

# The Correlation Research between Lifestyle Changes and Evolution of Residential Communities – Based on a Survey of Shanghai, China

**Kai Zhang**

Ph.D Candidate, Department of Space Design, Chung-Ang University, Seoul, South Korea

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**Abstract** From 1990s to the present, in China, residential communities has developed rapidly in terms of government policies and living environments. With economic development, dwelling commercialization and socialization gradually reshaped the housing distribution system and local government management in Chinese urban area. After this process, dwellings were endowed with commodity attributes, which were planned and designed depending on residents' requirements of life. During the 30 years of social transformation, Chinese citizens' lifestyle also had huge changes. In this period, the forms of residential area improved constantly to keep pace with social development. This study aims to research the features of contemporary communities and survey citizens' lifestyle changes to find the reasons of the evolution of communities. Moreover, in this paper, there is a clear explanation of the reasons why gated communities are popular in Chinese urban area. In addition, comprehensive data analysis is derived from a questionnaire administered in Shanghai, China. In this part, the questionnaire surveys what factors about lifestyle influence the transformation of living environments and residential buildings. The results of survey show that residents have housing preferences dependent on their lifestyles, and their daily needs related with environmental features.

*Keywords: Communities, Residents, Lifestyle, Residential satisfaction, Correlation*

## 1. INTRODUCTION

### (1) Background

Over the last few decades, China has experienced an unprecedented urbanization with a very high influx of rural-to-urban migration (Loren, 2008). This phenomenon has led to a shortage of land resources, which has promoted reasonable land utilization. Thus, collective residences have become the main type of dwelling in the cities of China. At present, gated communities have become a universal residential

pattern, especially, in area with high-population density area. Furthermore, the form and style of apartments gradually changed due to the transformation of citizens' lifestyles in previous periods. Chinese people's lives have been hugely transformed. Economic development promotes the rhythm of life. People pursue more convenient and colorful lives and hope that they can obtain more resources for their needs.

Because of special requirements of urban life, Chinese gated communities have unique features, but have gradually become more uniform in design. The gated-community has become the main type of dwelling in cities of China. Its design work not only includes interior design and exterior environment design but also the neighboring environment has become an important factor to assess a community.

Gated communities are surrounded by fences or walls, and fixed gates isolate the community from outside pedestrians and vehicles. With the enclave, all housing clusters have electronic gated access and residents pay a monthly maintenance fee to enjoy condominium facilities such as swimming pool, club house, tennis courts, landscape gardens, parking etc. There are few connections that link the inside to the outside of the residential area and public facilities in these communities. People living outside of these communities cannot enjoy these

Corresponding Author : Kai Zhang  
Department of Space Design, Chung-Ang University, 84 Heukseok-ro, Dongjak-gu, Seoul, South Korea

e-mail : zk200880@126.com

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services and facilities. The gates, walls and light-tech surveillance technologies provide a sense of security. It provides not only physical but also social and legal aspects. (Pow, 2009; Yan, Zhong & Chen, 2018; Ngai, 2012)

Gated communities are built and managed by real estate companies and property developers. Protecting the housing investments of private house owners are their primary duty. (Blandy et al., 2003)

Despite all this, many scholars hold negative views of gated communities. They are confident that physical enclosure of gated communities privatizes public space and reduce interaction among neighborhoods, which further exacerbates the problem of social or regional segregation. (Blakely & Snyder, 1997) Even certain people call these communities as “punitive cities” (Lynch, 2001), “cities of fear” (Low, 2003), “evil paradises” (Davis & Monk, 2007).

## (2) Importance of study

Different from other opinions, this paper focuses on the reason why gated communities are popular in Chinese urban life. Although some scholars present the advantages of gated communities based on Land use and development tendency in different Chinese urban centers, they did not explain the relevance between lifestyles of inhabitants and environmental features of gated communities.

Consumers usually are goal-oriented and choose a particular dwelling; to pursue values and goals that are important to them. Their lifestyle variables are proposed as an intermediary between the translations of socio-demographic characteristics into the determination of consumer preferences (Hustad & Pessemier, 1974); (Michelson & Reed, 1974). On the other hand, market economic and residential commercialization also promote that residential design should conform to requirements of users. Thus, lifestyle is used to improve the prediction of the housing demand in a quantitative as well as in a qualitative sense by obtaining more accurate measurements of consumers' preferences and choices. (Jansen et al., 2011)

## (3) Research question

The purpose of this study is to investigate the correlation between housing design and housing preference dependent on changes of life circumstances. It clarifies the relationship between daily needs and the dwelling transformation. There is less material related with the theme. Similarly, the lifestyle of inhabitants promoted the design evolution of residential area.

## 2. METHOD

For research purposes, literature review was conducted, which focused on lifestyle and the transformation in apartment communities' design. Because apartments became popular in China in the 1990s, and continue to be popular today, apartment design has 30 years' of development history. The content of the study includes changes of lifestyle. In addition, the study conducts a contemporary comparison through analysis of

relative literature about the modes of popular communities.

Moreover, a questionnaire related with citizens' lifestyle and living in apartment communities was distributed, and was an important way to verify correlation between these items. There is uncertainty as to whether users' housing preference and satisfaction affect the evolution of residential area. Consider this version: basic requirements of residence and housing satisfaction should be measured to determine the relationship between lifestyle and housing preference. Shanghai is an ideal urban area to survey because it is the economic center and has the largest population density in China. The participants of the survey are people who live in gated communities, and they have enough household income to support their daily life. In such a case, any sample would indeed be sufficient. Thus, I will visit different people with diverse population characteristics, containing various groups with different ages, occupations, income etc., to apply the questionnaire.

## 3. LITERATURE REVIEW

### (1) Lifestyles transition and residential environment

During last 30 years, rapid economic development has increased citizens' incomes; meanwhile, economic prosperity has affected citizens' concept of consumption and personal value, and has stimulated employment and consumption. (Cai, Park, & Zhao, 2008) People were aware that they could obtain more excellent lives. They were eager to acquire better educational resources, richer material life and convenient living environments. More individualistic lifestyle milieus emerged, which differed from the traditional, hierarchically organized milieus based on seniority, etiquette, and state power and were replaced with personal economic success instead. (Werner, 2013) In modern society, there are general life goals towards which everyone strives, such as physical well-being and social acceptance (Lindenberg, 1990). People tend to focus on various specific, more concrete goals, with the ultimate aim of achieving these general life goals (Coleman, 1990) This phenomenon also could be found in changes of lifestyles (Table 1).

Unlike in the past, commerce became another prominent function of urban citizens willing to have sufficient material life. Thus, infrastructure plays an important role in residential choice and preference. (Maarit & Marcel, 2017) One important infrastructure argument with respect to residential choice and preference is the proximity of everyday services such as groceries, schools, workplaces, medical services, and facilities such restaurants and, more generally, the availability of public spaces for meeting other people. (Prillwitz, Harms, & Lanzendorf, 2007)

Otherwise, residents buy houses for ideal living conditions and not just for basic living area. Leisure infrastructure, such as sports facilities, public green areas, or bodies of water, also plays a role concerning residential preferences, since the residential environment is the place where most local recreation happens. (Dirksmeier, 2012) (Halseth, 2004)

Table 1. Changes of lifestyle

Items	Traditional lifestyle	Modern lifestyle
Urbans' functions	Administration and management	Administration, commerce, public communication
Consumption habits	Native products, Basic daily necessities	Imported products, Hi-tech products, luxuries
Comfort of life	Less requirements	Requirements of ideal services
Commuting ways	Walking, Bicycle, Bus	Railway, Bus, Taxi, private-car
Entertainment	Less chances to enjoy Leisure time	Spending leisure time to relax (tourism, sports, game)
Diet habit	Dining at home, Longer Preparatory time	Delicious foods and different tastes Convenient restaurant
Education	Basic education	Education of high quality

Hence, good location is a key factor to housing satisfaction. Good location implies easy access to activities such as work, shopping and entertainment (Munroe, 2007; Osland, 2008) Access points such as metro stops and railway stations also attract people by providing connections to major activities at different locations (Jiao & Liu, 2010; Pan & Zhang, 2008).

Because of emphasis on education in China, it is an ideal condition to have high-quality education sources not far from your residence. All these requirements are related with modern life and correspond to perfect livelihood facilities, various public institutions and convenient living environments.

## (2) Influences on residential buildings

With the gradual perfection of market-oriented economy, the real estate industry has become an important part of China's economy in recent years. Because real estate in China was owned and managed by the government under the socialist central-planning economic system before 1988, construction and provision of urban housing rested mainly upon the state work units or simply work units. (Wu, 1996) According to the 1988 Constitutional Amendments, land use rights are allowed to be separated from land ownership and can be traded in the open market. Development companies were established to build "commodity housing" for sale, presumably according to market principles. (Wang & Li, 2006) Therefore, housing as a necessity was endowed with product attributes. Because of implementation of the commodity housing, real estate services have also grown rapidly since 1992. During this period, some preliminary real estate laws and regulations were enacted, including 1990 Provisional Regulations on the Assignment and Transfer of Land Use Rights in Urban Areas to regulate the transfer of land use rights. (Fung & Huang, 2006).

In addition, Chinese economic reform also promotes industry development, and leads to a large-scale population immigration from rural to cities due to more job opportunities in urban centers. (Loren, 2008) Nevertheless, with rapid urbanization in Chinese cities, the pressing demand for land has pushed up its value (Huang, Huang, & Li, 2003); land shortages became a key problem in urban areas. Therefore, the transition in urban housing during this period has shown not only physical and morphological transitions but also transitions in density, demography, spatial design and household formation. With the arrival of the real estate commercialization era, developers of real estate in Chinese cities today must greatly rely on the market to decide their project plans. The growing freedom in choosing one's own residence implies increased variations in all aspects of housing consumption. Examination of individuals' housing preferences is crucial in understanding these variations. (Wang & Li, 2006)

Depending on the Chinese daily needs, combined apartment building could effectively confront this dilemma. Usually, a combined apartment building has several units on one floor, and a gate as the entrance and exit, but the building is no less than five stories which is an embryo of apartment building. Gradually, most people are not satisfied with living conditions due to a lack of safety and security, communal spaces and affiliated facilities, thus, gated-communities emerged and became popular in China urban. (Pow, 2007)

## (3) Research topics of gated communities

In many studies, researchers consider residential preferences to be multi-faceted, comprising the relationships with neighbors, the local physical environment, especially its functionality (safety, presence of and access to services), and the broader physical-social neighborhood. (Rioux & Werner, 2011) The importance of neighborhood context in residential satisfaction (Bonaiuto, 1999) would include amenities such as green spaces, cleanliness, safety from traffic and crime, (Philippe & Anne, 2006) car-parking areas, road-works, and building location (Rojo, et al., 2011). Because these elements could fulfil daily requirements of citizens as much as possible, all these elements compose a model of Chinese gated communities, which are popular in Chinese urban centers.

At present, amounts of materials focus on the features of residential environment. Although many researchers studied and summarized the relationship between housing preferences and satisfaction (Pow, 2009; Iben & Amole, 2013), fewer researchers briefly described environmental features of Chinese gated communities and analyzed causalities between these features and lifestyles of dwellers. (Prillwitz, Harms, & Lanzendorf, 2007; Dirksmeier, 2012) Previous studies have not dealt with the question whether the features of gated communities are suitable for residents. This paper aims to research the impact of lifestyle transitions on the model of gated communities through a survey in Shanghai, China.

#### 4. CHARACTERISTICS OF COMMUNITIES

##### (1) Generation and popularity of gated communities in Shanghai, China

Housing areas in Chinese cities these days are almost as a rule produced in the form of gated communities (Miao, 2003; Wu, 2005). Gated communities have gained such unprecedented popularity that it has become the dominant development pattern in the commodity housing market, as it has been widely adapted to upper-, middle- and lower-market production by means of the variation of service fees. (Xu & Yang, 2009)

Similar situation also happened in Shanghai, according to the survey of Miao (2003), approximate 83% of all residential communities in Shanghai were gated. Shanghai as a Chinese metropolis is dominated by tall, densely populated and distributed residential buildings, creating a high land plot ratio, all resulting from the actual conditions of having a dense population over a small amount of land in Chinese cities. (Yan, Zhong & Chen, 2018)

Although the shortcomings of gated communities have been enumerated by some scholars, many researchers still believe the popularity of gated communities must relate to inhabitants' life requirements.

The primary reasons and benefits that motivate households to purchase gated landed homes are "Safety and Security". (Tan, 2015) Because the community type includes gated, open or semi-open communities, gated communities are surrounded by fences or walls, and fixed gates isolate the community from outside pedestrians and vehicles. Living in a gated community is safe and comfortable. However, outside pedestrians cannot pass through the community without permission. (Yan, Zhong & Chen, 2018), also they are generally equipped with facilities and amenities such as swimming pools, landscaped parks, club houses and playgrounds. Gated communities can be in the form of high-rise buildings such as apartments or condominiums. (Tan, 2015)

Moreover, gated communities construct a new private lifestyle enclave that departs from communal living patterns, and commercial also efforts to promote privacy as a privileged 'lifestyle concept' in gated communities through marketing the 'interiority' of private homes as individualized personal spaces. (Pow, 2007) Residents buying into gated communities are not only living up the new dream of private home ownership and exclusive lifestyle behind the gates, they are also expressing their subjectivity and individualism through the reconfiguration of personal spaces and interior of their apartments. (Pow, 2007) Just like the view of Pow (2009), the territoriality of gated communities reflects not only the real estate trend towards gating up privately developed commodity housing estates but also the housing aspirations and desires of middle-class residents, who often demand exclusivity and that their privacy and 'private property rights' be enforced and respected.

Except for the exclusivist needs of lifestyle and social status, gated communities could benefit to post-use period service. Gated communities have been built and managed by property

developers, real estate management companies and private homeowners associations that are primarily interested in protecting the housing investments of private homeowners (Pow, 2007) and comfort of living environment. It also appears that the satisfaction levels of homeowners are to a certain extent, influenced by the benefits of owning a gated home. (Tan, 2015)

##### (2) Gated outdoor and neighborhood of community

There is a common interest for nearly all gated communities, that is, the quality of the collective shared internal open space. Thus, shared open space is viewed as an indispensable part of housing quality and property value, demanding elaborate design, construction and management. (Miao, 2003)

A typical gated neighborhood would have recreational facilities for the convenient usage of residents (Tan, 2011). These include a private clubhouse, BBQ areas, convenience markets, gyms and other services that facilitate the daily needs of the residents to support comfortable life.

The gated neighborhood creates a convenient setting that enables the residents to spend their leisure time close to their homes and get to know other residents without leaving their neighborhood (Asiedu & Arku, 2009). Besides, the environmentally friendly surroundings filled with green and open spaces in the neighborhood has also played an important role in promoting a sense of community among residents. (Tan, 2011) Because urban green spaces, water bodies and good environments provide amenities and services that contribute fundamentally to the quality of urban life (Shafer, Lee, & Tumer, 2000; Van & Wiedemann, 2003). Moreover, green space has many social, ecological and economic benefits : improving air quality; mitigating the urban heat island effect; increasing provision of recreational facilities; enhancing the sense of community; promoting people's physical and mental health, etc. (Czembrowski & Kronenberg, 2016; Jim & Chen, 2010)

In recent years, therefore, increasing concern about urban green space and environmental quality has grown in tandem with rapid urbanization. (Jim & Chen, 2006) To meet the increasingly affluent and discerning clientele, developers are competing to offer good landscapes and environments to lure buyers and increasing attention has been devoted to beautifying residential grounds (Liu, 2003).

Apartments with green space or water views are considered more appealing, prestigious and signify an elevated social status; hence they could command a higher premium. Most developers intuitively believe that green spaces and a pleasant environment in residential developments are important and a garden view could lift the price of apartments. (Jim & Chen, 2006) The social interaction aspect of neighborhood is not to be neglected as open green spaces can encourage residents to maintain positive social interactions, which could promote a higher sense of community. (Tan, 2015) Moreover, public institutions play an important role in residential choice and preference. These institutions provide daily services such as groceries, schools, restaurants, medical services and sport facilities. (Prillwitz, Harms, & Lanzendorf, 2007)



### (3) Security

Comparing with traditional Chinese open communities, gated communities could support more satisfying safeguards. Because of open communities with dense, tall buildings, exhaust pollution from vehicles is high, public spaces for residents' activities are scarce and living in the community is not safe because many vehicles pass through. If vehicular traffic is substantial, the quality of the environment and the security of the community may be reduced. (Yan,Zhong & Chen, 2018) In contrast, in many gated communities, people are happy to go outdoors and relax in the shared community space because there are no vehicles passing through. (Yan,Zhong & Chen, 2018)

According to Osman, Suzilawti,&Rabe(2007), two main security features are common among all gated enclaves. The first is the presence of security and safety equipment such as closed-circuit cameras, intercoms, alarms and surveillance systems (A gated housing community has a 24-hour security system conducted by either security patrols, CCTV or both). The second security feature is patrol services given by security guards. Security guards are normally placed at the entrance of the gated neighborhood to limit the access of outsiders and allow only residents or visitors with a pass to enter. In addition, gated estates provide more than just physical barriers to define neighborhood boundaries. They provide a sense of class identity to reinforce the privileged status of residents. (Osman, Suzilawati,&Rabe, 2007)

In fact, people are willing to pay higher property prices and management fees for a quieter environment, more cleanliness, and the absence of strangers. Therefore, the exchange of people with the outside world must be controlled. In that way, the private, ownership-based mode of governance follows the model of the club economy (Glasze, 2005) and requires the gated character of the estate.

According to Werner's(2013) survey of responders lived in three gated communities, 64% of them desired even stricter access controls. Only 7.6% preferred a more relaxed mode, and virtually nobody preferred free access to their estate (0.9%). Overall, strict control of access follows a strong demand.

### (4) The requirements of Residential convenience

With the rapid pace of life and individualism, most citizens prefer convenient and simplified daily lives. They are willing to spend their leisure time in recreational activities instead of household duties, and also hope their life pressures could be relieved.

Therefore, the enclosed communal amenities, facilities and services provided vary correspondingly. There are two traditional variables to capture the location premium: the distance to the central business district (CBD) and the distance to the nearest metro station (METRO) (Bowes & Ihlanfeldt, 2001).As we know, CBD with various social amenities aims to provide convenience for space users. In China, these social amenities also relate with daily requirements, which include restaurants, gyms, supermarkets, malls, traffic systems, large

parking lots, coffee shops etc. People could enjoy superior service and spend less time and effort. Therefore, the real estate nearby CBD, usually, stays at a higher-price.

However, the formation of CBD requires long term planning and development with relevant institutions or local governments. Not everyone has the opportunity to live in CBD of an urban area. For satisfying living environment and greater economic benefits, the developer of real estate plans and structures a local commercial district to meet their clientele. In the new mode, the boundaries of gated communities are not confined to walls, fences or to natural barriers. In many cases, especially in dense urban areas with flourishing urban life, mixed-use buildings facing streets are built up as boundaries and shops, which support diverse uses and activities along streets besides functioning as a means of separation. (Xu & Yang, 2009) Residents could rent or purchase these shops with street frontage, thereby promoting regional prosperity.

### (5) Urban educational resource

As mentioned above, the surrounding public goods have become important factors in the decision-making of a homebuyer. In particular, the “nearby enrollment” policy and the “school district system” have been implemented for a long time under the background of China's compulsory education system. (Wen, Xiao, & Zhang, 2017)

In China, children can be enrolled in a nearby public school based on their Census register, which is combined with the location of housing, to receive nine years of compulsory education (from primary to junior secondary education). (Xu, Song, &Liu, 2018) Because schools do not obtain equal financial or other support from the local government, with fewer, yet better equipped (key and top) schools are supported by higher government than normal schools (Tsang, 1996). Moreover, the housing and register system reform and property market booming, less wealthy parents can immediately migrate in new residential area nearby key and top school districts by buying a school district house (Wu et al., 2013).

Since the acceleration of educational reforms in the late 1990s, different social-spatial accessibility to different quality educational resources affects the educational attainment of students, which can, in turn, affect the path of social mobility of different social classes (Wu, Liu, & Zhang, 2017). Thus, social stratification will be strengthened by the different ability and opportunity for individuals to obtain educational resources.

Therefore, the qualities of primary school and junior high school have a significant school district effect on housing price. And the convenience of kindergarten and the good cultural atmosphere, environment, and sports facilities of a university have a significant and positive effect on housing price. (Wen, Xiao, & Zhang, 2017)

## 5. QUESTIONNAIRE

The questionnaire drafted aims to verify the correlation between lifestyle and housing characteristics in depth. The

samples of survey participants are dwellers that live in seven gated communities (Table 2). The survey includes residents' housing preference, lifestyles, gated outdoor (Outdoor environment in the community) and the local infrastructure etc.

Items of the questionnaire focused on four subjects which are summarized from previous related studies with appropriate adjustments.

Demographic factors: Different Characteristics could impact persons' opinions and preferences about their house.

Gathering opinions of different persons could reduce the bias in samples. (Jansen et al., 2011) (Table 4)

Table 2. Sampling coverage

Site	Construction age	District
Yi Jia Yuan	1995	Yang Pu
Kang Qiao Garden	1997	Pu Dong
Shanghai Chun City	2002	Min Xing
Dong Du Ming Ren	2003	Hong Kou
Jiali Mingzhu City	2005	Zha Bei
He Sheng Garden	2011	Feng Xian
Bao Li Xing Hai	2015	Jia Ding

Environment: Householders also care about the location and living environment because commuting behavior and residential location are co-determined by lifestyle goals pertaining to commuting, neighborhood and housing ( Pinjari et al., 2007) (Table3)

Housing satisfaction: Residential satisfaction can be seen as residents' subjective evaluation of their homes and neighborhood environment relative to certain benchmarks (Ibem & Amole,2013). Items were measured on five-point Likert-type scale (1 strongly disagree to 5 strongly agree), because it is convenient for statistics. (Table3)

Lifestyles and Preferences: With considerable diversity in individual needs of life, people's preferences and evaluations of their living environment are also becoming increasingly diversified (Ge & Hokao, 2006). Accordingly, housing choice has a significant lifestyle aspect. (Kamyar, Marketta, & Greg, 2019)(Table3)

Convenience sampling is an ideal way to contact dwellers in gated communities and administer the survey. Seven investigators spent 28 days in three periods (First period: 8:00-10:00am; Second period: 13:00-14:00pm; Third period: 18:00-20:00pm) to finish this work. Their duties were distributing leaflets and explaining questions. All questions are choices to avoid chaotic evaluation criterion.

Three hundred questionnaires were distributed to residents that covered 7 communities in seven districts. During the interviews, approximate 40 interviewees refused to participate in the survey, and more than 20 interviewees did not finished

questionnaires. 239 questionnaires were finished and returned. According to data, the demographics of interviewees did not have obvious differences in seven districts. The male residents interviewed are 133 persons, and account for 55.6% of the total. 106 women were interviewed, which is 44.4% of all interviewees. (Table 4)

Table 3. Items of questionnaire

Environmental factors	Housing preferences and satisfaction	Lifestyle	
Gated outdoor	Landscape and greenbelt Sport field Security and CCTV Parking capacity	Housing location School district Convenience of life Public utilities	Commuting ways Eating at restaurants Shopping in market or mall
Regional environment	Commuting time Traffic system School district house Commercial district Public institution	Housing satisfaction Living condition Outdoor environment Security	Leisure time Fitness Frequency Fitness habit Importance of education

Table 4. ANOVA results of Personal factors and Housing satisfaction

Personal factors	Num.	%	Mean	
Age: F=2.208; P=.069	20-29	36	15.1	3.36
	30-39	111	46.4	3.45
	40-49	33	13.8	3.48
	50-59	30	12.6	4.03
	>60	29	12.1	3.79
Gender: F=4.295;P=.039	Male	133	55.6	3.42
	Female	106	44.4	3.73
Income (Chinese Yuan) F=5.994; P=.001	<5000	19	7.9	4.37
	5000-10000	75	31.4	3.25
	10000-20000	90	37.7	3.51
	>20000	55	23	3.76
Marital Status F=4.364; P=.014	Unmarried	39	16.3	3.36
	Married	177	74.1	3.67
	Divorce	23	9.6	3.00
Education F=1.082; P=.357	Junior high school	2	0.8	3.00
	High school	37	15.6	3.62
	Undergraduate	132	55	3.64
	Postgraduate	68	28.6	3.37
Family size F=4.590; P=.001	1person	26	10.9	2.92
	2persons	57	23.8	3.54
	3persons	70	29.3	3.41
	4persons	29	12.1	3.66
	>5persons	57	23.8	3.98
Health F=9.641; P=.000	Unhealthy	11	4.6	1.91
	General	82	34.3	3.77
	Healthy	103	43.1	3.59
	Very Good	43	18	3.49
Living with Children F=9.641;P=.000	Yes	141	59	3.72
	No	98	41	3.32

The age span of interviewees was from 20 to 70, with the largest group of 46.4% between 30 and 39. The smallest group of 12% were older than 59. Seventy families in the survey were composed of three persons: two parents and one child. This family type represented 29.3% of the survey results and is the largest group. Most interviewees have monthly income around 10 thousand Chinese Yuan.

**(1) Demographic factors and Housing satisfaction**

One-way ANOVA analyses were used to detect the relationship between housing satisfactions and personal factors. (Table4) Analysis results show that six items have significant differences on evaluations of housing satisfactions. Gender (F=4.295, P=.039) and marital status (F=4.364, P=.014) are associated with housing satisfaction (p<0.5).Income, family-size, health and living with children are significantly associate with housing satisfaction (p<0.01). In relation to gender, females are more satisfied with their houses (M=3.73).Two groups of lowest and highest income have higher housing satisfaction than other groups. Moreover, housing satisfaction gradually rise with increasing family-size. Parents living with children also have higher satisfaction with their houses (M=3.72). Healthy people are more satisfied with their houses than the unhealthy group.

**(2) Lifestyles and Residential convenience**

Analysis of research shows correlative factors of residents and lifestyles which affect dwellers’ housing preference and housing satisfaction. Analysis shows that dining habits, fitness and shopping have significant correlation with residential convenience. (P<.01). (Table5) People who cook in home prefer to shop in supermarkets frequently. And people who like eat meals in restaurants also do more recreational activities. These people are willing to spend leisure time shopping in malls (Table6). Because restaurants, recreation facilities and bigger supermarkets usually gather in one mall, it could be deduced that commercial facilities are a key factor to residential convenience, which relates with inhabitants’ lifestyle and requirements.

Table 5. The correlation coefficient of lifestyle factors and residential convenience

Lifestyle factors	Residential convenience	
Commuting ways	.079	(.222)
Eating at home	.379**	(.000)
Eating in restaurants	-.225**	(.000)
Shopping in supermarket	.197**	(.002)
Shopping in mall	.051	(.432)
Recreational activities	.104	(.108)
Frequency of fitness	.168**	(.009)
Fitness habit	.167**	(.009)

\*\* . Correlation is significant at the 0.01 level (2-tailed).  
 \* . Correlation is significant at the 0.05 level (2-tailed).

Table 6. The correlation between lifestyles

Pairs factors	Coefficient	
Eating at home & Shopping in supermarket	.348**	(.000)
Eating in restaurant & Recreational activities	.177**	(.006)
Shopping in mall & Shopping in supermarket	.384**	(.000)
Shopping in mall & Recreational activities	.169**	(.009)

\* . Correlation is significant at the 0.05 level (2-tailed).  
 \*\* . Correlation is significant at the 0.01 level (2-tailed).

In Chinese urban centers, prosperous locations usually have brilliant facilities such as public traffic systems, malls, markets, banks, schools etc. People who live in prosperous districts enjoy convenient lives. (Maarit & Marcel, 2017) Based on survey results, 209 persons live in prosperous areas, and 30 persons live on the city edge. The results also suggest that most interviewees spend approximately 1 hour commuting, 42.3% (101 persons). 72 interviewees have short commuting time that is less than 30 minutes. Given this, 72.3% of respondents have commuting times no more than 1 hour (173 persons). (Table 7)

Besides, the convenience of commute is related with housing location, and because commuting takes up a considerable amount of time for the majority of working people, it could be speculated that most residents believe transportation convenience is an important factor of residential location.

Table 7. The frequency and percent of commuting and location

Location	f	%
City edge	30	12.6
Prosperous Location	209	87.4
Commute Time		
	f	%
More than 3hours	5	2.1
More than 2hours	26	10.9
1-2 hours	35	14.6
Approximate 1 hour	101	42.3
Less than 30 minutes	72	30.1
Subtotal	239	100

**(3) Amenities and Gated outdoor**

Residential satisfaction is multi-faceted, it involves the home’s interior and exterior, environment of gated outdoor areas, the local physical environment and its functionality (safety, presence of and access to services), landscape and healthy features (air quality and greening). (Rioux & Werner, 2011)

The importance of a gated outdoors in residential satisfaction would include amenities such as green spaces, car-parking areas, safety from traffic and crime and leisure activities area.(Bonaiuto,2004) In this survey, there are significant correlations between these items listed above and housing satisfaction(P<000).This result confirmed the previous assertion. (Table8)

Table 8. The correlation coefficient of amenities and satisfaction of gated outdoor

Amenities	Coefficient.	
Greening rate	.416**	(.000)
Parking capacity	.333**	(.000)
Sport fields	.388**	(.000)
Security, CCTV	.358**	(.000)

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\* . Correlation is significant at the 0.01 level (2-tailed).

#### (4) School district houses

This survey explores a correlative comparison between living in school district, the importance of education and the attitude of purchasing the school-district housing. Because China's school district housing is expensive, and many of them are old units with small interior area, not all residents live in school district housing. According to the results of analysis, the importance of education and living in school district are not significantly correlated with each other. However, the attitude towards the importance of school districts has certain relevance with residents in school districts ( $r_s = 0.287$ ,  $P < 0.000$ ). There are 81 interviewees living in school districts, school district is a key factor in choosing an apartment. The data achieved suggests that there is obvious correlation between residing in school districts and the importance attached to it. (Table 9)

Table 9. School districts, attitude in school districts and importance of education.

Correlation	Coefficient
Living school district and Attitude of school district housing	.416**
Attitude of school district housing and Living school district	0.002(0.979)
Attitude of school district housing and Importance of education	-0.002(0.972)

\*\* . Correlation is significant at the 0.01 level (2-tailed).

#### (5) Residential satisfaction

Based on the features of communities, the environment of gated outdoor and neighborhood of communities are important factors to residential satisfaction. Moreover, residential convenience and comfort could enhance housing satisfaction. For further confirmation, in this study, regression analyses were conducted on housing satisfaction and evaluation of other factors. These results reveal that the environment of a gated outdoors, the number of public institutions, residential convenience and comfort significantly correlate with housing satisfaction and preferences ( $P < .000$ ). Thus, residents highlight the idealization of residential areas, as well as the impact of their living habits to their needs. (Table 10)

All results of statistics in this paper verified the hypothesis that the evolution of housing design is related with the daily needs of

residents. Modern people are more likely to spend their leisure time not only in daily consumption, but also fitness, tourism and recreation. The fast pace of life drives them to improve their efficiency in everything, therefore, inhabitants seek diverse services and convenient living environments. Designers and real estate companies are conscious of this situation. After all, ideal designs should satisfy requirements of users.

Table 10. Regression analysis of affecting housing satisfaction

Factors	B	$\beta$	T-value	P	R <sup>2</sup>
Gated outdoor	(Constant)1.359		8.047	.000	
	.669	.666	13.763	.000	.444
Convenience	(Constant)1.056		5.774	.000	
	.677	.681	14.309	.000	.464
Public institution	(Constant)2.478		10.306	.000	
	.378	.291	4.691	.000	.085
Residential comfort	(Constant) .860		4.762	.000	
	.739	.712	15.597	.000	.507

## 6. DISCUSSION

My research explored the correlation between lifestyles and features of communities. In this paper, analyses were derived from a survey of residential satisfaction and conditions in communities of Shanghai, China. Items of the questionnaire not only included the constructed residential physical environment but also reflected daily requirements of different dwellers. In addition, there were useful explorations of satisfaction in safety, comfort, amenities .etc.

Based on research background, the boom in residential architecture has prompted the new development of dwelling environment and design. With regard to real estate legislation, the Urban Real Estate Law, adopted in July 1994, provided the main legal framework for the real estate market at the central level (Fung & Huang, 2006). This phenomenon also led to housing commercialization. With population expansion in Chinese urban centers, more residential communities are increasing the housing demand. Because advanced building technology and structures can exactly meet Chinese conditions, multi-store buildings and high-rise buildings have become the main structure for dwellings (Cheshmehzangi, 2018). Thus the environmental function and conditions have to support multiple requirements of inhabitants.

Overall, the findings of this study provide support to the view that the mode of communities in Shanghai is oriented toward residents' life styles. Results of survey show that, people with different social status have different evaluations regarding their residential environment and satisfaction, and they also have different housing preferences. Further analyses also supports that the needs of the residents' relate with environmental features. Moreover, housing satisfaction has a linear correlation



with a gated outdoors, convenience of life, numbers of public institutions (Public institutions include banks, schools, hospitals etc.) and residential comfort.

In addition, future studies could also provide more information about the housing satisfaction of different groups on the same items to understand the details of lifestyles based on various different social contexts. For example is environmental factors properly organized? How can urban designers reduce interference among residents in gated outdoor areas? All of them are worthy of additional study.

## 7. IMPLICATION

The findings in this paper have important implications on the design and development of dwellings. First, to increase residential satisfaction, designers should pay extra attention to the outdoor environment of communities. One of the reasons that gated communities are popular in Shanghai is its gated environment. Secondly, regional conveniences could increase residential satisfaction, which is also a key factor to life satisfaction. Moreover, the attention of basic education could promote purchasing behavior. Some parents are willing to purchase a house close to a school district for their Children. The number of public institutions is a favorable condition to almost all residents lived in urban centers. The combination of findings provides support for why gated communities are ubiquitous in Chinese urban centers.

## 8. CONCLUSION

The major objective of this research is to study the relationship between lifestyle changes and the evolution of residential communities. According to a review of the literature, the development of Chinese dwellings experienced a transition from the public distribution system to commercialization, which is a precondition of housing design development. With promotion of urbanization, increased urban population density, scarce land resources, increasing consumption of power and lifestyle transformation, all these are pressure the residence to adapt to these society transitions directly or indirectly. In the process of improvement, gated communities become the main form of dwellings in Chinese urban areas. Some western scholars denounce its shortcomings; also protest its interference in urban traffic systems. At present, gated communities already have become a mainstream residential building trend in Chinese urban areas. It also has gradually improved to meet citizens' life requirements.

In the survey of housing preference, the questionnaire was drafted to understand which lifestyle items could affect dwellers' residential requirements. The survey case is in Shanghai due to its highest population density in China. Moreover, Shanghai also is a prosperous big metropolis. Depend on the series of data analysis listed above, lifestyle items related with housing preference include commuting, dining habits, shopping, basic education and fitness habits. These factors have tight

connections with housing preference and satisfaction, which also promote dwelling development effectively. To satisfy the citizens' requirements, housing design not only includes interior design, also includes outdoor space design and neighborhood plans.

Thus, residence development has correlation with basic life requirements. Because of market-oriented reform in dwellings, housing design also suits requirements of users as far as possible.

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