



A STUDY OF THE PARENT-CHILD EXPERIENCE DESIGN  
FOR PUBLIC SPACE OF COMMUNITY SHOPPING CENTER:  
A CASE STUDY OF TIANJIN FUTURE WORLD SHOPPING CENTER



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A Master's Project Submitted in Partial Fulfillment of the Requirements  
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THE MASTER'S PROJECT TITLED  
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BY  
XIAOYU YAO

HAS BEEN APPROVED BY THE GRADUATE SCHOOL IN PARTIAL FULFILLMENT  
OF THE REQUIREMENTS FOR THE MASTER OF ARTS  
IN MASTER OF ARTS (DESIGN FOR BUSINESS) AT SRINAKHARINWIROT UNIVERSITY

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Title	A STUDY OF THE PARENT-CHILD EXPERIENCE DESIGN FOR PUBLIC SPACE OF COMMUNITY SHOPPING CENTER: A CASE STUDY OF TIANJIN FUTURE WORLD SHOPPING CENTER
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Degree	MASTER OF ARTS
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With the increase in the proportion of children to the population and the per capita expenditure on education, culture and entertainment of households nationwide, parent-child consumption has become a very important economic behavior at present. In addition, with the decline of Engel's coefficient, people's consumption structure has gradually changed from satisfying the purpose of food and clothing to enjoyment-based experiential consumption. In the past 10 years, China's real estate has exploded, but the shopping center space design concept cannot fully keep up with the changes in consumer demand. Therefore, the purpose of this study is to conduct research and analysis from the level of consumer cognition, physiological needs and psychological needs, and derive the parent-child experience design strategy of public space in community-based shopping malls, and verify it through design prototypes. This study was conducted qualitatively using questionnaire surveys. For the survey results, this study first uses SPSS data analysis software as an analytical tool, and uses the percentage method to analyze "consumer cognition", "consumer physiological needs", "consumer psychological needs" and "consumer social background" in the questionnaire. After reaching the preliminary analysis conclusion, the Future World Shopping Center will be used as a design prototype to verify the feasibility of the research results.

Keyword : Parent-Child Experience Design, Public Space, Community Shopping Center, Tianjin Future World Shopping Center

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# CHAPTER 1

## INTRODUCTION

### Background

According to the "Seventh National Population Census Communiqué" released by the National Bureau of Statistics (2021), the population aged 0~14 is 253.38 million, accounting for 17.95%, and with the liberalization of the three-child policy, the child group will also show an upward trend in the future. According to data released by the National Bureau of Statistics in October 2022, the per capita expenditure on education, culture and entertainment of residents nationwide in 2021 was 2,599 yuan, an increase of 106.0% over 2012, an average annual increase of 8.4%, and an increase of 0.3 percentage points over 2012. It is judged that parent-child consumption is a very important economic behavior at present and has great potential in the future.

According to data from the Kong (2020), domestic Engel data continued to decline from 2016 to 2019, from 30.1% to 28.2%. With the decline of Engel's coefficient, people's consumption structure has gradually changed from satisfying the purpose of food and clothing to enjoying experiential consumption. Among them, parent-child consumption is particularly obvious in the excessive consumption of experiential consumption due to its special customer demand attributes. According to the "2020 Top 100 Brand Owners Pay Attention to Newly Opened Shopping Centers" released by Xiong (2021), parent-child formats account for 9% of subdivided formats, second only to catering and retail, becoming the third largest experience format.

In the past 10 years, China's real estate has exploded, and a large number of shopping centers have been built and opened, which will be detailed later. Due to the rapid construction and opening demand, the space design concept of the shopping center cannot fully keep up with the changes in consumer demand, and because the shopping center design has a certain timeliness attribute, the design needs to be updated regularly. For most of the old shopping centers in the Tianjin market, the public space of the center is not sufficiently considered for parent-child design. For some newly built community-based shopping centers, the public space has poor overall

planning for parent-child design, and cannot form an exploratory space. Therefore, it is necessary and urgently needed to conduct research on parent-child experience design for public spaces in community-based shopping centers.

This study will adopt the method of case study, using Tianjin Future World Shopping Center in China as a case study, the project is a community-based shopping center opened in October 2022, the overall format is mainly parent-child sports theme format, public space also specially done parent-child experience design practice, the author because of work reasons as the interior design manager of the project full name to participate in it.

### **Objectives of the Study**

The research and analysis were carried out from the level of consumer cognition, physiological needs and psychological needs, and the parent-child experience design strategy of public space in community shopping malls was obtained, and verified by design prototypes

### **Significance of the Study**

- (1) Supplement the relevant theories of experience design of public space.
- (2) Create parent-child experience design related references for the public space of community shopping centers.

### **Scope of the Study**

This research focuses on Future World Shopping Center in Tianjin, China. Future World Shopping Center has a construction area of 48,000 square meters, divided into one underground floor and three floors above ground, which mainly meets the daily life and entertainment of surrounding residents, and highlights the parent-child leisure format. Future World Shopping Center is located at the North New District of Tianjin, and the residents within 3km of the surrounding area are mainly newly established families of three.

### Definition of terms

(1) Public space of community shopping center:

The study mentions that the public space of community shopping center refers to the indoor space that provides customers with rest and entertainment services, and does not belong to a specific store.

(2) Parent-child:

The parent-child concept referred to in this study is the combination of children aged 0~14 and their parents' clients;

(3) Experience design:

The experience design referred to in this study focuses on the interaction between people and space, and people's experience in space.

### Study framework

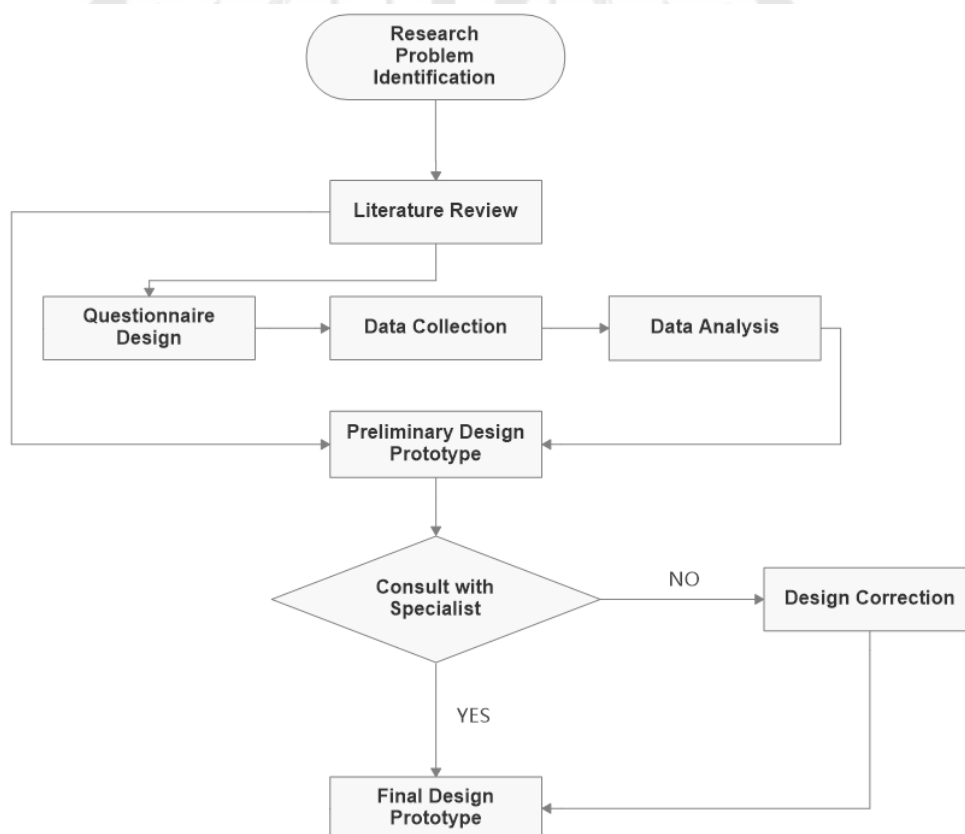


Figure 1 Research framework diagram

## CHAPTER 2

### REVIEW OF THE LITERATURE

This chapter will discuss the definition of community shopping centers, the development status of shopping centers at home and abroad, the relevant theories of shopping center public space, parent-child behavior and psychological theory in commercial space, and experience design theory under the topic of:

- (1) The definition and development of shopping center.
- (2) Theories related to public space in shopping centers.
- (3) Parent-child behavior and psychological theory in commercial space.
- (4) Experience design theory discussion.

#### **The definition and development of shopping center**

##### 1. Community shopping center definition

China's State Administration for Market Regulation and the International Standardization Administration (2021): Mainly to meet the daily needs of surrounding residents, equipped with necessary catering and leisure and entertainment facilities, located in or around the residential area, convenient transportation, service area of about 3 kilometers, scale between 30,000 and 125,000 square meters.

International Civil Service Commission (U.S. Shopping-Center Classification and Characteristics, 2017): ICSC typically defines a neighborhood center as a convenience-oriented shopping mall with a service area of less than 3 miles and an area of between 10,000 and 50,000 square meters.

The Complete Real Estate Encyclopedia (Denise L. Evans, JD & O. William Evans, 2007): A shopping mall of approximately 100,000 to 300,000 square feet and 20 to 70 retail spaces, designed for a mix of retailers and food service establishments, with high convenience and a market area radius of 3 to 6 miles.

Typically, 10 to 40 acres with at least one main tenant; Anchorages typically account for 40 to 60 percent of the total leasable space.

Table 1 Community shopping center features

	Location	Business districts and target customers	Scale	Commodity structure
International Civil Service Commission (ICSC)	-	3 miles	30,000~125,000 sq m	Generally anchored by a supermarket
The State Administration for Market Regulation of China and the International Standardization Administration	It is located at or around the center of the residential area, with convenient transportation. It is mainly closed independent buildings	The radiation radius is 3km, and the customers are mainly surrounding residents	Excluding parking lot, usually 10,000~50,000 sq m	Mainly family life, leisure and entertainment
The Complete Real Estate Encyclopedia (Denise L. Evans, JD & O. William Evans, 2007)	-	3 ~6miles	100,000~300,000 sq ft	A mixture of retailers and food service establishments

From the above discussion, it can be judged that the main service group of community shopping centers is daily consumption customers within the range of 3~9.5km, and its functional formats are also mainly to meet the daily consumption of life and entertainment.

## 2. Development of shopping centers in China and abroad

For the development of foreign shopping centers, the United States, as the most developed country in the world after World War II, its shopping center development can be used as a typical representative of foreign shopping center development. Gao (2006) summarizes the development of shopping centers in the United States into the following stages:

The American Mall was born in the 1920s to 1930s. The earliest modern shopping center in the United States date back to the "Country Club Plaza" in the 1920s, which is located in the suburbs of Kansas, USA, with its large free parking lot, and is the first shopping city to serve suburban driving customers, similar to the outlet shopping malls that are now found all over the world. Before World War II, there were fewer than 100 shopping centers in the United States.

The 50~90s of the 20th century is the vigorous development stage of shopping centers, and the number and scale of shopping centers have broken through in this stage. During this period, with the popularization of automobiles and highways, people's radius of activity gradually increased, and shopping malls also gave birth to some super-large complexes, and the planning and design became more and more perfect.

Since the beginning of the 21st century, the development of shopping centers has gradually entered a period of saturation. According to the International Council of Shopping Center Market Committee, after 2009, the development of shopping centers in the United States tends to be saturated, the total number hovers around 110,000, and as of 2018, the total number of shopping centers in the United States is 114,915.



For domestic shopping centers, Li (2012) summarizes the development of shopping centers in China into three periods, 1980 to 1995 is the embryonic period, 1996-2000 is the initial period, and 2001 to the present is the rapid development period.

In the first period, with the improvement of China's openness, some Hong Kong real estate companies have built some large-scale comprehensive real estate projects in Beijing, Shanghai, Guangzhou and other cities in China, and some of these developers uniformly manage and lease commercial high-rise podium projects, which can be regarded as early shopping centers. The shopping malls in this period were more in the form of department stores, with a small scale and a single format, although they did not reach the scale of the shopping centers, but marked the germination of China's shopping centers.

Tianhe Plaza in Guangzhou, which opened in 1996, as the first shopping center in the modern sense in China, marks the beginning of China's shopping center development. From 1996 to 2000, although many large-scale shopping centers were built successively, which also promoted the construction boom of China's real estate shopping centers, the form was mainly imitating the early domestic Hong Kong-style shopping malls and foreign shopping centers, and did not form China's own model.

In the period from 2001 to the present, large commercial real estate at home and abroad has built a large number of shopping malls in major cities in China, and formed brand product lines, such as Hang Lung Plaza series of Hong Kong Hang Lung Properties and Wanda Plaza series of Dalian Wanda Group. During this period, the shopping center format developed maturely, the scale was large, and a certain standard was formed.

Table 2 Comparison of GDP growth rates between China and the United States in the past 14 years

Year	GDP (US\$ billion)		Real GDP growth rate (%)		GDP% China/USA
	China	USA	China	USA	
2007	35520	144519	14.2	1.9	24.6%
2008	45967	147128	9.7	-0.1	31.2%
2009	51020	144489	9.4	-2.5	35.3%
2010	60879	149921	10.6	2.6	40.6%
2011	75547	155426	9.6	1.6	48.6%
2012	85320	161970	7.9	2.2	52.7%
2013	95744	167849	7.8	1.8	57.0%
2014	104767	175273	7.4	2.5	59.8%
2015	110600	182383	7.0	3.1	60.6%
2016	112370	187451	6.8	1.7	59.9%
2017	123232	195430	6.9	2.3	63.1%
2018	138919	206119	6.7	3.0	67.4%
2019	143004	214332	6.0	2.2	66.7%
2020	147296	209328	2.3	-3.5	70.4%

In conclusion, compared with the development of shopping centers at home and abroad, the reasons why the development of shopping centers in the United States tends to stagnate the author believes that there are mainly the following two aspects. First, as the US economic growth slows, people's purchasing power is the direct cause of the bottleneck in the development of shopping centers. Looking at the comparison of GDP growth between China and the United States in the past 15 years, the United States has remained below 3% for most of the time, and even negative growth in some years, while China has mostly maintained more than 6%. Second, the rise of Internet

shopping has a huge impact on traditional offline sales, and shopping malls, as one of the traditional consumption places, bear the brunt. According to a quarterly survey of 1,000 US consumers conducted by Jungle Scout, a well-known Amazon product selection and operation analysis tool, 78% of the surveyed consumers choose to shop online, and 46% only shop online. American shopping malls have experienced a long period of development, affected by different factors, and different stages have shown different characteristics and faced different challenges.

### **Theories related to public space in shopping centers**

Mitrašinović and Mehta (2021) argues that public space is an intermediary space that connects different buildings, but as large-scale urban construction leads to a shift in social structure, the historical social bonds between individuals are weakened, cities increasingly become gathering places for individuals, and public open spaces as part of the urban environment become impersonal and fragmented. Public space plays a vital role in urban development. As stated by Cecilia Andersson (2021), public space not only promotes economic development and community revitalization, but also promotes the well-maintained, health and safety of the urban environment through its continued use, making the city an attractive place to live and work.

Kusumowidagdo et al. (2013) through a study of three shopping centers, Pasar Atum, Ciputra World and Tunjungan Plaza, concluded that shopping malls built in earlier years tend to focus more on social relationships than physical conditions, while more recent shopping malls derive a sense of place from their physical conditions and provide new experiences. Probably different shopping centers have different sense of place, and the diversity of attachment styles, people and cultures, and time also play a role in creating different sense of place. The types of relationships that can occur here are iconic, biographical, experiential, functional, and dependent.

Ouyang (2016) found through research and analysis of customers' consumption behavior that customers will continue to walk or stop and observe at any place in public space, and when shopping malls can give consumers more consumption information, they can promote their desire to consume. In the collective

shopping center, because its space is more complex, whether the space is recognizable and whether consumers can intuitively identify their position in the space is an important factor in the design.

In summary, the public space of the shopping center carries the transitional space role between the community and the store, in addition, with the change of urban construction and social structure, new requirements are also put forward for the social function of the public space of the shopping center.

### **Parent-child behavior and psychological theory in public space**

For children, children will go through several periods in the process of growth, and their psychology and behavior will change slightly in the process of growth, and children's hobbies will change accordingly at different ages. (Huang Ziyi, Yang Liuqing, 2010)

Zhang Ying (2016) argues that play is an essential behavior in children's development, and the types of play in children also show obvious differences with age. Before the age of 2, children exhibit simple, repetitive movements. And pretend games, which usually appear from the age of 2, also reflect the development of their thinking and imagination. In addition, during the age of 3~6, children generally prefer building blocks and anagram toys, or some drawing and doodling activities. Because their cognition is not mature, which puts them in a stage where their imagination is rich, they believe in magical stories, so they prefer an open place to satisfy their free imagination. In the process of play, early childhood activities have five characteristics: initiative, randomness, exploration, closeness to nature and concentration.

For parents, young parents are often energetic for their own psychological and physical reasons, and like to expose children to new things, like to play with their children, or explore educational methods, and like to cultivate children's enthusiasm for group activities. Young parents also tend to have a strong desire to buy, and some parents want their children to have a safe play place or take shifts to watch over their children while shopping. Middle-aged and elderly parents have different activities than younger parents, they like sports equipment, fishing, dancing and other activities. They

usually have complex family structures, surviving parents, dependent children, and greater financial and work pressure. Therefore, middle-aged and elderly parents like comfortable natural places and spaces, they do not often participate in their children's sports activities, but they will communicate with their children about intellectual games. (Ma, 2016)

To sum up, because children have different psychological and behavioral needs at different ages, shopping mall public spaces should consider adapting to the needs of different age groups. The behavior of young parents and older parents is also significantly different, so the public space of shopping malls also needs to be equipped with different spatial functions to meet the needs of parents of all ages. Based on the above analysis, the possibility of flexible arrangement of space functions can be considered in the design.

#### **Experience design theory**

Experience design first appeared in the field of human-computer interaction, first used by Shedroff (2001), the definition of experience design, Chinese and foreign literature has not clearly defined. Wikipedia points the definition of "experience design" to "User experience design": User experience design (UX design, UXD, UED, or XD) is the process of defining the experience that users will experience when interacting with a digital product or website (Experience Design, n.d.); Baidu Encyclopedia's definition is: experience design is to integrate consumer participation into design, in the design of service as "stage", products as "props", environment as "scenery"(User Experience Design, n.d.).

In recent years, the scope of experience design is not limited to the field of human-computer and Internet interaction, and experience design is also a hot topic in space design. Chen (2012) based on the study of experiential commercial and commercial space concluded that the experiential design of public space in shopping malls has the following design strategies:

- (1) Induce rich perceptual experience in sight, hearing, touching and smell;

(2) Through the planning of entertainment themes, the setting of entertainment facilities and the introduction of entertainment activities, and induce the entertainment experience of public participants;

(3) Use diversified aspects, characteristic nodes, personalized furnishings to induce the aesthetic experience of personality highlights;

(4) Adopt a holistic spatial sequence, contextualized place manufacturing and regional cultural inheritance to induce the emotional experience of situational integration.

For children's customer groups, some scholars have also done theoretical research on experience design. Zhang (2017) analyzes the characteristics and needs of consumers under experiential consumption, and proposes a design method for the characteristics of children:

(1) Increase childlike design. The childlike design is mainly reflected in the design of details, and the design method is mainly to add interesting elements to the rest facilities and art installations on the circulation line of the shopping center, which can not only provide parents with a space for rest and communication. At the same time, it is also a play space for children;

(2) Increase entertainment design Entertainment design is mainly reflected in the introduction of indoor entertainment activities and the creation of outdoor entertainment space. Indoor entertainment activities mainly include large-scale entertainment activities and small-scale entertainment activities.

In the end, experience design originated in the field of human-computer interaction and focuses on human-computer efficiency. On the one hand, with the development of the times and the intersection of various disciplines, experience design has gradually become popular in the field of space design, focusing on the interaction between people and space in various sensory aspects, so that customers can gain a sense of participation. On the other hand, for children, the experience design of the space should focus on entertainment and the interaction between indoor and outdoor spaces

## CHAPTER 3

### METHODOLOGY

#### Research Design

This study adopts the method of case study, taking the case of Tianjin Future World Shopping Center, China as the in-depth discussion object, and qualitatively studies the theme of public space experience design of community-based shopping centers.

#### Population

The research object of this study was a combination of parent-child customers going to Tianjin Future World Shopping Center, and the age of children was selected to be in the range of 0~14 years old.

#### Sample size

In order to make the sampling data cover different subjects within the scope of the study as much as possible, according to the age and sex of the children, the sampling groups were divided into four sampling groups: 0~7 years old boys' families, 0~7-year-old girls' families, 7~14-year-old boys' families, and 7~14-year-old girls' families. Due to the limitation of time and labor costs, 20 groups of customers were selected by random sampling in each group owner for sampling questionnaires, and finally a sample of 80 people was obtained.

#### Research Methods

The questionnaire design process is as follows:



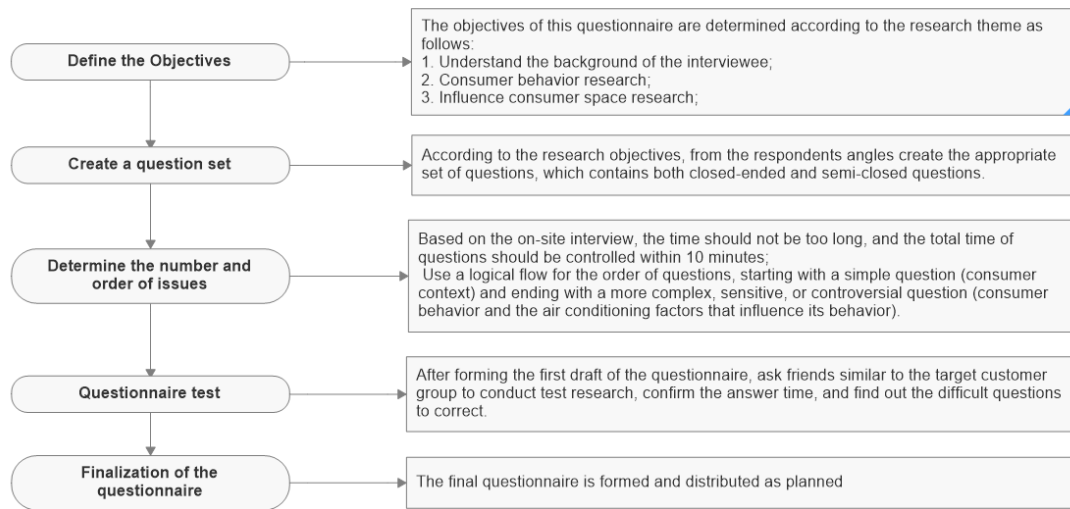


Figure 2 Questionnaire design process

### Questionnaire design

The main purpose of this study is to investigate the cognition and demand of parent-child consumers in Tianjin Future World Shopping Center on public space, and the questionnaire questions adopt a combination of closed and semi-open.

The questionnaire is divided into four parts, the first part is to investigate the cognition of parent-child consumers in the Future World Shopping Center on community shopping centers, the second part is to understand the physiological level needs of consumers for the public space of community shopping centers, the third part is to understand the psychological level needs of consumers for the public space of community shopping centers, and the fourth part is to collect the basic demographic information of the research subjects.

### Data Collection

Qualitative data is collected in text, intelligent verbatim transcription with the help of intelligent software, and data collection by interpretation and classification.

### Data Analysis

The survey data of the four parts of the questionnaire is presented in percentage form, which can more intuitively reflect the trend of customer needs.



## CHAPTER 4

### FINDINGS

In this study, SPSS data analysis software was used as an analytical tool to analyze "consumers' cognition of community shopping centers", "consumers' physiological needs for public space in community shopping centers", "consumers' psychological needs for public space in community shopping centers" and "consumers' social background" in the questionnaire by using the percentage method. After reaching the preliminary analysis conclusion, the second part of this chapter will use the Future World Shopping Center as a design prototype to verify the feasibility of the research results. Later, in the third part of this chapter, the expert group will be invited to consult on the prototype design, and after receiving the suggestions, analyze and summarize and modify the prototype design to arrive at the final design.

#### Research and analysis

##### 1. Consumer cognitive analysis of community shopping centers

In this study, consumers' cognitive analysis and research on community shopping centers are divided into four items, namely visit frequency, visit duration, main purpose and development trend prediction, and the sample characteristics are described in the following table:

Table 3 Consumer behavior analysis

Consumer awareness measurement options		Number	Percentage	Total
How often would you like to bring your children to Future World Mall?	More than 1 time per week	48	60.0%	80
	1~4 times a month	26	32.5%	
	Hardly going	6	7.5%	
How long do you stay at a time when you bring	Within one hour	11	13.8%	80
	1~2 hours	41	51.3%	

your children to Future World Mall?	More than 2 hours	28	35.0%	
The main purpose of your bringing children to Future World Mall is:	Shopping	25	31.3%	80
	Entertain, learn	32	40.0%	
	Gather with friends	18	22.5%	
	Others	5	6.3%	
What do you think the trend of community-based shopping malls like Future World is:	High style	35	43.8%	80
	Chinese traditionalization	14	17.5%	
	Diversified	8	10.0%	
	Exotic	7	8.8%	
	Trendy	12	15.0%	
	Others	4	5.0%	

According to the statistics obtained from consumer cognitive analysis in the sample, the measures are summarized as follows:

(1) Frequency of visits: Only 7.5% of the respondents hardly go to the mall, the highest proportion is 60% more than once a week, and 32.5% is 1~4 times a month.

(2) Duration of visit: Among the respondents, the largest number of visitors for 1~2 hours accounted for 51.3%, the lowest proportion was 13.8% within 1 hour, and the remaining visits were more than two hours, accounting for 35%.

(3) Main purpose: The most important purpose of visiting was entertainment and learning (40%), followed by shopping (31.3%), gathering with friends (22.5%), and other purposes (6.3%).

(4) Development trend judgment: Respondents judged the development trend of shopping malls as "high style" (43.8%), while other judgments accounted for "Chinese traditionalization" (17.5%), trend (15%), diversification (10%), exotic style (8.8%), and others (5%).

Through the above analysis data, it can be seen that at the level of consumer awareness, most consumers need to go to the shopping center more than once a week, and most of them spend 1~2 hours each time. Consumers go to shopping malls simply shopping is no longer the most important purpose, but the proportion of entertainment and learning is the highest. For the future development trend of shopping centers, more customers tend to "high style".

## 2. Analysis of consumers' physiological needs for public space in community shopping centers

In this study, the physiological needs of consumers on the public space of community shopping malls were divided into 12 items, and the characteristics of statistical samples were described in the following table:

Table 4 Analysis of consumers' physiological needs for public space in community shopping centers

	Consumer Physiological Needs Measurement					Total
	Options (People Counting)					
	Not needed at all	Not require d	Uncerta inty	Requir ed	Much need ed	
Common lounge seats	0	5	15	26	34	80
Public charging devices	2	4	22	43	9	80
Interactive entertainment area for children	4	12	26	27	11	80
Temporary activity area	1	3	16	35	25	80
Featured themed art installations	2	3	14	37	24	80
Mother and baby room	0	5	14	29	2	80
Public restrooms with	0	0	5	42	33	80

special equipment for children						
Paid studios	2	11	25	35	7	80
Interactive cultural and educational panels or digital installations	3	16	36	22	3	80
Indoor greenery	4	9	21	32	14	80
Children's lounge	0	2	5	43	30	80
Others	1	3	43	25	8	80
Total	19	73	242	396	230	960

According to the statistical results, the maximum number of people in need of "public rest seats" is 34, followed by 33 people in "public restrooms with special equipment for children", and 32 and 30 people in "mother and baby room" and "children's lounge" respectively.

There are 8 configuration respondents who choose from the statistics at all, of which the number of "children's interactive entertainment area" and "indoor green plants" is the maximum number of 4;

No need to count, only "public toilet with children's special equipment" configuration is not selected, the rest of the configuration selection number of 2~16 people;

In the uncertain statistics, there were more respondents choosing from various configurations, of which the maximum number of "other" items was 43;

In the statistics of the required items, there are more people to choose, among which the number of people choosing "public charging device" and "children's lounge" is up to 43 people.

In the statistics of very needed items, the number of people choosing "public leisure seats" was the largest 34, followed by "public toilets with special

equipment for children" with 33 people, followed by "mother and baby room" with 32 people, "children's lounge" with 30 people, "temporary activity area" with 25 people, and "special theme art installation" with 24 people, and the rest of the options were selected by a smaller number of people.

Summarizing the above statistical results, it is concluded that at the level of consumers' physiological needs, consumers have demand for most humanized and experiential configurations in shopping malls, and have strong demand for parent-child related functions such as "public rest seats", "mother and baby rooms" and "public toilets with special equipment for children".

3. Analysis of consumers' psychological needs for public space in community shopping centers

In this study, consumers' psychological demand analysis and research on public space in community shopping centers were divided into 8 items, and the characteristics of statistical samples were described in the following table:

Table 5 Analysis of consumers' psychological needs for public space in community shopping centers

Consumer Psychological Needs Measurement Options (People Counting)						Total
	Not needed at all	Not required	Uncertainty	Required	Much needed	
I would like to be able to bring my children together with friends in the mall	0	13	18	31	18	80
I want my children to grow and exercise	3	11	21	39	6	80

while interacting in the mall						
I hope that the experience activities in the shopping can help the children improve their aesthetics	8	5	28	27	12	80
I want the entertainment experience to change every time the mall changes	2	6	32	29	11	80
I want the experience inside the mall to be safe	0	9	16	31	24	80
I am willing to pay a reasonable fee for a good experience	1	3	22	34	20	80
I wanted the public spaces in the mall to be more interesting and exploratory	3	4	15	39	19	80
I want to talk to my kids about participating in handicraft activities in the mall	4	8	19	29	20	80
Total	21	59	171	259	130	640

The statistics show that the maximum number of people in the very need item selection is "I want the experience activities in the mall to be safe", and the minimum number of people choosing "I want children to grow and exercise while interacting in the mall" is at least 6;

In the statistics of the required items, the total number of overall choices was 259, of which "I hope children can grow and exercise while having fun and interacting in the shopping mall" and "I want the public space of the shopping mall to be more interesting and exploratory" The maximum number of people choosing is 39;

There is no need to count at all, the overall number of people selected is at least 21, and "I want to be able to bring children to a party with friends in the mall" and "I want the experience activities in the mall to be safe" are not selected;

In the non-counting process, the overall selection was 59 people, and the maximum number of people in the "I want to be able to bring my children to a party with friends in the mall" was 13;

The maximum number of people in the "I want the entertainment experience in the mall to change every time" is 32 people and the minimum number of people in the "I want the public space in the mall to be more interesting and exploratory" is 15.

In summary, at the level of consumer psychological needs, consumers have greater enthusiasm for the experience design and activities that can be mutually participated in shopping malls, and are willing to pay for a good experience.

#### 4. Analysis of consumer social background.

This study divided the analysis and investigation of consumer social background into 5 items, and the characteristics of statistical samples are described in the following table:

Table 6 Analysis of consumer social background

Consumer social context measurement options		Number	Percentage	Total
Child gender	Boy	48	60.0%	80
	Girl	32	40.0%	
Children's age	0~7 years old	37	46.3%	80
	8~14 years old	43	53.8%	
Age of parents	18~25 years old	22	27.5%	80
	26~33 years old	16	20.0%	
	Over 33 years old	42	52.5%	
Parental occupation	Government employees	13	16.3%	80
	Teachers, doctors, lawyers	17	21.3%	
	Farmer	19	23.8%	
	Freelancing	13	16.3%	
	Soldier	1	1.3%	
	Others	17	21.3%	
Annual household income	Less than 80,000 yuan	15	18.8%	80
	80,000~200,000 yuan	35	43.8%	
	200,000~500,000 yuan	21	26.3%	
	500,000~100,000 yuan	7	8.8%	
	More than 1 million yuan	2	2.5%	



The results of the analysis show that 60% of children are boys and 40% are girls; Children aged 0~7 accounted for 46.3%, 8~14 years old accounted for 53.8%; 27.5% of parents aged 18~25, 20.0% aged 26~33, and 52.5% over 33 years old; The highest proportion of parents' occupations was farmers, accounting for 23.8%, followed by teachers, doctors, lawyers and others, accounting for 21.3% respectively; The highest proportion of annual household income of 8~200,000 is 43.8%, and the lowest proportion of more than 1 million is only 2.5%.

Summarizing the above data, the proportion of children and boys in the parent-child customer group of this community-type shopping center is slightly higher than that of girls, the children over 8 years old are slightly higher than those under 7 years old, the parents have no specific tendency to occupation, and the middle-income families are most.

## **Scheme design**

### **1. Prototyping schemes**

This study uses Tianjin Future World Shopping Center as the design prototype to explore the topic of community shopping center experience design.

Project positioning and conceptual design:

The project is located in Yixing Fu, Tianjin, according to the literature review chapter community shopping center definition, the main service scope of this project is permanent residents within 3km of the surrounding area, and will also attract some visitors within 6km.

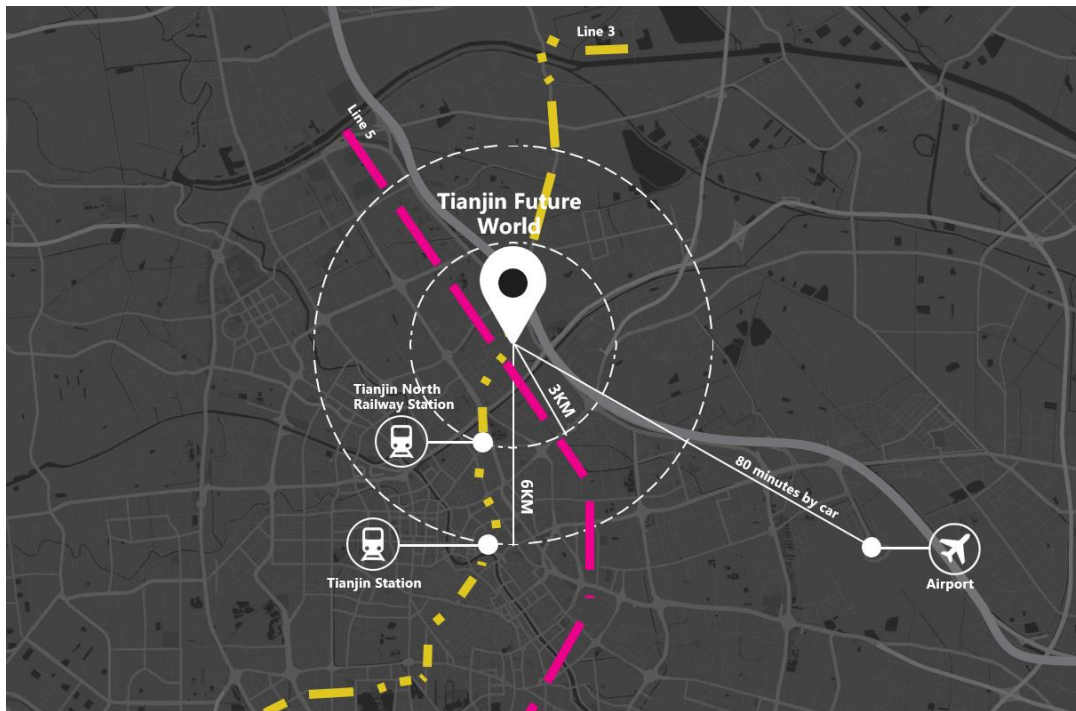


Figure 3 Location analysis

source: Produced by this study

According to the analysis of consumer perception research, most consumers come to visit for more information and entertainment, and tend to be high-style style. In addition, since a very distinctive sports theme park is set up around this project, it is positioned as a "parent-child sports aesthetic experience shopping center" based on comprehensive consideration.

According to the literature review of the concept of "experience design", the focus of experience design needs to pay attention to the interaction between people and space, and for children, it should also pay attention to the fun of space, so this project finally proposed the concept of "Urban Camping", hoping that in the high-style aesthetic space, customers can explore and interact in the space, and set up various interesting nodes and installations to bring customers a unique experience process.

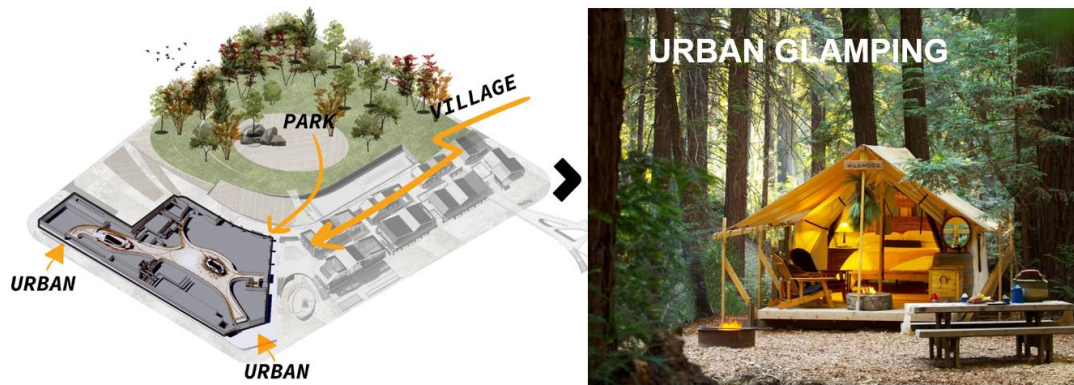


Figure 4 Conceptual analysis

source: Produced by this study

Based on the concept of "Urban Camping", the most important atrium space in this project is extended from the concept of camping experience, and the design elements of "Membrane", "Joint", "Inside the Tent" and "Outside the Tent" are extracted to obtain an atrium structure design with interesting exploration experience.

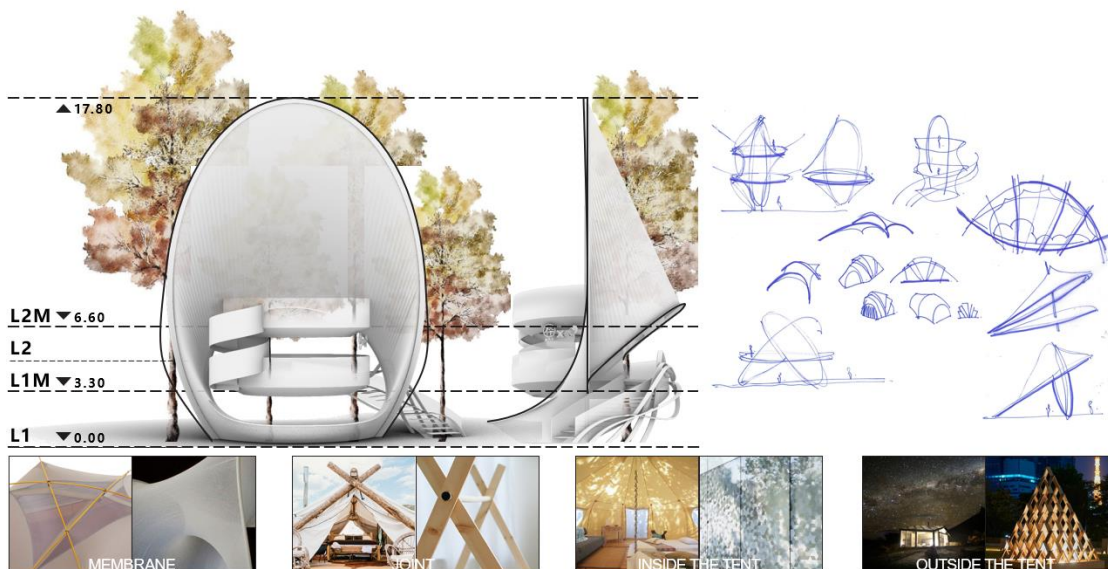


Figure 5 Element extraction

source: Produced by this study



### Main atrium space design:

Due to time constraints, only the most representative atrium space was selected for design verification in this study.

Based on the theoretical suggestions and actual project situation analyzed by this study, the design space style of the atrium of Tianjin Future World Shopping Center in the future mainly adopts the "High style" aesthetic trend chosen by most customers in consumer cognitive analysis.

According to the results of the consumer function analysis, the atrium structure of this project can be used as a "temporary activity area" or as a featured art installation to enhance the sense of customer experience. In addition, due to the introduction of the concept of "urban camping" through the park, the program can also host urban camping themed activities with the help of light shows.



Figure 6 The first draft of main atrium space design

source: Produced by this study

### Expert consultation on design solutions

In order to verify the feasibility and market recognition of the design, the above design scheme was respectively invited to Ms. Wu Chao, founder of Hong Kong NEWS Design Office, Mr. Zheng Gangqiang, doctoral supervisor of Wuhan University of Technology, and Mr. Sun Shengyang, Operation Director of Sino-Ocean Real Estate's Commercial Business Division, to comment on the design from different professional perspectives, and the main suggestions are as follows:

Ms. Wu Chao suggested: the overall style of the atrium design is relatively tonal, but the relationship between the atrium structure and the building floor needs to be further studied, and the display effect, practicality and interest can be comprehensively considered;

Teacher Zheng Gangqiang suggested: the theme of "urban camping" can be taken as the theme of the entire project, and the branch theme story can be extended in the atrium space to enhance the overall interest and experience;

Mr. Sun Shengyang: At present, consumers have a high degree of recognition of light and shadow technology, and some projects in the market have also had successful cases, which can combine dynamic light and shadow elements on atrium structures.

### Final plan

In response to the suggestions made by Ms. Wu Chao, Mr. Zheng Gangqiang and Mr. Sun Shengyang, the following modifications were made in the prototype design:

(1) In terms of theme style, under the big concept of "Urban Glamping", the concept of "jungle leaf dance" is given to the atrium space, and rich light and shadow changes are formed through the top leaf-like shading film combined with light;

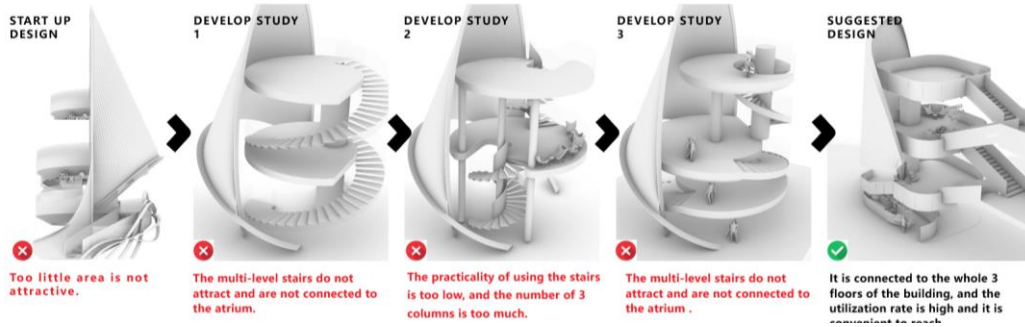


Figure 7 Derivation of structure design

source: Produced by this study

(2) The atrium structure was specially analyzed and discussed, and constantly improved, which solved the problems of small space, not connected to the floor, too narrow stairs, and many columns in the prototype design, and the final plan was obtained after a total of 4 drafts;

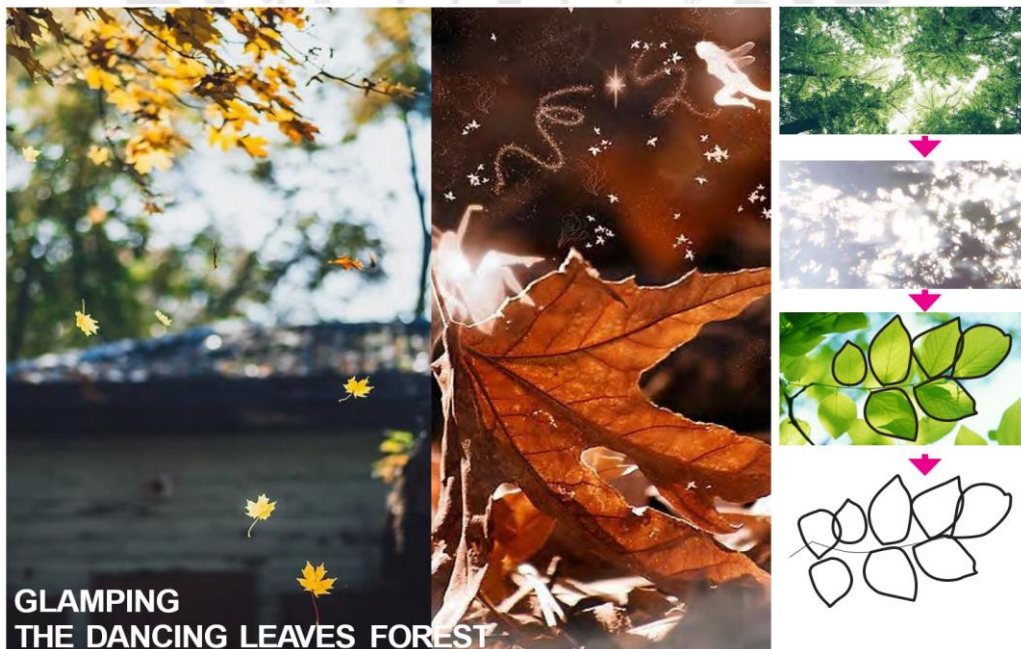


Figure 8 Urban Glamping" to "The Dancing Leaves Forest"

source: Produced by this study



(3) The membrane structure of the atrium structure adopts dynamic light and shadow design elements, which produces light and shadow changes during the customer's walking process, which is a unique experience for customers.



Before modification

After modification

Figure 9 Modify the before-and-after comparison chart

source: Produced by this study

#### Modify the content:

1. Add "jungle leaf dance" elements at the top of the atrium, and form rich light and shadow changes through the top leaf-like shading film combined with light;
2. Modify the atrium structure to connect with the floor and reduce the columns;
3. Adjust the membrane structure of the atrium structure to adopt dynamic light and shadow design elements;
4. Remove the fixed device on the ground of the atrium to leave space for temporary activities in the future;
5. Add dynamic light strips at the bottom of the escalator;
6. The atrium structure adds restable steps.



Figure 10 The final draft of main atrium space design

source: Produced by this study



## CHAPTER 5

### CONCLUSION AND DISCUSSION

#### Summary of the study

With the increase of the proportion of children to the population and the per capita expenditure of families on education, culture and entertainment, people's consumption structure has gradually changed from satisfying the purpose of food and clothing to enjoying experiential consumption. Since the design concept of shopping center space cannot fully keep up with the changes of consumer demand, the purpose of this study is to conduct research and analysis from the level of consumer cognition, physiological needs and psychological needs, and derive the parent-child experience design strategy of public space of community-based shopping centers. The conclusions of this study can be summarized in the following aspects:

1. Based on consumer cognition, parent-child customer entertainment learning should be designed as the main customer journey, and consumer shopping needs should be integrated into it. Moreover, for the spatial style of the shopping center, it is necessary to work the high style and aesthetic level;
2. Based on the physiological needs of consumers, humanized power configurations in terms of safety and convenience should be designed according to the different physiological characteristics of parent-child customers;
3. Based on the psychological needs of consumers, devices or activity planning that parent-child customers can participate in should be designed.

The significance of this study lies in that through the research on parent-child experience design strategy of public space in community-based shopping centers, on the basis of meeting the consumption needs of parent-child customers and improving the commercial value of shopping centers, it can also promote the healthy growth of children and enhance the happiness of parents and children to a certain extent.

### Suggestions for further studies

#### 1. Theoretical Recommendation

This study only uses Tianjin Future World Shopping Center as the prototype design, there are geographical limitations, and it is hoped that subsequent researchers can make prototype designs for other regional projects in order to verify the conclusions more comprehensively.

#### 2. Policy Recommendations

Based on the conclusion of this study, it is suggested that relevant departments such as the government and industry associations can formulate policies related to parent-child care in public spaces of shopping malls, such as parent-child rest areas, special art installations, handicraft studios, etc.

#### 3. Practical Recommendations

There are many factors affecting the experience of parent-child customers in community shopping centers, due to time and manpower constraints, this study mainly discusses consumer needs and spatial characteristics, but there are still many factors that have not been discussed, and it is suggested that future researchers can study and discuss other aspects, such as intelligent design, merchant positioning, event planning, sound and light environment, etc.

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APPENDIX

## Appendix details

### Future World parent-child customer questionnaire

Hello, I am a graduate student in the Master of Business Design program of Srinakharinwirot University, and I am currently conducting a master's thesis research on "A Study of the Parent-Child Experience Design for Public Space of Community Shopping Center: A Case Study of the Tianjin Future World Shopping Center", so in order to have a deeper understanding of the parent-child consumers around the future world, please help answer this questionnaire.

This questionnaire does not require a signature and is absolutely not open to the public, so please feel free to fill it out. I would like to express my sincerest gratitude.

Srinakharinwirot University, Master of Art

Graduate student Xiaoyu Yao

#### Part I: Perceptions of Community Shopping Malls

Please answer the following questions and  in the appropriate , or in the other options if there is no suitable option. Thank you for participating!

1. How often would you like to bring your children to Future World Shopping Center:

A.  more than 1 time per week B.  1~4 times a month C.  hardly go

2. How long do you stay at a time when you bring your children to Future World Shopping Center:

A.  an hour is considered B.  1~2 hours C.  more than 2 hours

3. The main purpose of bringing your children to Future World Shopping Center is:

A.  Shopping B.  Entertainment, learning C.  Party with friends D.  Other

4. What do you think the development trend of community-based shopping centers like Future World is:

A.  High style B.  Chinese tradition C.  Diversification D.  Exoticism

E.  Trending F.  Other

Part 2: The physiological level of the need for the public space of the future world  
shopping center

Please ✓ within the □ you see fit, thank you for participating!

A. Absolutely unnecessary B. Unnecessary C. Not sure D. Necessary E. Very  
necessary

A	B	C	D	E
---	---	---	---	---

1. Public rest seats-----□ □ □ □ □
2. Public charging device-----□ □ □ □ □
3. Children's interactive entertainment area-----□ □ □ □ □
4. Temporary activity area-----□ □ □ □ □
5. Featured theme art installations-----□ □ □ □ □
6. Mother and baby room-----□ □ □ □ □
7. Public toilets equipped with special equipment for children-----□ □ □ □ □
8. Paid studios-----□ □ □ □ □
9. Interactive cultural and educational display panels or digital  
installations-----□ □ □ □ □
10. Indoor green plants-----□ □ □ □ □
11. Children's lounge-----□ □ □ □ □
12. Miscellaneous-----□ □ □ □ □

Part 3: The psychological level of the need for the public space of the future world  
shopping center

Please ✓ within the □ you see fit, thank you for participating!

A. Absolutely disagree B. Disagree C. Not sure D. Agree E. Very agree

A	B	C	D	E
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1. I want to bring my children to a party with friends in the  
shopping mall-----□ □ □ □ □
2. I hope that children can grow and exercise while interacting  
in the shopping mall-----□ □ □ □ □
3. I hope that the experience activities in the shopping can help  
the children improve their aesthetic accomplishment-----□ □ □ □ □
4. I hope that the entertainment experience of the shopping mall  
will change every time-----□ □ □ □ □
5. I want the experience in the mall to be safe-----□ □ □ □ □
6. I am willing to pay a reasonable fee for a good experience-----□ □ □ □ □
7. I want the public space of the shopping center to be more  
interesting and exploratory-----□ □ □ □ □
8. I want to mention to my children in the shopping mall to  
participate in handicraft activities-----□ □ □ □ □



**Part IV: Basic Information**

1. Gender: A.  male B.  female
2. Children's age: A.  0~7 years old B.  8~14 years old
3. Age of parents: A.  18~25 years old B.  26~33 years old C.  33 years old or older
4. Parental occupation: A.  Government employees B.  teachers, doctors, lawyers  
C.  self-employed businessmen D.  farmers  
E.  freelancing F.  military personnel G.  workers H.  others
5. Annual household income: A.  80,000 or less B.  8-200,000 C.  20~500,000  
D.  50~1 million E.  more than 1 million

VITA

