, as human defenses are more effective. That is, humans know how to deploy a defense system in the social realm, which is more constant than the physical one, although the strategies used vary according to culture (Rapoport, 1969, p. 81). In regard to Eastern cultures, which are both hierarchic and crowded, Rapoport noticed two devices apparently designed to relieve tension—the outward abreaction represented by the Japanese Inn (pothouse) and the introverted escape represented by the courtyard houses. The need is to get away yet remain in the familiar territory of the family or clan group—and the separation of domains achieves exactly that. In cultures with no overall hierarchy, courtyards are not in evidence (Rapoport, 1969, p. 81).

In Defensible Space (1972), Newman develops a theory about territory in which he considers residents’ need to defend their communities—a need that is

---

14 Linong—a living form in the southern part of China, which is similar to the “Hutong” form in Beijing.
closely related to a sense of attachment and belonging and is important in regard to creating a safe living environment. In his investigation into how to prevent crime through physical environment design, he first talks about subdividing spaces and adding transitions between public and private spaces in order to reinforce residents’ perception of territory and so support their sense of belonging. Therefore, they are willing to maintain their living environment and defend the whole community.

The single-family house set on its own piece of land apart from its neighbors is a conventional representation of “having arrived” in North American, British, and Australian culture. It is a symbol that relates to the social system and is deeply rooted in notions of proprietorship and belonging to the establishment. To many people, such housing expresses a sense of having reached maturity and of having gained a measure of success and power. Thus, the single-family house per force makes its own claim to territory (Newman, 1972, p. 51).

As denser and denser residential projects become the norm—such as townhouses, multi-floor walk-up flats and high-rise buildings—it becomes increasingly difficult for both inhabitants and outsiders to define territory. Newman’s examination of several better-functioning residential developments shows that through exterior site planning and interior building design, architects can take the opportunity to subdivide a high-density project so that inhabitants and outsiders alike will be able to determine which sections are influenced by which groups of occupants (Newman, 1972, p. 52). The residential project can be further hierarchically structured into “building clusters, and at the level of the apartment units, three or four apartments [can] share a commonly defined entry area” (Newman, 1972, p. 53). Newman found that such physical subdivisions encourage residents to become proprietary and to define their community against threats from outsiders.
Newman proposed several mechanisms: subdividing of housing developments to define the zones of influence of particular buildings in the site design, creating boundaries to define the hierarchy of increasingly private zones—from public street to private apartment, subdividing building interiors to define the zones of influence of clusters of apartment units, and incorporating amenities and facilities within defined zones of influence to meet occupants’ needs.

The notion of defensible space has come under criticism since Newman wrote this book. Many critics voiced the opinion that the primary and fatal flaw in Newman’s theory is that no reduction of crime can be seen in the proximity of these kinds of structures: according to Taylor et al. (1986), the theory’s surveillance aspect is based on the hypothesis that residents will police the area in which they live (Taylor & Gottfredson, 1986); in Murray’s (1983) view, Newman’s projects are not associated with any consistent reduction in crime. Yet, Murray (1983) does concede that Newman’s still showed evidence of a greater territorial sense and of more “neighboring” activity (Murray, 1983). It can be concluded that Newman’s theory has not had a significant effect on the criminological research area, but it has had an influence on the use of public spaces. That is why the territoriality and space hierarchy aspects of Newman’s theory apply to the concept of this thesis.

I perceive “layers of space” as different activity areas, which is a larger range and an extension of the previously discussed “division of territory.” Research in this area has found that various and clear divisions of territory contribute to the development of residents’ sense of belonging and to promoting interactions and affiliations among neighbors. On the other hand, when the outer common spaces in a community have the features of gradation and hierarchy, that is to say they have layers with various characters such as public, semi-public, semi-private, and private,
many kinds of communication among residents are more likely to take place than on other kinds of settings (Ma, Hu, & Li, 2006, p. 17).

Throughout history, China’s traditional living areas have always utilized space with a multi-layer pattern—such as avenue/main street, secondary street, lane, alley and Hutong—to gradually develop a living space system. This kind of living area is vibrant and full of human interest, and the relations among residents are usually harmonious. One example is Dazayuan, which can be translated as “compound occupied by several families”. It is the same house form as the traditional Chinese courtyard house. But instead of being occupied by one family, one courtyard house is occupied by several families sharing the yard enclosed by houses. Scholars have compared the living pattern in the Dazayuan (courtyard house) of old Beijing with the living pattern characteristic of modern urban housing. Lacking of layers of communication space, what we used to have in the “Dazayuan” is the main reason for the downfall of communication in current urban communities. In Chen and Guan’s words, in old Beijing, the street, Hutong, and Dazayuan (courtyard) together composed a series of common spaces. As a way of transitioning from home to Hutong, the Dazayuan was an essential space where neighbors could communicate freely with each other. By now, this kind of space has not been effectively represented in Chinese urban communities’ outer common spaces, which consist of “center, cluster and green land next to residential buildings” (Chen & Guan, 2005).

As discussed in detail in Chapter 2 of the present study, Clarence Perry put forward the theory of the “neighborhood unit” in 1929 (Perry, The Neighborhood Unit (1929), 1998 Reprinted), and in 1956 the Soviet planners introduced the concept of the neighborhood unit and their concept of neighborhoods concept to China (Lu, Rowe, & Zhang, 2001). This was the case even though Soviet planning was not as
concerned with the psychological aspects relating to “community” as with providing some sort of administrative system for the provision of goods and services. From the 1960s onwards, neighborhoods in China have continued to cleave to the Soviet architectural ideal: i.e., they show a consideration of lighting and ventilation and comprise rows of residential buildings with a north–south orientation. In addition, green areas fill up the spaces between the buildings. Ning Zhuang, a professor of urban planning at Tsinghua University, has stated that this kind of inanimate layout and copy-style building goes a long way toward fostering the loss of a community’s cordial feeling of being a “home” (reported in Jia, 2011). It seems sad that people living in the modern world follow the trajectory of going from home to office to elevator and then from office to elevator and again to home. In accord with tradition, Chinese life should be like this: walk out of the house through the yard and through an entrance way and then reach the street, which is a relatively open, public space compared to the courtyard, and then enter the public space. On such a walk, people gradually encounter and pass through different layers of space such that a sense of progress, separation and territory, but also conversely continuity is created.

In conclusion, theories proposed and researched in both China and the West indicated that territorial divisions and various layers of space have a considerable effect on the extent to which residents interact with each other and on their sense of belonging. Therefore, these are the essential aspects on which I focus my community space research in Shenyang.

3.4.2. The importance of communication space/public space in creating a sense of belonging.

Let’s start first with an account of general human basic needs. As the American sociologist Abraham Harold Maslow (1943) stated in his need-hierarchy
theory, from low to high people’s needs are divided into five levels: the need for physiology, the need for safety, need for love and belonging, the need for esteem, and the need for self-actualization. Accordingly, people’s needs range from those that are simple material requisites to those that are spiritual and emotional in nature. The need of communication can be considered an important subcategory of the need for love and belonging, as this need can also be understood as a need for social relationships. Also, according to the previous literature review pertaining to sense of belonging, social interpersonal interactions, known as communication, is considered an essential factor in the development of a sense of belonging.

The importance of communication has also been discussed in the area of environmental design. As noted previously in this chapter, in addition to its definition in physical and geographic terms, “community” is also often referred to in the area of sociology. To the American sociologist Claude S. Fischer, community means a group of people with a similar social and personal background, who over the course of time form social regulations, values, life attitudes, and lifestyles that all generally understand and accept (Fischer, 1974). This reveals two essential characteristics of community: a group of people sharing common cultural and psychological ties who live in the same area.

Based on these two factors, “community” is not a strange idea to the Chinese. In a traditional village, villagers inhabit a region as a group through blood relationships and share common production and living habits and religion through which they are connected with each other and to the village. Before the 1990s, urban citizens worked in the same unit and lived in the same unit compound. Similar educational level, work, and way of life created an intimate neighborhood relationship as well as a sense of identity and belonging based on the work unit (Sun, 2007; Ma,
Hu, & Li, 2006, p. 16). From the 1990s onwards, residential housing became commercialized such that housing became a market commodity to be bought, and the household became something to be rented out—a state of affairs that reversed the former situation in which the state or an employer provided housing. It was during this period that residents began moving out of the unit compounds in search of better living conditions (Jia, 2011). Currently, most of the neighborhoods have a mixed living status—people with different careers, education levels, and lifestyles now live together in one community. Xiangyang Yu, a sociologist at the People’s University of China, has stated: good communication is hard to create among neighbors because of low homogeneity, different backgrounds and careers, different work and living modes. Communication is the precondition for establishing a sense of identity and belonging (reported in Jia, 2011).

Architects have both the responsibility and the opportunity to enhance this communication through design. Rather than a macro societal scale, on the micro scale of space in and around the home, the environment is a significant influence on behavior. Design in this context cannot cause behavior, but it can offer opportunities for certain activities taking place. The physical environment of a housing development, for example, can encourage, discourage, or be neutral in regard to its residents’ behaviors (Marcus & Sarkissian, 1986, p. 10). Earlier, Osmond (1957) described setting as having the potential to attract people and promote interactions between them (also known as “sociopetal,” (Brebner, 1982, p. 129), or as having the opposite effect of isolating people from one another (“sociofugal”). It is hardly possible or desirable that friendship be designed. However, we can design a space that helps people to meet and get to know each other. When neighbors frequently pass
through a space where they see each other and can stop for a chat, the seeds of community are sown.

3.5. How and where do people start communicating in public space outside their apartments

3.5.1. How to start: Contact through seeing and hearing

“Being among others, seeing and hearing others, receiving impulses from others, imply positive experiences, alternatives to being alone. One is not necessarily with a specific person, but one is, nevertheless, with other” (Gehl, 1987, p. 19)

Seeing is considered an aspect of social interaction—a form of contact. Compare to negative observation such as watching others’ activities on TV, an individual in the public space is present and participating in activities in a modest way, but with a strong sense of participating.

In addition, eye contact seems to be the action by which people signal and initiate their intention to interact with others (Argyle & Dean, 1965). Where eye contact is not possible within a physical setting, it is very unusual for social intercourse to occur. Similarly, where it is denied, attempts to socialize usually peter out instead of persisting. Therefore, provision for eye contact militates against straight lines for areas that are intended to be sociopetal (Brebner, 1982, p. 129). New activities begin in the vicinity of events that are already in progress. Jan Gehl (1987) investigated people’s reactions to the presence of others in public spaces. The results of this study underline the value of being in the same space seeing and hearing others and illustrate the importance of being in contact with others. Investigations into children’s play habits in residential areas show that children like to play and stay
where there is the greatest chance of something happening or where activities of interest to them are already in progress (Gehl, 1987, p. 27). According to Gehl (1987), this indicates that human and their activities are attracted to others. In an attraction analysis carried out on the main pedestrian street in central Copenhagen, a study group from the School of Architecture at the Royal Danish Academy of Fine Arts observed similar behaviors taking place among the adults (Gehl, 1987, p. 31). A large group of people gathered around the painters painting art on the sidewalks as long as the painters were working on a piece. But when the painters left the area, the people walked on the paintings without hesitation. The same trends can be found regarding music—those blaring out into the street from loudspeakers in front of record stores attract no reaction, but the moment live musicians began to sing or play, there is an immediate scene of lively interest. In the observation of a department store’s expansion, during the excavation and pouring of foundations, it was possible to see into the building site through two gates facing the pedestrian street. Throughout this period, more people stopped to see what was going on there than did to look at the display windows of the department store. It was the workers and their work, though, that attracted people’s interest, not the building site itself. That it is the workers who were drawing people’s attention was evident during the breaks and after quitting time—almost nobody stops to take a look when there were no workers to be seen (Gehl, 1987). A coincident tendency can be found in regard to where people prefer to sit in public space. Benches that provide a good view of surrounding activities are more popular than those ones that afford no view or a limited view of others (Kao, 1968; Gehl, 1969).

Other than being an aspect of social interactions, visibility is also a feature noted by Jacobs (1961) and Newman (1972) in regard to the realm of safety. Jacobs
used the phrase “eyes on the street” to describe her idea that streets with a lot of activities are safer than those without, as violent behaviors are discouraged when people are watching (Jacobs, 1961). Providing opportunities to observe public or semi-private spaces means that antisocial behavior will be discouraged and any that does take place is likely to be witnessed. Discouraging hooliganism, vandalism, and even littering, obviously improves the experienced environment quality, and one way of doing this is making such actions visible (Newman, 1972).

A summary of observations and investigations shows that people and human activity are the greatest object of attention and interest. Even the most modest forms of contact--those of merely hearing, seeing or being close to others--is apparently more rewarding and more in demand than the majority of other attractions offered in the public space of cities and residential areas.

3.5.2. Areas for staying: The edge effect and transitional areas.

Based on a survey of a city square, Gehl observed that standing people tend to congregate around the edges of the square (Gehl, 1987, p. 150). People can be found standing alongside facades, under porticoes, in niches, and next to columns. The most popular spaces to sit can be found at the edges of open spaces, where the sitter’s back is protected and the view unobstructed. Preferred zones for staying are found along the facade in a space or in the transitional zone between one space and the next, where people can possibly view both spaces at the same time (Gehl, 1987). In a study of the popular places for staying in Dutch recreational areas, the sociologist Derk de Jonge referred to the characteristic “edge effect” (Jonge, 1967-68). The edges of the forest, beaches, groups of trees, and clearings were attractive zones for staying, whereas the open plains or beaches were not used until the edge zones were fully occupied. A comparable phenomenon is evident in city spaces where the popular areas are
similarly found along the borders of the spaces or at the edges of spaces within a
given space.

The obvious explanation, according to common sense, has been theoretically
illustrated by Gehl, according to whom the popularity of edge zones has to do with
their placement at the edge of a space because this placement provides the best
opportunities for surveying the space. And, Hall (1966) offers a complementary
explanation: at the edges of a space, people are less exposed than when they are in the
middle of a space. At the edges, a person is not in the way of anyone or anything.
She or he is not particularly visible either, but the view from there is very good. The
personal territory is reduced to a semicircle in front of that individual. When one
person’s back is protected, others can approach only frontally, making it easier for the
person to keep watch and maintain a sense of safety.

3.6. Summary

Based on the review of the literature pertaining to sense of belonging and
several physical environmental factors that influence people’s perceptions, the author
concludes that spatial configurations in a community have a considerable influence on
residents’ sense of belonging by having an effect on people’s degree of satisfaction
and communication. A consideration of various layers of spaces, of spaces for
interaction, and of the balance between enclosures and openings is essential to any
effort to help residents develop a sense of belonging. The next chapter offers a
detailed analysis of the selected communities, Zhongxingli Community and
Fuyunxindu Community, which has these spatial design factors: spatial design factors
for better communication—open view space and edge effects, layers (transitions) of
space and zones of territorial influences.
4.1. Introduction of the two focal communities and the research methodology

This research study focuses on physical spatial design and how the residents have adapted to and found a sense of belonging in their current living environment. It explores this issue based on observations of activities and an analysis of activity patterns in various open spaces within the gated communities. In Shenyang, two communities, Zhongxingli Community and Fuyunxindu Community, were selected as the research objects and referred to as ZC and FC respectively. ZC was built in 1992, and ZC in 2005. Therefore, residents who have been living in these communities since they were first built have had sufficient time to make changes in regard to their lifestyles and to develop an outdoor living environment. These two communities differ in regard to physical environment and the period during which they were constructed.

The gated community of Zhongxingli (Figs. 4.1 & 4.2), built in 1992, is one of the common communities in 1990s Shenyang. During the period from 1949 until the 1980s, very few people owned their own homes. Instead, most of the residents in Zhongxingli Community, like the rest of China, lived in apartments from their work unions. Separated from the outside street by fences, walls, and gates, Zhongxingli remains a gated community today (Fig. 4.3). At each gate there is a guard, who is in charge of security including ensuring that outside vehicles do not enter the community (Fig. 4.4). However, strangers can still walk into the community because the gates are always open (Fig. 4.5a). Each building has several entrances, and each entrance leads to a staircase, which gives access to the apartments (Fig. 4.5b). There are usually three families living on each floor (Fig. 4.6). The entrances to the buildings do not have
security protection, such that once a stranger has entered the community, she/he has easy access to the entire area though not to the individual apartments.

Figure 4.1 Location of Zhongxingli Community (1992)

Figure 4.2 Zhongxingli Community (1992). Drawn and edited by author. It is a gated community which separates itself by fences, walls and gates. It has inside yard—the yard is closed by the buildings. And the buildings themselves are used as important parts of the boundary. People walk into the community through the same three community entrances. There has a guard room at each community gate, but strangers still can walk into the community. Later there will be a detailed floor plan of the chosen example, which has its location shown on this image.
Figure 4.3 Left: photo D, the view of one of the two assistant entrances of the community. Residents who have their own yards often have more activities than the other residents. Sometimes they extend the activities area into the public roads of the community. In this photo some people are enjoying a BBQ afternoon. Right: photo E, the building enclosed a yard, using itself as an important part of the boundary. Between two buildings fences are set up (see the red box), through which people can see and hear the outside busy street.

Figure 4.4 Left: Location of each photo. Right: photo A, the guard room near the main entrance. Photo by author.

Figure 4.5a Left: photo B, the view from outside look into the community. The gate, which is kept opening during daytime, can be seen. Photo by author.

Figure 4.5b Right: photo C, part of the yard and the entrance of the example can be seen on this image. Each building has several entrances like this, and there is no security door at the entrance. Strangers can walk into the staircase through the entrance and then access to the front of the residents’ doors. Photo by author.
People first began to buy their own houses and apartments after the Opening-up and Reform Policy of 1978, and since then various types of houses have been built in order to meet the needs of different people. In 1998, the State Council of China released its Circular on Further Deepening the Reform of the Urban Housing System to Speed up Housing Construction, which stated that housing distribution, i.e., the system whereby employers provide employees with apartments based on criteria, such as working duration and experiences, would be discontinued halfway through 1998 (China S. C., 1998). At present, among these developer-driven residences (i.e., communities built for profit by companies) there are apartments for the typical Chinese family, which consist of two generations: two parents and their only child. There are also small apartments for new couples and even smaller ones for single
people—most of these apartments have only one bedroom, and some are what would be called studios or efficiencies in the US. In the present study, though, we focus on the first of these: the typical apartment for the typical two-generation family.

Fuyunxindu is a developer-driven community in the Tiexi District, Shenyang. Built in 2005, it is also, like most developer-driven communities, a gated community and has two areas separated by a street (Figs. 4.7 & 4.8). The eastern area has three entrances, each of which has a guard (Fig. 4.9). In addition, at a later point, a fourth entrance was incorporated. Each area has walls, fences, and gates (Figs. 4.10 & 4.11). Strangers and outside vehicles are not allowed to enter, and residents are required to display a parking permit when driving into the community. Each building has several—usually three to four—units with their perspective entrances, and there is an intercom door at each unit entrance.

Figure 4.7 Location of Fuyunxindu Community (2005)
**Figure 4.8** Fuyunxindu Community. Drawn and edited by author. It is a commodity, gated community which separates itself by fences, walls and gates. It has inside yard—the yard is closed by the buildings. And the buildings themselves are used as important parts of the boundary. Strangers and vehicles from outside of the community are stopped and not allowed to enter without permission.

**Figure 4.9** Left: location of each photo. Right: photo A, the main entrance of the community, with its name and security guard room. Strangers or cars cannot access into the community without permission. Photo by author.

**Figure 4.10** Left: photo B. The view looks from the community into outside. Sunflowers planted by the residents and the fences can be seen. Right: the security door of each staircase entrance. Strangers cannot walk into the building without resident’s permission. Photo by author.
Most of the residents here are families with two generations: two parents and their only child. Some families are senior couples who do not have their child living with them, as she/he is now an adult living with his/her own family in a different apartment or perhaps in a different area of city or even more distant. Regarding to the family patterns and residents’ needs, each room is being used for a specific function (Fig. 4.12). In some instances, children have their own rooms instead of living in one room with their parents. In some families, the child is away at college or working in another city. So the room designated for the child is used for other functions such as a study room. As is the case with most typical commodity communities, in Zhongxingli the master bedrooms do not have their own bathrooms. Most families share just one bathroom (Fig. 4.13).

The buildings are situated at a distance of approximated 1.5 times of a building’s height from each other in order to ensure that the residents would receive enough sunlight and also to provide an environment characterized by green area and trees. But as there are no parking lots in the community, people park their cars along the inside roads. Sometimes, cars are parked on the lawn when there is no space on the community roads. This practice, though, ruins the lawns, of course.
Figure 4. 12 Floor Plan of the chosen family. Child has her own room. Functions are added and each room has more clear function. Balcony and viewing area (see figure 11) are considered in the design to provide resident a view of their community yards. Parents and their child still share one bathroom. Drawn by author.

Figure 4. 13 From left to right: viewing area, public spaces, private spaces. Drawn by author.
In regard to methodology, every 30 minutes, I recorded the specific areas in the community space in which the residents engaged in any type of outdoor activity, such as interaction activity and territorial activity. Then for each community, all the maps were put on one layer in order to analyze and compare patterns of activity in regard to space and time (Fig. 4.14). More activity details were recorded together with the locations. Based on the map combining all the data gathered, I obtained results showing the locations in the community space that are most and least used for activities during a normal work day (Figs. 4.16 & 4.17). By recording and mapping outdoor spaces in communities using this method, I determined the ways in which the residents use the outdoor common spaces in their communities, the locations that most attract people (for interaction), the changes residents have made to the space (in order to enhance the territory attitude), and the characteristics of these spaces. Next, I compared the living environments in the two focal communities respectively based on these three aspects of the spaces analyzed.

Figure 4.14 Residents in their community yards, recorded each half/one hour, started from morning when few residents appear in the community yards and ended at night when there was no one in the yards. Drawn and edited by author.
Next, I used a questionnaire in both ZC and FC to ask participants to rank influential factors pertaining to sense of belonging. The questionnaire comprised 7 questions. In analyzing the data, I was interested in determining whether and the extent to which the two communities differ in terms of sense of belonging is different. I was also interested in determining relationships between the living environments and sense of belonging. In this regard, I hypothesized that of the two communities, the one with stronger spatial traits—the three traits which respectively encouraged interaction, variety of activities, and territory attitude—would have residents with a stronger sense of belonging than the community which reflected these three spatial traits in a weaker way would. On this basis, I sought to establish the influence of these physical environmental factors on the residents’ sense of belonging.

4.2. Spatial analysis of the two communities

Three spatial elements were found to influence the extent to which specific outdoor spaces are used in the two focal communities. The following section gives a detailed breakdown.

4.2.1. Good view of a space plus the activity opportunities it affords can help promote visitation and then interaction

Zhongxingli Community (ZC)

The Zhongxingli community has four yards, each of which is identified by a number and as a space enclosed by two (or three) buildings and walls (1 to 4) in the present study (Fig. 4.15). From the overlaying maps, I first noticed that the spatial distribution of the residents’ activity locations is not even. Whether a yard is attractive or not has been determined by the total number of people counted at every 30-minute interval during a day. It can easily be seen that some of the yards or outdoor spaces
are more attractive than others. By analyzing these spaces, I found that the spaces that provide a comparatively open view are more attractive than those with a less open view. A yard was observed and described by two main aspects: either it does or does not offer a good overview within the yard, and either it does or does not afford a sight connection—a mutual view between spaces—to another open space.

Figure 4.15 Yard numbers of ZC

Yard 1 provides a good overview within itself, and it is attractive to certain amount of people. This yard is surrounded by flowerbeds to the north—which is where the only entrance to the yard from the community path is located—and by bushes and trees in the other three directions. The bushes and trees at the east side of the yard are used as a boundary that separates the yard from the main community path.
The People in the yard and the people on the main path can see and hear each other, but only to a limited extent. Yet, this yard has very restricted sight connection with other yards within the community.

Yard 2 is the most open yard in ZC, and it is also the one that attracts the most activity every day. It offers a pretty good degree of overview within the yard: no element within the yard blocks the view from any point in the yard, and there is an overview of the whole open space. It is also completely open to the main community path on its east side—the boundary between this yard and the main community path is a one-foot-high curb, which does not affect the sight connection in any way and is easy to step over. In fact, many people like to sit on this curb boundary. This yard also has a limited sight connection to yard 3: a person is sitting on the curb boundary can see what is happening in yard 2, on the main path, and in a limited area in yard 3.

Yard 3 is the most enclosed of the three yards in ZC, and it is rarely frequented. There is not a single point in this yard that affords a view of the whole yard: an electricity engine room in the west part of the yard and a bicycle garage in the east part serve to prevent this. These two constructions together with the narrow path through the plants in the south enclose the space and thus offer a poor overview.

Yard 4 is divided into three areas: a bicycle garage, a large open space, and a walkway. The open space provides a good overview of itself and attracts many people, whereas in the walkway and at all other points in the yard the view is blocked and these places do not attract any activity, with the exception of people parking and picking up their bikes as well as the garage guardians staying in front of the garage. There is no mutual view at all between yard 4 and other yards.

By analyzing the spatial characteristics I found that the yards offering good view were more attractive to people, since they offer a greater opportunity to have
something to look at. That is to say, places where people can watch “people” are the most popular. It is evident from the map that yard 3 is much less popular than the other three yards (Fig. 4.16). This is almost certainly because yard 3 is an enclosed space and provides a poor overview within itself. In my own experience of walking in this area, I immediately noticed that the view is blocked by the two walls of the engine room and by the bicycle garage. There is little opportunity to see something interesting since there is no clear view of the whole yard. There is nothing of interest to see looking to the south, and very little of people or activities to see looking north. I speculate that the stone table and seats that have been set in yard 3 are here in the hope of attracting people. But they have failed in this purpose. Very little activity takes place here, although a few people do pass through the area heading to their homes.

To confirm this finding, I also compared yards 1 and 2. As shown on the data map, these two yards each attract a high number of residents, although of the two yard 2 attracts more visitors. As described, compared with yard 1, yard 2 is more open and offers a better degree of overview of its surroundings (Fig. 4.18). People in yard 2 have more people and their activities to see and have a better sense of what is happening around them (Fig. 4.19). Thus, more people are attracted to this yard enjoy watching others and they stay here longer than people in yard 1 do. And they may then use that as a triangulation opportunity (a term from Whyte, 1980) to begin a conversation with each other. The results pertaining to yard 4 are similar: the large open space attracts lots of people, yet no one visits the other area of the yard, where the view is blocked by the bicycle garage.

_Funyunxindu Community (FC)_

69
FC has twenty yards, each of which is defined by a number and as any space between two or four buildings (Fig. 4.20). Similar to the case of ZC, the distribution of activity locations is uneven: some yards are more attractive than others. And, the most attractive yards are those that offer a good overview and have a good sight connection to other yards.
Figure 4.16 Registration of all people, standing or sitting, in the yards of Zhongxingli Community (ZC) during a normal day in May, from 08:30 a.m. to 6:30 p.m.. The popular locations can be recognized immediately from the map. Drawn and edited by author.
Figure 4.17 Registration of all people, standing or sitting (not include people who were simply passing by, in the yards of Fuyunxindu Community (FC) during a normal day in May, from 08:30 a.m. to 7:30 p.m.).
Figure 4. 18 In ZC, space analysis of yard 1, 2 and 3 (from left to right). More people are attracted by yard 1 and yard 2. But the more open yard 2 is more popular than the yard 1. Yard 3, an enclosed space, doesn’t attract much people. Drawn and edited by author.

Figure 4. 19 In ZC, space analysis of 3 yards in photo. From left to right: yard 1 to yard 3. Taken and drawn by author.

Figure 4. 20 Yard numbers of FC

Most of the building entrances are located on the north side of the building (south side of one yard). Along the south side of the building, there are private
gardens that belong to the residents living on the first floor. There is also a green area, which acts as a transitional space that connects the private gardens to the open space in the yard. A path separates these spaces above from the entrances to the next building (Fig. 4.21). The north part of FC has several buildings: instead of a private garden, each family on the first floor in the northern area has a garage facing a community path (Fig. 4.22).

Figure 4.21 Above: illustration of space configuration in a normal yard in FC. Bottom: View of a yard in FC, looking form north to south. Drawn and photographed by author.
Yards 8 and 11 are the two most popular spaces in FC. They are larger and more open than the other yards are. Yard 8 is the largest open space in FC, and its function is similar to that of a plaza; i.e., yard 8 constitutes a landmark, a place that at which people gather. It offers a good overview within it, and it has good sight connections to the yards on both its east and west sides. It also offers a wide paved area where children apparently bicycle and play. The design elements of this yard are arranged in a way that is similar to the arrangements of other yards in FC. Yet, the open space is enlarged to include a huge pool—which is approximate one third of the total area size of yard 3—surrounded by wide paths, a wayside pavilion, benches, and various small landscape features. The water in the pool has almost dried out with just a little water remaining in the southeast corner of the pool. Unlike yard 11, yard 8 is not designed to be a playground; however, it has become a popular sunken plaza for children to play in (Fig. 4.23). Many people are attracted to this yard, some of whom just sit and watch what is happening here. Yard 11 is designed to be a playground: it has facilities such as slides and seesaw for children, the average age of whom is under 7, which is younger than the children playing in yard 8 (Fig. 4.24). It also offers a
good overview within the yard and has good sight connections to yards on both its east and west sides. The facilities are located in the middle of a small sunken plaza with benches around it on the higher level. Lots of children, as well as their parents and grandparents, are attracted to this yard. The parents and other guardians, though they take up positions close to the facilities, remain on the periphery, i.e., at the edge of the plaza and on the benches around it. Some older people also come alone to sit on the benches just to watch what is happening in this yard.

Figure 4.23 View of yard 8 and the “sunken plaza” in FC. Seeing from the northeast corner of the yard.

Figure 4.24 View of yard 11 and the playground in FC. Seeing from the northeast corner of the yard.
In other yards, the places where people gather, as shown on the map, tend to be open spaces that provide a good view of the surroundings and people are chatting and watching others. And, yards that have a sight-connection with the center plaza yard (yard 8) and the secondary plaza yard (yard 11)—which lots of people visit every day—are also attractive to people. In contrast, yard 12 is enclosed by a building in all four directions, and it offers nothing interesting to see. Though located between two busy yards, yard 8 and yard 11, and has the similar size and spatial configuration as other normal yards, yard 12 does not attract a single visitor in all likelihood because this yard affords no view of either yard 8 or yard 11 (Fig. 4.25) and only a poor sight connection to other yards.

![Diagram of yard locations](image)

**Figure 4.25** In FC, yard 12 is less attractive to residents.

*Comparison of two communities, and people’s contact in the communities:*

*Seeing and hearing*

The yards in FC are more open than the yards in ZC: most of the FC yards offer a good overview within the yard, and most have good sight connections to the yards adjacent to them. Children in FC have the opportunity to engage in activities in
a larger area than that afforded by ZC, and thus they can play in ways that require a lot of space, e.g., on bicycles and scooters. And, based on my observations, more children play outdoors in FC as compared with ZC. Children also play outside for a longer time in FC than do the children in ZC. Likewise, adults in FC spend more time outside than do adults in ZC, which is also indicated by the data collected during a usual day: the ZC yards have very few people at 6:30 p.m. and they are empty before 7:00 p.m., whereas the FC yards are still vibrant after 7:30 p.m.

Why are spaces with open views attractive to people? I also found that in the FC community, there are benches in almost every community yard. The benches used most are along the two plazas (yard 8 and yard 11), where there is a good view of particularly active areas, whereas the benches used least are in the quiet areas of the yards. Comparable trends can be found in the public park close to ZC—the benches used most are along a plaza or have good views of the activities. In places where there are no benches, though, people still find a place to sit, such as the curbs of flowerbeds, as long as there is something to watch. Some people even bring their own small folding chairs. Open-view spaces provide people with opportunities to see and hear others, and it appears that human activity is the greatest object of interest. The opportunity to see other people in action constituted the area’s main attraction, which is also a key element of a vibrant place. As Gehl’s (1987) examples referred to in Chapter 3 of the present study show, people are attracted by the painters and musicians on the streets rather than to the artwork or music itself. Seeing and hearing are also considered to be ways of participating in others’ activities and of belonging though in a relatively passive way. Moreover, seeing and hearing are usually the point at which the activity of communication starts: people like to join in with what they are seeing and hearing and thus conversation and further activities occur as a consequence.
These observations confirm Gehl’s theory regarding how people respond to the presence of others in the public sphere (Gehl, 1987). They underline the value of being in the same space seeing and hearing others and demonstrate the high level of interest that people have in being in contact with others. A good example of this interest is children’s play habits in residential areas; at least one study has shown that children like to play and stay for a long time in places where the most activity is occurring or where there is the greatest chance of something happening (Gehl, 1987, p. 27). And, a similar pattern can be found in regard to where people prefer to sit in public spaces. Benches that provide a good view of surrounding activities are more popular than those with a restricted view or no view of others.

FC seniors like to sit together as a group to chat, and many also like to watch their surroundings to see what is happening. These observers can often be seen on the edges of public space rather than at the center—you can always find them at roadsides or in a corner of a plaza. Although these people do not join the activities taking place, they are in fact a part of the common life and they connect with others just by sharing the space. Opportunities for meeting and daily activities in the public spaces of a residential area enable one to see, to hear, and to be among other people engaged in various activities. In the present study, in accord with Gehl’s theory that modest “see and hear contacts,” including those taking place in the public spaces of a city, must be considered in relation to other forms of contact and as part of the whole range of social activities, from very simple and noncommittal contacts to complex and emotionally involved connections (Gehl, 1987, p. 17).

This explains why in the observations the open spaces providing good views attract residents whereas the relatively more enclosed ones do not, since good views offer opportunities to see people and their activities. It also reflects people’s need to
communicate, as discussed in Chapter 3 of the present study, to enhance their personal relationships, and thus to generate a greater sense of belonging. Spaces with open views meet people’s need for seeing and hearing contact. In both communities, I observed that the spaces with a better overview within and with better sight connections to other spaces are more attractive than those that are relatively enclosed and hence offer a poor overview and few or poor sight connections, since a good overview provide better opportunities for watching people and their activities. Instead of being alone, being among others, seeing and hearing others, inspiring by others, engaging in casual conversation with others, imply positive experiences. In public spaces the individual is present, and participating in a modest way, yet participating all the same. The opportunity to see and hear other people in a residential area also implies the opportunity to gain valuable information about the surrounding social environment in general and about the people one lives with or works with in particular. This need for contact appears to be a natural one. And being inspired, people like to join in with what they are seeing and hearing and thus interactions between people take place. The best example of this kind of interaction is the children’s “bicycle activity” in FC whereby children start to ride their bicycles in the plaza when they see other children having fun to doing so. This activity is discussed in more detail in the next section.

4.2.2. Different activity areas in the community providing edges and links for transition and activity diversity

Links - transitional zones: A second activity location trait in both communities

In ZC, I found that some people stayed close to the community gates, or along the community boundary walls (Fig. 4.26). These people are by no means a negligible number of those constituting the people engaged in outdoor activities. They spend
time in similar locations, i.e., transitional zones between two relatively different types of spaces: private and public, open and enclosed. As noted in the previous section, I observed many people sitting on or standing very close to the boundary curb in yard 2, making this a popular area of the yard.

![Figure 4.26 People in transitional zones—by the side of community gate or walls—in Zhongxingli Community.](image)

In keeping with my observations regarding use of space in ZC, transitional spaces are also popular in FC. In yard 8, a large number of people are distributed along the southwest and north sides of the yard, in the northeast corner of the yard, and along three edges of the pool. In yard 11, numerous people could be observed spending time at the edges of the playground.

*Edge effect: The reason for staying in transitional zones*

These popular zones for staying are found along the facades in a space or in the transitional zone between one space and the next, where it is possible to view both spaces at the same time. Observers in FC always choose a corner or along the plaza sides (Fig. 4.27). Among the people who stayed at the edges of the playground in yard 11 were parents looking after their children. Yet, as noted earlier, in yard 11, there are also older people present who do not have children with them. The transitional spaces created by edge zones offer better views—views that allow people to see a lot of what is going on in the vicinity. People in ZC are willing to spend their time sitting by
community gates or walls. Thus, they can look at what is happening outside and feel safe because they can easily return to their own territory (their community, compared to the outside street) at any time. People in the Xinhua Park, a common space close to ZC, like to sit along the edges of the flowerbeds. And, the edges created by groups of trees, a plaza, or clearings are the preferred zones for staying, whereas open squares are not used very much, at least not until the edge zones are fully occupied or people need a large space for dancing or sport (Fig. 4.28).

Figure 4.27 People prefer to stay at the corner and edge/transitional zones in the central plaza of Fuyunxindu Community.

Figure 4.28 One view from the Xinhua Park. The edge of a plaza is the preferred zone for staying, while the open area is not used much. Photo is taken and edited by author.
The obvious explanation, in accord with both common sense and Gehl’s theoretical position, for the popularity of edge zones is that the edge of a space provides the best vantage point for surveying that space. At the edges of an area, people are less exposed than they are in the middle of a space. At the edges, people are not in anyone else’s way, and they can see but are not generally themselves the center of attention. Additionally, at the edges, personal territory is reduced to a semicircle in front of the person. When a person’s back is protected, others can approach only from the front, making it easy to keep watch and react (Gehl, 1987, p. 151).

The locations along the plaza side and by the side of the community gates or walls are transitional zones from one space to another: from a community road or lawn to the plaza; or from inside the community to an outside street. The edges can also be seen as a transitional zone from one location to another or from a more private space to a more public one.

More links of spaces offer more transitional zones and more activity diversity, and comparison of two communities

The more space hierarchies a community has, the more transitional spaces there are. And, different layers of spaces also provide opportunities for diverse activities. Each community’s outdoor spaces are categorized simply based on the links of the spaces. ZC has space layers as follows: gates – yards – home. FC has space layers as follows: gates – central plaza/yard 8 – secondary plaza/playground – yards – private garage/garden – unit intercom door area – home. Compared to ZC, FC has a diversity of different sizes yards, and lands for different functions. The secondary plaza has become a new center, as it has facilities for younger children and it became a playground specifically used by parents, grandparents, and children. The center
plaza—yard 8—provides a larger area for all kinds of people. In addition, I found that children in FC have created their own activity—they enjoy “bicycle time” in the central plaza after school, an activity that the children in ZC do not have. The central plaza has a pool, which is originally designed as a landscape feature. Now it has become a sunken plaza and also a playground for children, as it has almost dried out (please refer back to Fig. 4.23). The path along the pool on the ground level and the sunken plaza are great locations for children to spend time running and riding bicycles. After one child found that this was a good place to ride his bicycle, the other children quickly followed suit. Now every day in the late afternoon, children come to the plaza with their bicycles and play with their buddies, and their guardians watch them and chat along the side of the plaza or pool. The more hierarchical an area’s spaces are, the more opportunities that area offers for diverse activities. And, outdoor spaces characterized by a high level of layers were occupied for a longer time by people engaged in activities and more efficiently utilized than spaces with fewer layers. Through my observations, I found that residents in FC stay longer in the outdoor space: the yards in ZC have few people at 6:30 p.m. and are empty before 7:00 p.m. whereas the yards in FC are still vibrant after 7:30 p.m.

All the activities referenced—including hearing and seeing and staying—rely on opportunities. Shared outdoor space is a key element of a gated community and provides opportunities for different activities to take place. In gated communities, the outdoor space is neither private (home, yard) nor public (a busy street, park), but rather a defined space between the private and public realms. The residents surrounding this common space share in their care and oversight and thereby enhance a sense of security and identity. Because of its location and design, the shared outdoor space fosters casual interactions among neighbors, which, in time, grow into deeper,
long-term friendships. As in the bicycle example, the plaza—a shared outdoor space—provides children with a place to ride their bicycles. The other children are inspired and join this activity, and the parents or guardians connect with each other because of their children. A culture—bicycle activity—of this community has taken shape and relationships among the residents have formed and are further encouraged on the basis of it.

4.2.3. **Subdivided spaces at the threshold that reinforce residents in their ability to assume a territorial attitude.**

*A third activity location trait: Activities in the territory area*

Other than the two types of activity locations discussed above, I found a third one, which is also an essential part of an attractive outdoor space within one community: territorial zones adjacent to the residents’ threshold.

Regarding the observation map of ZC, in the northeast corner of yard 3, several groups of people gathered in front of their thresholds. The buildings in which their homes are located are under the management of another developer and the entrances are on the other side of the building. The first-floor residents opened the walls on the south side of the building one after another and make them the current doors through which they can access yard 3 directly (Fig. 4.29a). There is a small public green area along the south side of the building. After the residents added extra entrances facing yard 3, naturally and gradually this green area has been divided such that each family acquired a private garden. Each family controls its respective territorial area, using it for storage, barbecues, and planting vegetables.

Another similar example can be found near the bicycle garages both in yard 3 and yard 4. The garage guard and his friends gather at the entrance zones to both of these two bicycle garages. Although the garage has a different meaning from a
person’s home, it is still a territory associated with the home since the guards have control of the bicycle garages (Fig. 4.29b).

In FC, activities in the territory zones are even easier to be notice. Many residents can be found staying in their private gardens and in front of their garages (Fig. 4.30). Some residents try to extend their territory: by placing furniture in front of their garages in order to gain an extra “living room,” planting vegetables and/or vegetables in the public lawn in front of their private gardens, decorating the space by placing a statue, and paving a path leading to their gardens. Some residents even extend their territories more obviously by entirely taking over a space, e.g., by installing fences and a door around a small piece of green land to protect the “territory” from others (Fig. 4.31).

Figure 4. 29 Territorial activities in ZC.
Figure 4. 29a Left: First floor residents added extra entrances facing yard 3 in ZC, and staying in their territory zones.
Figure 4. 29b Right: People are staying in front of the entrance of the garage in ZC’s yard 3.
Figure 4. 29c Bottom: In the left of this photo, a group of people, including the guardians of the garage, were sitting close to the entrance of the garage. In the right, extra entrances were added facing to this yard.

Figure 4. 30 People in threshold zones in Fuyunxindu Community.

Figure 4. 31 Tenants will occupy part of public space which next to their properties. This represents as a tenant grow flowers or vegetable in the public lawn (image 1, 2), or puts furniture in front of his garage (image 3). Some tenants may extend their territories more obviously by occupying the space totally, such as installing a door to protect the “territory” from others (image 4).

Territory attitude and sense of belonging, and comparison of two communities

Given the small size of the living spaces, residents often extend out into public space—socializing on the front stoop, setting up a small table and seats along the back wall, or claiming space for a flowerbed. This is a good thing. In a community which meets the requirements of housing standards, people typically have all their needs met within their own homes and seldom interact with their neighbors.
In both communities, some residents living on the first floor have their own gardens or garages. Although there are clear boundaries between the residents’ properties and public spaces, such as fences around a private garden or the door of a garage, there are spaces between private and public. A small area of public space next to a resident’s property can be occupied and seen as part of the resident’s territory also. A resident who considers the space to be an extension of his personal world may put furniture in front of his garage or grows plants in the public lawn next to his small garden.

The observation and map show that, these zones are indispensable locations for outdoor activities. From the large open space to the threshold, semi-territorial zones can be considered semi-private spaces, as at least some of these kinds of spaces are controlled by the residents. That is to say, these territorial zones can be considered transitional, as discussed in the last section. They have the similar function of providing people with a sense of security and attachment while facing a more public space with their own territory close behind them: e.g., people watching over children riding their bicycles tend to stay in front of their garages and an elder resident stayed on the community path in front of his home.

In addition, having a similar function to that of other transitional spaces, these threshold territory zones are associated with notions on the part of residents such as “this is my home,” “this is my territory and it belongs to me,” and “I can control this space.” Thus, they extend their private areas to make part of these semi-territorial zones their own, and they tend these areas accordingly. This attention to the threshold space indicates that they are trying to make a place their home and that they have some sense of belonging. This sense of belonging is expressed by taking care of the
space. The residents’ need for safety and territory attitude is reflected in and met through these activities.

Based on my observations, ZC provides very few opportunities for residents to engage in activities in threshold territory areas, as the outdoor space in the community leads directly to the entrance and stairway of each unit. The residents on the first floor barely have a transitional space between their homes and the outdoor space nor a unit door to separate the indoor staircase and the outdoor space. As noted earlier, only three first-floor families have reconstructed spaces that had formerly been used for windows in order to install doors. These dwellings now have access to a small green area, such that the residents have extended their territory. Through my observations and the overlaying map, though, overall, it is evident that ZC residents have very minimal opportunities to engage in activities in the threshold areas.

In FC, as discussed earlier, people place furniture to in front of their garages in an effort to create an extra living room. They also take care of these territorial areas by planting vegetables or flowers or decorating the space by placing a mushroom statue. The outdoor space close to first floor provides people with territorial zones and the residents use these to their fullest capacity. Buildings in FC usually have seven floors, which means that the residents’ opportunities for activities in the threshold territorial area is 1/7, approximately 14%, which is much larger than the minimal opportunities in ZC. Thus, FC residents have more opportunities to engage in activities in their territorial area at their thresholds.

4.3. Statistical analysis and comparison of the two communities in regard to sense of belonging
In this section, I draw on data from the survey in order to measure residents’ sense of belonging and to test whether the extent of sense of belonging differs between the two communities. The statistical analysis was performed under the instruction of PhD students at SSRI, who provided supportive graphs to assist me in describing the sense of belonging variable in my thesis. I have conducted the statistical procedures listed as below:

1. Create a composite variable sense of belonging based on multiple questions
2. Draw graphs to present the distribution of the data for 7 manifest variables and the composite variable sense of belonging
3. Compare the mean values of the composite variable sense of belonging of the two gated communities

4.3.1. Steps 1-2:

The 7 questions (Q1 to Q7) that comprise the questionnaire (Appendix A) ask about different aspects pertaining to sense of belonging. I will determine the distribution of data, and how to create a composite variable based on the multiple variables. These questions are answered simultaneously, as they are closely related.

*Data Preparation*

To identify data from ZC and FC, a new variable community is created in the 1st column with a value of 1 assigned to ZC and a value of 2 to FC.

Another point I considered is that there are two scales for the 7 questions of interest. A 10-point Likert scale is used for Questions 1–5 whereas a 5-point Likert scale is used for Questions 6 and 7. As a result, data collected in two scales cannot be compared and analyzed directly. Scale in Questions 6 and 7 must be recorded in an
identical before it is possible to analyze the data correctly. Here, two new variables are created as Q6 and Q7, and new values are assigned to them following Table 4.1:

<table>
<thead>
<tr>
<th>Original value</th>
<th>New value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>5.5</td>
</tr>
<tr>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>5</td>
<td>10</td>
</tr>
</tbody>
</table>

Table 4.1 Recoding of Q6 and Q7

Exploratory Data Analysis (EDA)

Before making a decision in regard to the appropriate statistical tools to analyze the data, an Exploratory Data Analysis (EDA) must be conducted for the variables of interest in order to obtain an overall understanding of the data. For Q1–Q7, all the data are ordinal.15

Here, I continue with some graphs to describe the data.16 Each rectangle presents one value on a 10-point Likert scale. It can be seen from the bar charts that all the variables have an approximately bell-shaped distribution (Fig. 4.32). Based on this information, the following statistical procedures were performed. Then the bar charts for distribution of the 7 questions for each of the two groups was also created.

15 A set of data is said to be ordinal if the values belonging to it can be ranked (put in order) or have a rating scale attached (STEPS). We can count and order but not measure ordinal data because the distance between any two adjacent units of measurement, also called “intervals” are not recorded by ordinal data. This is different from continuous data, for which data is recorded at the same intervals.

16 A bar chart is a common tool to summarize a set of ordinal data. “It is often used in exploratory data analysis to illustrate the major features of the distribution of the data in a convenient form. It displays the data using a number of rectangles, of the same width, each of which represents a particular category. The length of each rectangle is proportional to the number of cases in the category it represents” (STEPS).
From the first bar chart in Figure 4.32, it can be seen that the data for Q1 in both communities are approximately bell shaped, although the data for ZC (green bar) are more skewed to the right than are the data for FC (red bar). Although there are more high values for FC than for ZC, the statistical inference that “the mean for FC is
higher than that for ZC” cannot be made before a relative significant test of difference has been performed. The following charts in Figure 3.32 show the results of Q2–Q7, which can be interpreted in the same way.

Next step, one of the simplest ways to construct the composite variable is to take the average score of all the variables included.

*Summary of the findings for steps 1 and 2*

First, I created bar charts to present the data of all 7 questions. These charts show that and all the variables have an approximately bell-shaped distribution. I also created a cluster bar chart to present data in both communities in a comparative way. The cluster bar charts show that the data for the 7 questions in both communities are approximately bell shape, although respectively the data for ZC is more skewed to the right compared to the data for FC (Figs. 4.33&4.34). Although there are more high values for FC than that for ZC, and the trend shows that FC residents have a stronger sense of belonging than ZC residents do, the following relative significant test of difference and comparison will make statistical inference that the mean for FC is higher than that for ZC. Then the composite variable was constructed by taking the average score of all 7 variables. This information is needed for the next step in the analysis.
Figure 4.33 Cluster Bar-Chart of Q1
4.3.2. Step 3:

As the levels of those three spatial factors differ between the two focal communities, I have compared the value of the composite variable *sense of belonging* between the two communities and made a statistical inference.

*Method and results*

As all the data of interest are ordinal, it is appropriate to employ a nonparametric test to compare the median values for the two samples.\(^\text{17}\) In order to perform Mann-Whitney test, I need to do one more step about the data. Two new columns need to be created: SOBZC for the sense of belonging score for ZC and SOBFC for the sense of belonging score for FC.

Here are the null hypothesis and an alternative hypothesis for this test as test 1:

\[
H_0: \text{Median}_{ZC} = \text{Median}_{FC} \\
H_a: \text{Median}_{ZC} \neq \text{Median}_{FC}
\]

From the output in Table 4.2, it is evident that the median score for SOBZC is 4.7857 and that for SOBFC it is 6.0000. The point estimate for the difference between these two groups is -1.4286, and the 95% Confidence Interval is (-1.7143, -1.2141). Therefore, I am 95% confident that the difference between the two sample medians falls within (-1.7143, -1.2141). The p-value for this test is 0.000 < \(\alpha = 0.05\), which

\(^\text{17}\) Minitab offers the Mann-Whitney test, which is a two-sample Wilcoxon sum rank nonparametric test, to compare two groups of ordinal data. This test, therefore, fits my data well.
indicates that there is a significant difference in regard to the level of sense of belonging between the two communities at the 0.05 confidence level.

<table>
<thead>
<tr>
<th>Mann-Whitney Test and CI: SOBZC, SOBFC</th>
</tr>
</thead>
<tbody>
<tr>
<td>N  Median</td>
</tr>
<tr>
<td>SOBZC 143 4.7857</td>
</tr>
<tr>
<td>SOBFC 150 6.0000</td>
</tr>
<tr>
<td>Point estimate for ETA1-ETA2 is -1.4286</td>
</tr>
<tr>
<td>95.0 Percent CI for ETA1-ETA2 is (-1.7143,-1.2141)</td>
</tr>
<tr>
<td>W = 13226.5</td>
</tr>
<tr>
<td>Test of ETA1 = ETA2 vs ETA1 not = ETA2 is significant at 0.0000</td>
</tr>
<tr>
<td>The test is significant at 0.0000 (adjusted for ties)</td>
</tr>
</tbody>
</table>

Table 4.2 Results of Mann-Whitney Test 1

In addition, I have established a null hypothesis and an alternative hypothesis for this test as test 2 as follows:

\[
H_0: \text{Median}_{ZC} = \text{Median}_{FC} \\
H_a: \text{Median}_{ZC} < \text{Median}_{FC}
\]

Interpreting the data in the same way as test 1, from the output presented in Table 4.3, it is evident that the median score for sense of belonging in FC is higher than the median score for ZC. Thus, a statistical inference can be made that FC residents have a stronger sense of belonging than ZC residents do.

<table>
<thead>
<tr>
<th>Mann-Whitney Test and CI: SOBZC, SOBFC</th>
</tr>
</thead>
<tbody>
<tr>
<td>N  Median</td>
</tr>
<tr>
<td>SOBZC 143 4.7857</td>
</tr>
</tbody>
</table>
Table 4.3 Results of Mann-Whitney Test 2 ($\text{Median}_{ZC} < \text{Median}_{FC}$)

Summary of the findings for step 3.

I chose the Mann-Whitney test to compare the sample median values of sense of belonging between the two communities and found the result to be significant. In conclusion, the level of sense of belonging differs significantly between ZC and FC that have different physical environments. The further following test 2 confirmed that FC residents express a stronger sense of belonging than ZC residents do.

4.4. Conclusion

Through my observations, I established that people are both produce and are subject to changes in their communities. The residents use existing spaces but also adapt spaces to conform to their needs, and they appear to feel secure in doing so. The sense of belonging might help them feel they can make changes, and the changes might help them feel like they “belong,” as they feel a sufficient sense of ownership to make changes. When they have a sense of security and belonging, residents have no misgivings about making the outdoor space their own territory by placing their furniture outside their doors and by taking care of the outdoor space by decorating, such as placing a mushroom statue, and planting flowers and vegetables. They do not expect others in the community to either take or damage the items in their extended
Based on my observations, I also found that residents use the outdoor space according to their own preferences. Locations that attracted people can be clearly identified from the map and the characteristics of these spaces have been analyzed in this chapter. I found that three aspects have a positive effect on residents’ sense of belonging: good view of a space plus the activity opportunities it affords can help promote visitation and then interaction, different activity areas in the community that provide edges and links for transition and activity diversity, and subdivided spaces at residents’ thresholds that reinforce their ability to assume a territorial attitude.

The physical differences based on these three spatial characteristics between the two focal communities were compared in this chapter. Through this study, it can be seen that all three spatial characteristics are represented in both communities, though they differ in regard to the extent of each of these characteristics. Each of the three spatial factors is represented more strongly in FC than in ZC. Combined with the statistical analysis based on the survey about residents’ sense of belonging, the hypothesis that “between the two chosen communities, the one with stronger spatial traits—the three traits which respectively encouraged interaction, variety of activities, and territory attitude—would also have a stronger sense of belonging than the community which reflected these three spatial traits in a weaker way would” proposed in the beginning of this chapter is supported. Based on the results of the comparison, it is evident that there is a directly proportional relationship between these spatial characteristics and people’s sense of belonging: FC residents have a greater sense of belonging than ZC residents do. Thus, to a certain extent the present study confirms that residents’ sense of belonging can be influenced by these three spatial factors as
suggested in Chapter 3: good view of a space plus the activity of opportunities if affords can help promote visitation and then interaction, different activity areas provides edges and links for transition and activity diversity, and subdivided spaces at residents’ thresholds reinforce residents the ability to assume a territorial attitude.

In conclusion, to generate a sense of belonging and thus meet the demands of both public—the interpersonal relationship developed through communication—and private—the control of a territory, it is necessary to provide residents with open spaces which offers good view and encourages interaction, and with opportunities to develop their own territory attitude. Further, the variety of activity areas has the function of providing a transition and providing opportunities for diverse activities that enrich community life.
Chapter 5. Final Conclusion

As we can see, throughout history people have adapted to the given environment by both changing their lifestyles and making changes in the places they live. They made the given place their home and established sense of belonging. In gated communities, they are doing the same as what they have done. Although given a limited living environment, people still choose what kind of spaces to use and how to use them. People love to watch people, thus space offer good view to watch is a basis for visitation and then interaction, so is the space offer activity opportunities. Sense of belonging to a community will be enhanced through better personal relationship, which is developed from interaction. Different activity areas also offer opportunities of activity diversity and interaction of different people. Moreover, owning or having control a piece of land helps promote a territory attitude, such as “this is my territory and I belong to here”, which also enhances a sense of belonging.

Through this research, I have found that three spatial aspects make a space attractive to people and positively affect residents’ sense of belonging: good view of a space plus the activity of opportunities if affords can help promote visitation and then interaction, different activity areas provides edges and links for transition and activity diversity, and subdivided spaces at residents’ thresholds that reinforce residents’ ability to assume a territorial attitude. Certain needs—the need for communication, (interpersonal relationships), the need for privacy, and the need for territory—must be met if a sense of belonging, satisfaction with the community, and a sense of control over territory are to be generated. And, these three spatial aspects each play a part in ensuring that this takes place. The comparative results presented in the last chapter indicate a directly proportional relationship between these spatial characteristics and
people’s sense of belonging: FC residents have a stronger sense of belonging than do ZC residents, which correlates with the spatial characteristics proposed herein being relatively more present in FC than in ZC. This study does not prove a correlation between these spatial characteristics and residents’ sense of belonging in terms of statistics. However, the study does suggest a good probability that a statistical study would confirm the results.

In the future with more funds and time, further studies could be conducted based on these three factors. More communities could be studied using the same method, and likewise more data could be collected. Overall, a statistical analysis based on a larger dataset would go far in regard to producing a more comprehensive picture of how and the extent to which the focal spatial characteristics proposed herein relate to sense of belonging, sense of community, and territorial attitude.

This research has also brought additional matters of some importance to light. First of all, the results of the statistical comparison between the two communities’ sense of belonging show that FC residents have a stronger sense of belonging than ZC residents do. However, ZC is also a more established community, having been built approximately 10 years earlier than FC. Based on the theory about the factors that influence sense of belonging, the length of time people have lived in a place is important: the longer a person has lived in a community, the stronger his/her sense of belonging. Yet, the newer community of FC did have at least one advantage. That is, it appeared that FC residents have obtained something they like in their community compared to ZC residents. The three spatial traits which were found out through my research would influence this result.

Second, determining the changes developer-driven housing has effected in people’s lives is not an easy task, as there are multiple aspects to consider such as
possibility of class segregation and emergence of community autonomy. Yet, the present research does suggest that people lead lives that are more private since the advent of developer-driven housing.

During the fieldwork, I also observed the common open space around each community. For example, Zhongxingli Park is a very popular place with ZC residents, who live only a two-minute walk away from it. This living area serves ZC as well as many similar communities, most of which, unlike FC with its central plaza, are not well equipped with facilities or central open space (Fig. 5.1 & 5.2). Therefore, in order to compensate materially and psychologically, ZC residents appear to have shifted the focus of their daily lives to this much larger outside environment equipped with facilities, more things to see, more people to meet and more activities in which to participate (Fig. 5.3). In comparison, FC is much better equipped with facilities and

![Figure 5.1](image)

**Figure 5.1** Some parts of life around Zhongxingli Community are keeping or even turning back to a traditional way. Street barbers are emerging in recent years.
Many people living in the nearby communities will go to Xinhua Park to spend their spare time. Most of them are retired or do not have a job. Big open space with less vegetation here (image 4) is less attractive.

various spaces, such as a central plaza, playground, kindergarten, and community club. Residents’ scope of activities is becoming smaller as they can meet most of their daily needs within the community. The central plaza and the playground in FC have a similar function to a park; thus FC residents do not have as strong a need for a park as ZC residents do. What is happening in FC is in accord with what is happening in current Chinese gated communities; i.e., the communities are moving common materials into a more private environment where access is reserved for a certain group of people (Table 5.1). Thus, compared to ZC residents, FC residents have a more private living pattern. This movement toward more privacy is in keeping with an overall trend in China. And this situation continues since the gated communities being built now are even larger and better equipped.
Figure 5.3 Various activities in Xinhua Park, which is 3 minutes’ walk from Zhongxinli Community. People are enjoying their spare time and onlookers can be seen everywhere.

<table>
<thead>
<tr>
<th></th>
<th>ZC</th>
<th>FC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shared open space surround community</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Park</td>
<td>○</td>
<td>×</td>
</tr>
<tr>
<td>Market</td>
<td>○</td>
<td>×</td>
</tr>
<tr>
<td>Street (Shops)</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Shared open space in community</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Garden Courtyard</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Plaza</td>
<td>×</td>
<td>○</td>
</tr>
<tr>
<td>Pedestrian Street</td>
<td>×</td>
<td>○</td>
</tr>
<tr>
<td>Common House (Community Club)</td>
<td>×</td>
<td>○</td>
</tr>
</tbody>
</table>

Table 5.1. Comparison of Shared Open Space between Zhongxingli Community and Fuyunxidu Community. Edited by author.

To a certain extent, this trend could relieve the pressure that arises from insufficient common facilities. Yet, this trend could also result in redundant facilities by duplicating similar constructions. Moreover, another concern about public parks—the common open space in the city—is raised herein based on this difference between ZC and FC: fewer people visit common parks when their immediate communities are already well-equipped, such that the land used for parks can be turned to other uses, such as new communities. This would intensify the privatization of city space such
that the city’s common space would shrink, and also result in people feeling attached only to their own communities rather than the city. In my opinion this is not an easy problem to balance, since through my research it is evident that people have more sense of belonging in those well equipped communities. These are possibilities that are worthy of consideration by people from a number of fields.

Throughout the history of housing development in northern China, housing has reflected multiple influences—societal, economic, etc. Likewise, political ideology has exerted a strong influence on the housing types available. Any given type of community, including the gated community, may give way to other types as China continues to change, and so do people’s minds. Currently, though, gated communities are a mainstay of Chinese communities. Learning what residents’ lives look like in this environment and what people like provides a basis for building structures likely to result in successful communities—communities in which residents develop a strong sense of belonging to sustain both the present and the future.
Appendix: Questionnaire on residents’ sense of belonging

We now want to ask the extent to which you agree or disagree with certain statements on a scale of 1 to 10 where 10 means “Strongly Agree”, 1 means “Strongly Disagree” and 5 means “neither agree nor disagree”.

1. Community is my home and it is built depends on us all
   Strongly Agree Strongly Disagree
   10 9 8 7 6 5 4 3 2 1

2. I feel that I can take great pride in my community
   Strongly Agree Strongly Disagree
   10 9 8 7 6 5 4 3 2 1

3. If conditions permit, I hope I can be living here for a long time
   Strongly Agree Strongly Disagree
   10 9 8 7 6 5 4 3 2 1

4. I’m interested in events which take place in my community
   Strongly Agree Strongly Disagree
   10 9 8 7 6 5 4 3 2 1

5. I think that living in the present community gives me sense of community
   Strongly Agree Strongly Disagree
   10 9 8 7 6 5 4 3 2 1

6. If you have to move out of your current community for some reasons, will you feel regretful or happy when you are leaving?
   1 Very happy
   2 Happy
   3 Nothing matters to me
   4 Regretful
   5 Very regretful

7. When the collective interests of your community has been harmed, will you participate joint actions initiated by the residents for this, for example, make suggestions to government department or submit a joint letter?
   1 Impossible
   2 Improbable
   3 Not Sure
   4 Maybe
   5 Will

Note:
Several questions in this survey are drawn from the Australian Unity Wellbeing Index: http://survey.australianunity.com.au/TakeSurvey.aspx?SurveyID=m2KH6l2&PreviousActualPageNumber=1&PreviousDisplayPageNumber=1&PreviousQuestionNumber=1&ActualPageNumber=2&DisplayPageNumber=2&ResponseID=0&QuestionNumber=1&Edit=No&DisplayHeader=&SP=
Bibliography

Chapter One


Chapter Three


Chapter Three