

Research on the Impact of Consumer Experience Perception on City Brands in Different Food Environments — Taking Chengdu as an Example

Xiaoyu Dai^{1,*}, Chaoying Wang¹, Yiqi Qiu¹

¹College of Tourism, Sichuan Agricultural University, Chengdu, Sichuan 611830, China

*Corresponding author. Email: 3150574954@qq.com

ABSTRACT

Food is not only an important part of tourism experience, but also a unique symbol of a city. Through the research on the food environment experience, taking Chengdu as a case, the consumers in the themed restaurant and "fly diners" are investigated and researched. This paper uses factor analysis, regression analysis and other methods to study consumers' perception of the food environment experience and its influence on city brands. The results show that in the food environment experience, the sensory experience of food has a significant positive impact on the city brand, while the dining facilities and service, and value-added services have no significant impact on the city brand. Under the two environmental experiences of "fly diners" and themed restaurants, consumers' sensory experience of food, and dining facilities and service are significantly different, while there is no significant difference in value-added services. Judging from the significant impact on city brands, whether it is a "fly diner" or a themed restaurant, it should pay more attention to the sensory experience of the food itself.

Keywords: food environment experience, city brand, consumers, "fly diner", themed restaurant

I. INTRODUCTION

"Food is the paramount necessity of the people." Food has long been an indispensable part of human life. With the improvement of agricultural production technology, the variety of food has increased, and people are no longer satisfied with being "full", but also pursue "good" taste. Different regional cultures have created different food resources. Today, these food tourism resources have gradually become an important attraction for tourists to go to a certain place, and they have brought huge economic benefits.

With the changes in consumption levels and travel motives, food, as one of the tourist experiences that tourists will definitely try during their tours, has gradually become an important attraction for the development of tourist destinations [1]. In the process of creating tourism destinations, many cities have gradually taken the development of local characteristic food resources and the promotion of food tourism as important strategies to promote economic development [2]. Food most directly allows consumers to have various sensory contacts and experiences such as taste and smell. On the one hand, food plays an important role in the influence of tourists' overall tourism experience and willingness to revisit [3]; on the other

hand, it has also become an important part of tourism destination logo, image and brand [4].

In addition, the groups that generate image and brand awareness of the city include urban tourists and urban residents. Tourists usually have a strong and deep impression by experiencing special food, which is reflected in the image perception of tourist destinations [5]. And compared with consumers in other cities, urban residents are more familiar with the city [6], understand the true local specialties of the city more, and are more likely to recognize the food brands created by the city. In terms of food choices, tourists will also be influenced by locals to go to places chosen or recommended by locals to eat, or be influenced by brands to taste food in more well-known themed restaurants [5]. Therefore, a positive food experience is not only conducive to the promotion of local specialty food brands, but also helps tourists and residents to have a better city brand recognition, and enhance the city's tourism influence and reputation, which has a good role in promoting the shaping and development of city brands. However, in the actual travel process, there are still a large number of negative food experiences, and there may be different travel experiences due to differences in taste, service, demand, etc., which will also affect the perception of city brand personality [7].

"Get Fed in China, Get Delicacy in Chengdu". Chengdu has not only the well-known Broad and Narrow Alley, Jinli and other popular food hotspots, as well as themed restaurants with unique ancient Shu styles, but also a low-key gourmet street, with all kinds of delicious "fly diners"¹. "Fly diners" in Chengdu refer to low-priced, simple and crude shop facade restaurants with delicious food. It is the favorite food place for most Chengdu people, and tourists may not want to go in and taste because of the name of "fly diner" or the impression of the shop facade. Whether it is a "fly diner" or a themed restaurant, it is an integral part of the overall food image of Chengdu.

Local food can become a driving force to raise the prestige and status of a place [3]. Chengdu is a food capital, and the importance of food to its city's brand building is self-evident. Consumer perceptions that reflect the food experience are affected by many factors. Therefore, based on the perspective of consumer perception, this paper studies the perception differences of consumers in two different environments of "fly diners" and themed restaurants, examines its impact on city brands, and provides suggestions for improving the food environment, and promoting the promotion of urban tourism image and brand image construction.

II. LITERATURE REVIEW

A. Food tourism and environment experience

With the development of social economy, tourism with experience as the core has become a new trend in the development of tourism, and the personalized needs of tourists have prompted the emergence of special interest tourism. Based on the definition of special interest tourism, taking the scholars Long L[8], Smith S[9] and Wolf E[10]'s research on food tourism as a reference, Guan Jingjing points out that food is the main motivation for tourists to travel or to develop their interest in the food experience during the travel. The basis of food tourism is the tourism resources and attractions related to food, which emphasizes that tourists obtain unique, memorable and culturally connotative experiences through food [11]. In addition, food tourism related research also extends to food festivals. Smith believes that tourists can participate in activities and taste local specialties, and these are one of the main forms of food tourism [12]. At the same time, food festivals can also increase tourism income, create employment opportunities, shape the image of the city, increase the popularity of the host city, and better integrate relevant food tourism resources [13].

Food as a tourism resource tends to attract more tourists to travel destinations for experience, and prompt tourists to have related perceptions of the environment. Yang Miaotian and others point out that in the tourism field, perception has a direct effect on satisfaction, tourists' food perception has a positive and significant influence on tourists' emotion and satisfaction, and actual perception has a direct impact on tourists' behavior [1]. Restaurant, especially the dining environment, is an important carrier of food experience. The quality of the restaurant is the main factor that affects the experience of tourists in the dining environment. From the point of view of customer value, the measurement standard is firstly the characteristics and secondly the overall experience. The characteristics are not only the characteristics of the dishes but also the overall environment of the restaurant's architecture, interior decoration, equipment, and special service items. The overall feeling also needs to consider the extent to which the service provider satisfies the needs of consumers [14]. At the same time, Hu Mingzhu and others also propose that gourmet specialty shops can position their display styles according to their own gourmet cultural characteristics, and combine the characteristics of food to create an environmental atmosphere [15]. As far as consumer demand is concerned, from the perspective of rural tourism, Zhang Jun believes that creating a dining atmosphere with distinctive local culture, using menus and staff explanations to narrate the cultural allusions of classic dishes, and developing accompanying eating performances related to local folk customs, etc. can deepen the connotation of rural food tourism, highlight the local food culture, and enhance the tourist attraction of destinations [16].

B. City brand

Kelvin L proposes that, like products and people, geographic location can also be branded. Such a brand is determined by a specific geographic name. Its function is to let people know and recognize this place, and to have some good associations with this place [17]. Du Qinglong combines the definition of some commodity brands and defines the city brand as: city managers use the unique elements of the city to provide special promises to the target audience, improve the audience's response to the city, and enhance the relevant benefits of the city[18]. The city brand shows the image of the city. Regarding how to build a good city brand, Huang Jianguo points out that it is necessary to consider politics, economy, culture, and natural elements, and to grasp the four principles of competitiveness, coordination, identity, tradition and epochal character to create a unique city brand. [19].

Song Huanying et al. take the stakeholders' perception evaluation of the city's comprehensive brand image as the primary index and the stakeholders'

¹ "Fly diners": In Chengdu, they generally refer to those diners with low price, narrow shop space, and poor sanitary conditions but good taste.

perception evaluation of the city's classification brand image as the secondary index to discuss the relevance of the city's classification brand image, and conclude that local residents' perception of the comprehensive brand image of the city is generally higher [20]. Yang Yiweng et al. take the city brand image of Beijing as an example, and through the construction of a cognitive-emotional-intentional city brand image model, they conclude that through the intermediary effect of emotion, cognition of the city's brand image will increase the impact on the intentional city brand image (tourism intention, purchase intention, etc.). In other words, through emotional resonance, the cognitive construction of city brands has a deeper impact on the future development of the city [21]. Zhang Yi believes that real city brands exist in the hearts and thoughts of city stakeholders. The only criterion for evaluating the status of city brands is the experience and perception of stakeholders. City stakeholders include residents and foreign tourists. The extensively influential and positive city resources and environment may be transformed or nurtured into internal business cards that support the city's brand, that is, become a symbol and symbol of the city [22]. The food industry is an important industrial brand among city brands. City stakeholders form an emotional identity and cognition of urban brands through long-term or short-term contact and experience of food. Similarly, the food resources and environment of the city may also form a business card to show the city's brand. Therefore, digging out the hot spots of food in urban tourist attractions is not only conducive to the construction and promotion of local specialty food brands, but also helps to improve tourist satisfaction and expand the city's tourism influence [23].

C. Sichuan cuisine and Chengdu

Sichuan cuisine is one of the Eight Chinese Cuisines in China. Chengdu has a highly developed food industry, professional food institutions, and a large number of excellent chefs. And festivals such as the "International Food Festival" are held to promote and protect traditional food. Through the catering industry to shape the city's gourmet brand, it enhances Chengdu's cultural and economic soft power in external competition [24]. Chengdu is a well-known food tourism destination, food is very important to the shaping of the city's brand, and Sichuan cuisine is the representative of Chengdu cuisine. In the development of Sichuan cuisine resources, He Xing et al. point out that both themed restaurants and niche restaurants need to integrate and effectively develop Sichuan cuisine resources, and combine tourism and cuisine with "Internet +" [25].

In Chengdu, the carriers of Sichuan cuisine are mainly restaurants. Wang Jun pointed out for the Sichuan restaurant environment that the design of

related food restaurants does not respect Sichuan's traditional architectural art, blindly copying, and the individual characteristics of the dining environment are not linked to the recognition and brand of catering companies, and lack of attention to users [26]. Many themed restaurants opened in popular tourist attractions are often considered expensive by tourists due to excessive commercialization, and the taste is average and does not meet expectations [5], which will also affect tourists' perception of tourist destinations. In the study of Chengdu food experience, Cheng Li and others also introduce dimensions of "kindness, righteousness, propriety, wisdom and trust" in Confucian culture to obtain a brand personality model of the food tourism destination of Chengdu. Among them, perceived "kindness" involves the quality of food service, "righteousness" refers to city affinity, "propriety" expresses the local characteristics of restaurants, and "wisdom" and "trust" involve the sensory experience of food, all of which are of great significance to the marketing and operation of food tourism destinations [7].

Generally speaking, Chinese and foreign scholars' research on food tourism is concentrated on food festivals [12], [27], [28], research on the relationship between food and tourism [11], development of food tourism resources [29], and research on food and tourism destinations [5], [7]. Among them, there are researches on food tourism destinations or the food elements of tourism destination brands from the cultural perspective, and the types and characteristics of rural tourists from the perspective of food tourism [16], but there are few research on food tourism directly from city brands influences; city brand research scholars mostly take the dimensions of city brand remodeling and construction [30], [31], city brand image measurement [21], and city brand stakeholder perception [20], [22], [32], taking a certain city or many cities as an example to study the image building, construction and promotion of the overall city brand. They also study the role of city sports elements in enhancing the city brand image [33], [34]. However, few people discuss the role of food in the promotion of city brand image. The unique experience of food has become one of the elements that constitute the destination image. Therefore, for food tourism destinations, the experience and perception of food by city stakeholders is an important element in evaluating the brand image of a city. When city stakeholders experience food in the overall city environment, they will also subconsciously form an overall image perception of the city brand. Therefore, this paper attempts to establish the connection between the food environment experience and the city brand, and analyze the impact of the food environment experience on the city brand ("Fig. 1").

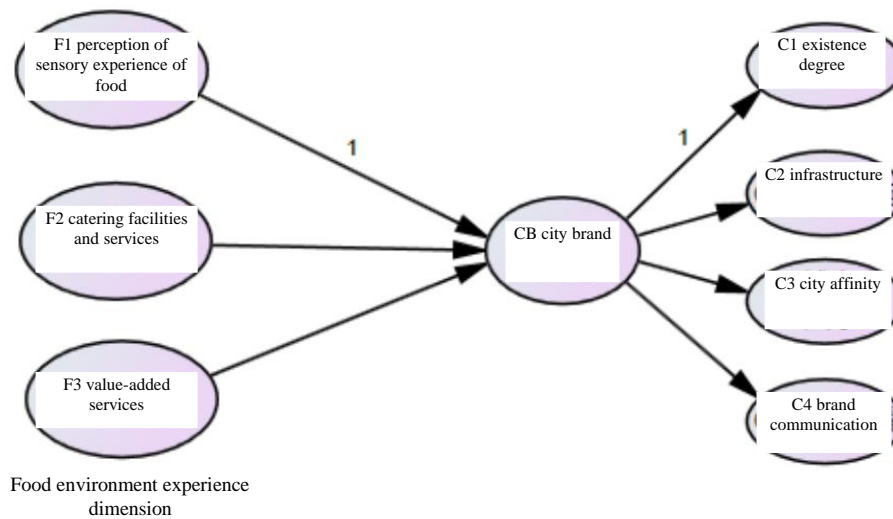


Fig. 1. Conceptual model.

III. RESEARCH DESIGN

A. Overview of the case site

Chengdu is located in the western part of China's Sichuan Basin, and has been known as the "land of abundance" with rich and fertile resources since ancient times. Under the influence of a long history and special natural environment, the people of Bashu have created and developed a unique Sichuan cuisine food culture system, which is well-known in the world. In February 2010, Chengdu was awarded the title of "Gourmet Capital" by UNESCO (United Nations Educational, Scientific, and Cultural Organization), becoming the first world "Gourmet Capital" in Asia. The award of this title is not only conducive to the construction of Chengdu's city brand, but also brings a lot of tourist resources. According to statistics from the National Tourism Administration, Chengdu received 243 million tourists in 2018.

In recent years, as the Chengdu catering market has become more prosperous, a number of distinctive restaurants and food streets have been formed. There is the Yipin Tianxia Food and Tour Business Street, which represents the highest level of Chengdu's food culture and catering, and there is also the North Gate "Fly Diner" Street selling itself. Whether they are Chinese or international tourists, as long as they come to Chengdu, they can taste the flavor of Bashu for a thousand years. Although Chengdu Sichuan cuisine has become world-renowned in the context of the international "Gourmet Capital", the development of the catering industry is still uneven.

B. Questionnaire design and measurement

This research sorts out the food experience and the related literature of city brand as reference, including the localized food research with Chengdu as an example. By investigating the different food experience environments in Chengdu, it designs the Food Environment Experience Perception Scale and the City Brand Perception Scale ("Table I"). By selecting two characteristic food environments in Chengdu for comparison — "fly diners" and themed restaurants, it measures the tourists and local residents who come to Chengdu as consumers, and compares the differences in consumer perception in different environments and the impact on Chengdu city brands.

TABLE I. SOURCE AND REFERENCE OF THE SCALE

Scale	Serial number	Questions	Data source
<i>Food Environment Experience Scale</i>	P1	I think the food looks delicious on the outside	[28, 35]
	P2	I think the food tastes good	[28, 35]
	P3	I think the taste of food gives me great satisfaction	[36]
	P4	I think the food quantity is adequate	[35]
	P5	I think the raw materials are fresh	[35]
	P6	I think the food price is very affordable	[36, 37]
	P7	I think I really tasted the authentic local food	[24]
	P8	I think the restaurant layout combines the style of the specialty	[29]
	P9	I think the restaurant has a large capacity	[38]
	P10	I think the WiFi signal in the restaurant is very good	[29]
	P11	I think the restaurant is in good hygiene	[29]
	P12	I think the dining utensils in this restaurant are very special	[38]
	P13	I find the restaurant staff dress in a uniform style	[28]
	P14	I think the service staff have a good attitude	[36]
	P15	I think the quality of the service staff is very good	[36]
	P16	I think the serving speed is very fast (efficiency of service)	[38]
	P17	I think the service and reception ability is good	[28]
	P18	The restaurant has matching entertainment performances	[28, 36]
	P19	The restaurant has an exhibition of food	[15]
	P20	The restaurant has information about food	[28, 36]
	P21	The restaurant has a matching cooking show	[24, 28, 39]
<i>City Brand Scale</i>	O1	Chengdu has strong comprehensive economic competitiveness	[20]
	O2	Chengdu is rich in historical and cultural deposits	[20, 29]
	O3	Chengdu has great domestic influence	[20, 39]
	O4	The international recommendation of Chengdu is high	[20]
	O5	Chengdu is very suitable for tourism	[20, 39]
	O6	I think the city transportation is very convenient	[20, 29, 39, 40]
	O7	I think the urban public rest facilities are very perfect	[20]
	O8	I think the urban greening and environmental protection facilities are perfect	[21, 39]
	O9	I think the city's public health facilities are perfect	[15]
	O10	I think the residents' behavioral quality is very good	[40]
	O11	I think the residents are very civilized	[40]
	O12	I think the residents are very friendly towards tourists	[20, 40]
	O13	I think the city's promotion of food is very in place	[24]
	O14	I will choose to buy authentic specialty food products	[24]
	O15	I will recommend to others to visit this city	[20]
O16	I think its city brand promotion is good	[20]	

The questionnaire designed by the research institute consists of three parts: the first part is the consumer's basic information survey, including the consumer's

gender, age, education background, and home location; the second part is the Food Environment Experience Perception Scale, with a total of 22 questions; the third

part is a City Brand Perception Scale based on this, with 16 questions in total. The questionnaire uses the Likert five-point scale method, and each question uses positive perception sentences, from "1" to "5" representing "strongly disagree" to "strongly agree" respectively.

The formal investigation time of the research is divided into two parts, and from May 1 to May 3, 2019, and July 20 to July 21, 2019, the research team went deep into some "fly diners" and some streets of popular scenic spots to distribute questionnaires. A total of 300 questionnaires were distributed, including 150 from "fly diners" and 150 from themed restaurants. Finally, a total of 266 valid questionnaires were obtained, of which 132 were from "fly diners" and 134 were from themed restaurants. And the validity rate of the questionnaire was 88%.

IV. DATA ANALYSIS

A. Demographic characteristics of consumers

The respondents were mainly tourists from other places, accounting for 78%, and local residents in Chengdu accounted for 22% of the total survey. Foreign tourists came from the Northwest, North China, East China and other regions, and the perception subjects had a wider distribution and better representation; men accounted for 39.6%, women accounted for 60.3%, and the respondents of women were slightly more than men; the majority of respondents were 18-30 years old, mainly young and middle-aged, accounting for 86.3%. It is shown in "Table II".

TABLE II. DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

Personal information	Options	Proportion (%)
<i>Gender</i>	Male	39.7
	Female	60.3
<i>Age</i>	Under 18	1.9
	18-30 years old	86.3
	31-35 years old	5.7
	46-60 years old	4.5
	Over 60 years old	1.6
<i>Education background</i>	Junior high school and below	1.6
	High school	7.1
	Junior college	16.6
	Undergraduate	66.9
	Postgraduate	7.8
<i>Home location</i>	Chengdu	22
	Southwest (except Chengdu)	64
	Northwest	6.4
	North China	3.2
	East China	4.4

B. Factor analysis of perception measurement results

The research team first tested the reliability of the overall data. And the result shows that the Cronbach's α coefficient is 0.958, which indicates that the scale has good reliability and internal consistency; the value of KMO is 0.906, which is relatively close to 1. It can be seen that there is not much difference in the degree of correlation between variables and the sample size is sufficient. The approximate chi-square value in the Bartlett sphere test is 4800.118, and $p=0.000<0.001$, indicating that it is suitable for factor analysis. The survey data of this research mainly comes from two scales, including the Food Environment Experience Perception Scale (hereinafter referred to as "Scale 1") and the City Brand Perception Scale (hereinafter referred to as "Scale 2").

In this paper, SPSS 22.0 is used to carry out exploratory factor analysis (EFA) on "Scale 1", and the maximum variance method rotation factor is used for principal component analysis. Common factors with

eigenvalues greater than 1 are retained, and only questions with a factor load greater than 0.5 after rotation are retained (delete restaurant layout style in P8), and finally 3 common factors are extracted from "Scale 1" ("Table III"). With reference to the related research on food environment experience, the three common factors are named F1 — sensory experience of food (P1-P7 include 7 indicators of food appearance, taste and so on), F2 — dining facilities and service (P9-P17 include 9 indicators of restaurant capacity, WIFI signal and so on), F3 — value-added services (P18-P21 include 4 indicators including matching entertainment performances, etc.).

TABLE III. EXPLORATORY FACTOR ANALYSIS RESULTS OF "SCALE 1"

Questions	Factor loading	Eigenvalues	Explained variance (%)
<i>F1 sensory experience of food</i>		9.060	43.145
<i>P1 food appearance</i>	.758		
<i>P2 taste of food</i>	.796		
<i>P3 satisfaction of food</i>	.780		
<i>P4 food quantity</i>	.728		
<i>P5 freshness of raw materials of food</i>	.774		
<i>P6 the food price is affordable</i>	.711		
<i>P7 food features</i>	.705		
<i>F2 catering facilities and services</i>		3.046	14.502
<i>P9 restaurant capacity</i>	.769		
<i>P10 restaurant WIFI signal</i>	.611		
<i>P11 restaurant hygiene</i>	.785		
<i>P12 restaurant dining utensils features</i>	.560		
<i>P13 the restaurant staff dress in a uniform style</i>	.839		
<i>P14 the attitude of service staff</i>	.785		
<i>P15 service staff quality</i>	.781		
<i>P16 service efficiency</i>	.666		
<i>P17 service and reception capacity</i>	.708		
<i>F3 value-added services</i>		1.752	8.344
<i>P18 matching entertainment performances</i>	.775		
<i>P19 food exhibition</i>	.804		
<i>P20 introduction to dietary knowledge</i>	.691		
<i>P21 matching cooking shows</i>	.799		

The research used Amos 21.0 to perform confirmatory factor analysis on the results of the two scales, referring to the standardized factor load and the model fit index, deleting the inappropriate questions of each dimension, and revising the scale. In "Scale 1", the F1 (sensory experience of food) deletes 4 items of P2 (taste of food), P4 (food quantity), P6 (the food price is affordable), and P7 (food features); F2 (catering facilities and services) deletes a total of 2 items of P9 (restaurant capacity) and P14 (the attitude of service staff); F3 deletes P18 (matching entertainment performances). In "Scale 2", C1 (existence degree) deletes O3 (Chengdu's domestic influence), C2 (infrastructure) deletes O8 (urban greening and environmental protection facilities), and C4 (brand communication) deletes O14 (buy food products). As shown in "Table IV", the multiple correlation square value (SMC) of the two scales are both greater than

0.36, the composition reliability (CR) are both above 0.8, and the convergence validity (AVE) are both above 0.5, showing that dimensions and questions have good reliability and convergent validity, and the square root of AVE is greater than the Pearson correlation between facets and facets, indicating that the scales have good discriminant validity ("Table V").

TABLE IV. ANALYSIS OF RELIABILITY AND CONVERGENCE VALIDITY

Dimensions	Questions	Parameter significance estimation				Question reliability		Composition reliability	Convergence validity
		Ustd	S.E.	Z-value	P	Std	SMC	CR	AVE
<i>F1 sensory experience of food</i>	P1 food appearance	1.000				.852	0.726	0.842	0.643
	P3 satisfaction of food	.960	.097	9.867	***	.879	0.773		
	P5 freshness of raw materials of food	.714	.086	8.303	***	.657	0.432		
<i>F2 catering facilities and services</i>	P10 restaurant WIFI signal	1.000				.649	0.421	0.905	0.579
	P11 restaurant hygiene	1.333	.155	8.614	***	.833	0.694		
	P12 restaurant dining utensils features	1.073	.144	7.445	***	.693	0.480		
	P13 the restaurant staff dress in a uniform style	1.446	.173	8.377	***	.803	0.645		
	P15 service staff quality	1.230	.140	8.791	***	.856	0.733		
	P16 service efficiency	1.189	.151	7.882	***	.743	0.552		
	P17 service and reception capacity	1.014	.131	7.746	***	.728	0.530		
<i>F3 value-added services</i>	P19 food exhibition	1.000				.855	0.731	0.847	0.651
	P20 introduction to dietary knowledge	.803	.090	8.967	***	.710	0.504		
	P21 matching cooking shows	.963	.096	10.015	***	.847	0.717		
<i>C1 existence degree</i>	O1 Chengdu's comprehensive economic competitiveness	1.000				.748	.560	.885	.658
	O2 Chengdu's historical and cultural deposits	1.207	.117	10.309	***	.856	.733		
	O4 the international recommendation of Chengdu	1.117	.111	10.019	***	.829	.687		
	O5 Chengdu is suitable for tourism	1.052	.108	9.775	***	.809	.654		
	O6 the convenient transportation degree of the city	1.000				.784	.615		
<i>C2 infrastructure</i>	O7 urban public rest facilities	1.270	.118	10.732	***	.883	.780	.872	.696
	O9 urban public health facilities	1.064	.101	10.489	***	.832	.692		
	O10 residents' behavioral quality	1.000				.862	.743		
<i>C3 city affinity</i>	O11 residents' civilized degree	1.021	.077	13.176	***	.945	.893	.886	.723
	O12 residents' friendliness	.769	.073	10.525	***	.731	.534		
	O13 the promotion of city's food	1.000				.800	.640		
<i>C4 brand communication</i>	O15 choose and recommend for playing	.941	.086	10.996	***	.832	.692	.881	.713
	O16 the brand promotion degree of the city	1.038	.091	11.418	***	.898	.806		

TABLE V. DISCRIMINANT VALIDITY ANALYSIS

	Convergence validity		Pearson correlation and discriminant validity		
	AVE	F3	F2	F1	
<i>F3 value-added services</i>	.651	.807			
<i>F2 catering facilities and services</i>	.579	.435	.761		
<i>F1 sensory experience of food</i>	.643	.226	.260	.802	
	AVE	C4	C3	C2	C1
<i>C4 brand communication</i>	.713	.844			
<i>C3 city affinity</i>	.723	.424	.850		
<i>C2 infrastructure</i>	.696	.371	.389	.834	
<i>C1 existence degree</i>	.658	.427	.361	.366	.811

^a Note: The diagonal boldface words mean the average correlation (AVE root sign value) is higher than the correlation between dimension and dimension, such as 0.802>0.260 (correlation between F1 and F2), and 0.811>0.366 (correlation between C1 and C2)

C. Regression analysis

This study uses Amos 21.0, taking three variables extracted of F1 (sensory experience of food), F2 (catering facilities and services), and F3 (value-added services) from the food environment experience perception as independent variables, taking a second-order variable CB (city brand) extracted from the four dimensions of city brand perception as the dependent variable and performing calculations, and the significance test of the regression model ("Table VI") is finally got. As shown in the "Table VI", among the non-standardized regression coefficients, the only non-standardized regression coefficient with P less than 0.05 is F1, that is, F1 has a significant impact on the dependent variable of city brand. Among the standardized coefficients, the highest regression coefficient is sensory experience of food F1 (0.994), $R^2=0.988>0.5$, which is acceptable. It can be seen from the above that only the sensory experience of food in Chengdu's food environment has a significant impact on the city brand. This shows that as a gourmet capital,

the positive influence of sensory experience of food in Chengdu is particularly important. Consumers will have higher requirements for the appearance, satisfaction, and freshness of food material by entering restaurants to taste food, and they value these aspects most. Therefore, consumers are still looking forward to tasting truly authentic specialties, and the experience of food directly affects consumers' brand perception of the city.

On the other hand, in the impact on city brand, facilities and services in environmental experience, value-added services, etc., are relatively less important. In the non-standardized coefficients, P values are all less than 0.05, and R^2 are all less than 0.5, which are not acceptable. Catering facilities and services, and value-added services have no significant impact on city brand, which also shows that consumers still value the food experience most. Therefore, urban restaurants should pay more attention to maintaining the taste and flavor of the food itself, so as to give consumers the most satisfactory tasting experience.

TABLE VI. SIGNIFICANCE TEST RESULTS OF REGRESSION MODEL

Dependent variable	Independent variable	Non-standardized coefficient significance estimation				Standardized coefficient	Path coefficient
		Unstd.	S.E.	Z-value	P	Std.	R ²
CB city brand	F1	1.000				.994	.988
	F2	.109	.056	1.949	.051	.110	.012
	F3	.010	.034	.289	.772	.016	.000

D. Analysis of differences in experience perception of different food environments

The research uses the two sets of data of "fly diners" and themed restaurants as two samples respectively,

and evaluates the comprehensive scores of three common factors of F1 (sensory experience of food), F2 (catering facilities and services), and F3 (value-added services) obtained from the perception of food

environment experience to conduct independent sample T test. The output results are shown in "Table VII".

For F1 (sensory experience of food), the F value is 0.343, and the significance level P value is 0.559, which is greater than 0.05, indicating that the variances are homogeneous, that is, the assumption of equal variances is established. When the variances are equal, the P value of the two-tailed significance level in the T test is 0.000, which is less than 0.05, indicating that the sensory experience of food in the two environments is significantly different, which indicates that there are differences in consumers' sensory perception of food itself (including food appearance, satisfaction of food and freshness of food material). The reason for the perception difference in food appearance may be that themed restaurants pay more attention to the design of the appearance of the food and the design of the food display. Themed restaurants pay more attention to the exquisite style of the dishes to meet the bright and beautiful decoration style, and at the same time, they pay more attention to the matching of the image of the dishes and the overall image of the restaurant. However, the "fly diners" will not pay too much attention to the food display and decoration, and put in less time and energy in the delicate appearance of the dishes. Therefore, in terms of the perception sentence "I think the food looks delicious", consumers have different perceptions of "fly diners" and themed restaurants. In terms of food satisfaction, "fly diners" are generally hidden in the unremarkable corners and alleys of Chengdu. Their location is not easy to find, the decoration is simple, but the taste is great. Therefore, even if there is no brand promotion, there are still a lot of consumers come to taste authentic old Chengdu Sichuan cuisine. However, most themed restaurants in popular scenic spots have exquisite decoration, but due to the influence of excessive commercialization, the dishes are exquisite and expensive but the taste is very ordinary, even inferior to the street diners [5]. Therefore, in terms of the satisfaction of the food itself, the "fly diners" are significantly higher than themed restaurants. In the purchase of food material, the operators of "fly diners" usually go to the market to buy food material in person to ensure its freshness, which also affects the freshness of the taste of food itself. However, due to the large storefront and the proximity of popular scenic spots, food material in themed restaurants are mostly purchased by wholesale and frozen storage, which is inferior to the perception of freshness compared with a "fly diner". Generally speaking, in the perception of sensory experience of food, "fly diners" are higher than themed restaurants in terms of food satisfaction and freshness.

For F2 (catering facilities and services), the F value is 4.348, the significance level P value is 0.039, which is less than the significance level 0.05, and the

assumption of equal variances is rejected. The P value of the T test when the variances are not equal is 0.008, which is also less than 0.05. The null hypothesis of the T test is rejected, which indicates that there are significant differences in the catering facilities and services in the two environments. In terms of catering facilities and services, the "fly diners" are simply decorated, with narrow shop space, incomplete catering facilities, and a messy and poor environment. However, themed restaurants are beautifully decorated, the dining utensils are distinctive, and they pay attention to hygiene, so in terms of catering facilities, consumers' perception of "fly diners" is weaker than themed restaurants. In terms of services, the "fly diners" have a small shop space and a noisy environment when there are many people. During meal time, business in "fly diners" is hot, and operators there often fail to provide consumers with good services. It often happens that operators there can't hear the guests' orders or other demands in time. The process of serving food also takes a long time because of too many guests, and the service reception ability is not professional enough. Therefore, consumers have a higher perception of the catering facilities and services of themed restaurants than "fly diners".

In F3 (value-added services), the significance level P value is 0.767, which is greater than 0.05, indicating that the variances are homogeneous, and the assumption of equal variances can't be rejected. When the variances are equal, the P value of the T test is 0.168, which is greater than 0.05, and the null hypothesis of the T test can't be rejected, that is, there is no significant difference between the value-added services in the two environments. In most restaurants in Chengdu, there are few value-added services such as food exhibitions, matching cooking shows, and introductions to dietary knowledge. Value-added services are not overemphasized. Therefore, there is little difference in the perception of value-added services between "fly diners" and themed restaurants.

TABLE VII. INDEPENDENT SAMPLE T TEST

		Levene test of variance equation		T test of the mean equation				
		F	Significance	T	df	Significance (two-tailed)	95% confidence interval	
							Lower limit	Upper limit
F1	Assume that the variances are equal	.343	.559	-	150	.000	-.49900	-.26142
	Assume that the variances are unequal			6.324	131.012	.000	-.50028	-.26014
F2	Assume that the variances are equal	4.348	.039	2.805	150	.006	.04511	.26017
	Assume that the variances are unequal			2.692	113.466	.008	.04030	.26498
F3	Assume that the variances are equal	.088	.767	1.385	150	.168	-.02427	.13806
	Assume that the variances are unequal			1.391	137.984	.166	-.02398	.13776

V. CONCLUSION

A. Conclusion and discussion

Through factor analysis, consumers' perceptions of the three dimensions of sensory experience of food, catering facilities and services, and value-added services in the food environment experience are obtained. This paper studies the impact of food environment experience on city brands, and explores consumer perception differences in different food environments, and draws the following conclusions:

- In the food environment experience, the sensory experience of food, that is, the quality of the food itself, has a significant positive impact on the city brand, while catering facilities and services, and value-added services have no significant impact on the city brand.
- Under the two different food environment experiences of "fly diners" and themed restaurants, there are significant differences in sensory experience of food and catering facilities and services, but there is no significant difference in value-added services.
- From the perspective of the impact on city brands, whether it is a "fly diner" or a themed restaurant, it should pay more attention to the sensory experience of the food itself. The food in "fly diners" is slightly better than themed restaurants in terms of satisfaction and freshness of food material, and the food in themed restaurants is more refined in appearance.

Chengdu has a highly developed food industry. Building Chengdu catering industry to build Chengdu food brand, comprehensively improving and perfecting the food experience environment, and improving

tourists' satisfaction with Chengdu tourism and residents' recognition of the city to further adapt to the needs of city brand building and better display the city image of Chengdu are of great significance to the promotion and dissemination of Chengdu's city brand. The dining environment is the main carrier of the food experience. "Fly diners" and themed restaurants are important components of Chengdu's catering brands. Both should create a good dining environment and improve the overall quality of dining.

For "fly diners", the taste and quality of the food itself has been positively perceived by consumers, but there are problems with catering facilities and services. Attention should be paid to re-planning, approving standards and strict requirements in their facilities, dining services and sanitary conditions to improve the overall dining environment and enhance the dining experience, while maintaining price competitiveness and food tastes. This is also a necessary link for "fly diners" to enhance its competitiveness and move towards branding in the future. For themed restaurants, on the one hand, exquisite dining environment and good service procedures are the advantages that should be maintained, but in the future, more attention should be paid to consumers' sensory experience needs of food, and attention should be paid to improving the taste of food so that the price and quality are matched. On the other hand, the traditional Bashu culture should be respected in the decoration of the dining environment, vulgar commercial packaging should be avoided, the brand characteristics of the enterprise itself should be highlighted, and the user experience should be emphasized. For these two food experience environments, value-added services are special services that can be considered after enhancing the most important sensory experience of food and improving the dining environment.

"Fly diners" should keep more of the characteristics of the civil culture, and the food there should be cheap and fine, showing the traditional flavor of old Chengdu. Themed restaurants can more show the cultural characteristics of Bashu region, and the food there should be cost-effective, highlighting the modern international style. The two food and catering experience environments should maintain their own characteristics, continuously improve, and go hand in hand, thus affecting the overall image promotion and brand building of Chengdu.

B. Research limitations and prospects

This paper only studies the impact on city brands from the perspective of food environment experience, but food experience also includes cultural experience, production experience, etc., and the measurement questions of food environment experience perception are also relatively limited. At the same time, the research only selects two representative food experience environments — "fly diners" and themed restaurants, and mainly Chinese food, excluding some century-old brand stores with snacks. Therefore, there will inevitably be limitations. The next research can also start from multiple angles such as food culture experience and production experience, improve the completeness of the research on the influence of Chengdu food on Chengdu's city brand, comprehensively show the impact of food tourism on the brand building of Chengdu, further explores its influence mechanism, and contributes to the further international image building of the "Gourmet Capital".

References

- [1] Yang Miaotian, Li Junyi, Yang Min. Research on the impact of food on tourists' emotion and satisfaction — Taking tourists from the Southwest to Xi'an as an example[J]. *Journal of Northwest University (Natural Science Edition)*, 2018(03): 441-448. (in Chinese)
- [2] Hu Ting, Fan Qingji. Research on the formation mechanism of choice behavior in food festival — based on the analysis of festival quality and value [J]. *Food Research*, 2017(03): 55-59. (in Chinese)
- [3] Athena H.N. Maka, Margaret Lumbers A, Anita Eves, et al. Factors influencing tourist food consumption[J] *International Journal of Hospitality Management*, 2012(31): 928-936.
- [4] Lin Y C, Pearson T E, Cai L P. Food as a form of destination identity: A tourism destination brand perspective[J]. *Tourism and Hospitality Research*, 2011, 11(01): 30-48.
- [5] Li Xiangyun, Lv Xingyang, Guo Xuan. Research on the food elements in the image of tourist destinations — taking Chengdu as an example [J]. *Food Research*, 2017(01): 24-28. (in Chinese)
- [6] Lv Fang. Research on the influencing factors of Hohhot residents' urban brand perception [D]. Inner Mongolia: Inner Mongolia University of Finance and Economics, 2017.6. (in Chinese)
- [7] Cheng Li, Lu Youhai, Li Dengli, etc. Brand personality and influence of food tourism destinations from the perspective of Confucian culture [J]. *Tourism Tribune*, 2018(01): 25-41. (in Chinese)
- [8] Long L. *Culinary Tourism (Material Worlds)* [M]. Lexington: The University Press of Kentucky, 2004.
- [9] Smith S L J, Xiao H G. Culinary tourism supply chains: A preliminary examination [J]. *Journal of Travel Research*, 2008, 46(3): 289-299.
- [10] Wolf E. Culinary tourism: A tasty economic proposition [EB/OL]. <http://www.culinarytourism.org/fag.php>, 2002-04-09/2008-10-09.
- [11] Guan Jingjing. A review of foreign studies on food and tourism — also on the generalization of the concept of food tourism [J]. *Tourism Tribune*, 2012, 27(10): 85-92. (in Chinese)
- [12] Smith S, Costello C. Segmenting visitors to a culinary event: Motivations, travel behavior, and expenditures [J]. *Journal of Hospitality Marketing & Management*, 2009, 18(01): 44-67.
- [13] Zhang Shanshan, Wu Chuanbiao. Research on the influence of food tourism festival on the host city [J]. *Reform & Opening*, 2018(05): 89-91. (in Chinese)
- [14] Wu Kexiang. On the quantitative evaluation of food service quality [J]. *Business Times*, 2005(02): 45-47. (in Chinese)
- [15] Hu Mingzhu, Zhou Rui, Fei Lingfeng. Research on the display of local food commodities based on cultural experience — taking Chengdu as an example [J]. *Food Research*, 2016(01): 39-44. (in Chinese)
- [16] Zhang Jun, Hou Bing. Research on the types and characteristics of rural tourists based on the perspective of food tourism [J]. *Food Research*, 2018(02): 18-23+31. (in Chinese)
- [17] Kelvin Lane Keller. Li Naihe trans. [M]. *Strategic brand management*. Beijing: China Renmin University Press, 2003. 5. (in Chinese)
- [18] Du Qinglong, Yuan Guangcai. Urban brand positioning theory and empirical analysis [J]. *Journal of Southwest Jiaotong University*, 2004(11): 105-108. (in Chinese)
- [19] Huang Jiagsong. Thoughts on shaping China's city brands [J]. *Hubei Social Sciences*, 2004(09): 61-63. (in Chinese)
- [20] Song Welcoming, Zhang Xuyang. Stakeholder perception measurement of city brand image [J]. *Urban Issues*, 2017 (05): 26-34. (in Chinese)
- [21] Yang Yiweng, Sun Guohui, Tao Xiaobo. Beijing's cognitive, emotional and motive city brand image measurement [J]. *Urban Issues*, 2019 (05): 34-45. (in Chinese)
- [22] Zhang Yi, Zhang Rui. Research on the influencing factors and interactive relationship of city branding [J]. *Inquiry into Economic Issues*, 2007(03): 38-42. (in Chinese)
- [23] Jiang Jianhong. Research on the discovery of hot spots of food based on SA_LDA Model [J]. *Food Research*, 2017(04): 32-37. (in Chinese)
- [24] Zhou Rui. Thoughts on promoting the image of Chengdu as an international "Gourmet Capital" — based on the perspective of design strategy [J]. *Western Economic Management Forum*, 2013(04): 23-31. (in Chinese)
- [25] He Xing, Zhang Yanping, He Pan. Research on the development status of traditional Sichuan cuisine culture resources against the background of tourism development [J]. *Journal of Aba Teachers College*, 2018(09): 89-93. (in Chinese)
- [26] Wang Jun. Sichuan cuisine's environmental catering environment design method based on regional cultural characteristics [J]. *Journal of Sichuan Tourism University*, 2014(05): 10-13. (in Chinese)
- [27] MacionisN, Cambourne B. Wine and food tourism in the Australian Capital Territory Exploring the links [J]. *International Journal of Wine Marketing*, 1998, 10(3): 5-23.

- [28] Zhang Tao. Research on the perceived quality and improvement strategies of food festival [J]. *Tourism Tribune*, 2010(12): 58-62. (in Chinese)
- [29] Xiao Xiao, Wang Ailin. Research on the Development of Chengdu Food Culture Tourism Resources [J]. *Teaching of Geography*, 2019(06): 8-12. (in Chinese)
- [30] Zhou Ping, Li Ze. The remodeling of Macau city brand against the background of "the Belt and Road Initiative" [J]. *Young Reporters*, 2019(20): 89-90. (in Chinese)
- [31] Zeng Min, Lin Mingliang, Wang Min. Research on women's space practice and urban brand building against the background of cross-border mobility: the case of "red scarf" [J]. *Human Geography*, 2019(03): 61-67. (in Chinese)
- [32] Ji Chunli, Zeng Zhonglu. Urban residents' perception of tourism city brand image: Based on the brand concept map method [J]. *Tourism Science*, 2017(04): 64-78. (in Chinese)
- [33] Wei Mingze, Yuan Lei. Analysis on the Promotion of City Brands by Large-scale Sports Events — Taking the Olympic Games as an Example [J]. *Sports Culture Guide*, 2019(05): 18-22. (in Chinese)
- [34] Feng Wei, Gu Dehong, Meng Wenguang. The mechanism and development strategy of urban sports elements to enhance the city's brand image — Based on the theory of urban space [J]. *Sports Culture Guide*, 2018(08): 32-37. (in Chinese)
- [35] Wang Hui, Xu Honggang, Liao Qianhua. A Study on Foreign Tourists' Participation in Food Tourism and Food Image Perception in Guangzhou [J]. *Tourism Forum*, 2016(11): 23-31. (in Chinese)
- [36] Wu Chuanbiao, Feng Anrui. Research on Dalian Tourism Food Perception and Experience [J]. *Resource Development and Market*, 2018(12): 1771-1776. (in Chinese)
- [37] Wei Hong, Yu Binglin, Shen Jiahang, etc. Research on the Development Factors of Urban Food Tourism from the Perspective of Tourists — Taking Quanzhou as an Example [J]. *Consumer Economy*, 2017(07): 54-55. (in Chinese)
- [38] Yang Jing, Hou Zhiyong, Yang Changping. Research on the Influencing Factors of Food Culture Tourism Based on DEMATEL Model — Taking the Development of Chengdu Food Making Experience Project as an Example [J]. *Food Research*, 2019(02): 53-56. (in Chinese)
- [39] Shi Kehan. Research on the Influencing Factors of Urban Tourism Attraction in Henan Province [J]. *Market Modernization*, 2016(24): 107-109. (in Chinese)
- [40] Li Yan, Zeng Juxin, Cheng Shaowen. Recreational satisfaction provided by urban environment and its influence on willingness to revisit — Based on the analysis of the difference between tourists and residents [J]. *Human Geography*, 2014(06): 133-139. (in Chinese)