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Scene Construction and Configuration Analysis of Chongqing Yangtze River National Cultural Park, China: An Empirical Study Based on Cultural Amenities

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Abstract

As a new type of public cultural space, the Yangtze River National Cultural Park can revitalize the rich historical and cultural heritage surrounding the river that nourished the Chinese civilization. As the main part of the park is in Chongqing, the Chongqing authorities are primarily responsible for its quality and maintenance. To understand the Chongqing Yangtze River National Cultural Park, this study analyzes the cultural amenities of 18 districts and counties in the Chongqing region of the Yangtze River Basin. The results indicate that the cultural scene of the Chongqing Yangtze River National Cultural Park can be classified into three categories: the Three Gorges Cultural Zone, the Three Gorges–Urban Cultural Transition Zone, and the Urban Cultural Zone. Further, the core elements of the cultural environment should guide the Chongqing Yangtze River National Cultural Park, clarify the functional position of each part of the park, and strengthen cooperation across districts and counties for holistic development. Finally, the construction of the park was found to be based on the principle of interaction between "human, nature, and culture" to optimize space use, solidify citizens' cultural identity, and enhance people's sense of well-being and accessibility.

Keywords: *National Cultural Park, Yangtze River, Chongqing, Scene Theory, Cultural Amenities*

INTRODUCTION

The concept of national parks was first proposed in the United States in 1832, and the world's first national park, the Yellowstone National Park, was established in 1872. National parks are mainly based on the concept of heritage corridors(HCs), relying on ecological, historical, and cultural resources to form a special type of linear landscape (Harvey, 2016). In the context of the new era of development in China, the idea of a national cultural park was first proposed in the Outline of the National Cultural Development and Reform Plan for the 13th Five-Year Plan in 2017. Thus, national cultural parks were first conceptualized in China, and they are built for realizing the functions of protection, inheritance, and utilization of cultural resources, cultural education, public service, tourism, leisure and recreation, and scientific research. This multifaceted development plan is made with the purpose of aligning the popular cultural ethos with the main values of Chinese culture. China's idea of national cultural park is an innovative outcome of the country's heritage discourse centered on universal values and local practices, and this concept is an important contribution of China to the international community in the domain of heritage protection. In December 2021, the Chinese government officially launched the construction of the Yangtze River National Cultural Park. This park, with its rich cultural resources, is an important carrier of the Chinese culture (Hanwen, 2022) and has garnered significant academic attention. The geographic similarity of the districts and counties within and outside the Chongqing Yangtze River National Cultural Park, the historical development of this region, and the noticeable social and cultural affinities among the people here have enabled the successful completion and utilization of the park. As a new type of open public cultural space, the Chongqing Yangtze River National Cultural Park considers its visitors, their relationship networks, and sociocultural values in terms of time and space of belonging. The specially designed cultural environment of the park is meant to be a unifying place for cultural production and consumption through the active participation of visitors. This purpose is served by the park's efficient operational process that is a collaborative function of its many parts.

Chinese history and culture is greatly impacted by the Yangtze River. As a fertile agricultural basin and crucial

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means of transportation, the river has been instrumental in strengthening the unity of the Chinese nation. The cultural environment formed surrounding the Yangtze River has led to the development of the Chinese civilization; thus, the river has accumulated and transmits a rich collective memory of China (Day et al., 2020). The National Cultural Park is both a major project to promote China's cultural prosperity and an innovative contribution to the international community engaged in a dialogue on universal values and localized practice. However, as research on the Chongqing Yangtze River National Cultural Park is still in its infancy, the findings of this study are relatively weak. The present study focuses on the analysis of the cultural space of a particular region, and this type of case study has a limited scope. It not only lacks comparative understanding from the viewpoint of larger spatiotemporal dimensions but also falls short in the theoretical exploration of the construction logic, operation mechanism, and features of the Chongqing Yangtze River National Cultural Park.

This study, based on scene theory and considering the cultural and geographical characteristics of Chongqing, proposes the scene dimension index system for assessing the Chongqing Yangtze River National Cultural Park and evaluates the cultural amenities of counties along the Chongqing region of the Yangtze River Basin to create the park's characteristic cultural scene. Through empirical validation, we obtained three types of scenarios for the 18 districts and counties in the Chongqing Yangtze River National Cultural Park: the Three Gorges Cultural Zone, Three Gorges–Urban Cultural Transition Zone, and Urban Cultural Zone. Finally, the qualitative and quantitative comparisons are combined to analyze the different scenarios within the group, which are used to describe the contemporary characteristics of Chongqing Yangtze River National Cultural Park under the three scenario dimensions of "regional ecology," "cultural symbols," and "social perceptions" to create a better public cultural space that can facilitate the organic growth of culture. The findings of this study can be useful for further developing the park.

LITERATURE REVIEW

Previous urban development theories have identified land, labor, capital, and management as the factors of production that drive economic growth and population mobility; the theorists Adam Smith (Hollander, 1973), Karl Marx (Ling, 2001), and Alfred Marshall (Dixon, 2002) used production to explain consumption and dwelling. From the 1950s onward, with the rise of industrial cities surrounding manufacturing centers, Two scholars, Theodore Schultz (Levin et al., 1982) and James Coleman (Boudon, 1974), have begun to add a new element to the traditional theory of urban development, namely human capital. They argued that it is no longer the increase in the stock of land and capital that is important for promoting rapid urban growth but rather the increase in human skills and accumulation of knowledge. In the 1990s, the industrial zones of some developed countries moved away from the center of the city, and the original mixed city model of dwelling places and manufacturing areas has been changed to improve the functional location of cities. With time, the original industrial spaces have been replaced by newer industries such as cultural creativity, leisure and entertainment, and high-tech and financial services, and the urban landscape has changed from being production-oriented to being consumption-oriented (Di et al., 2011). With reference to these changes from the late 1990s to the present, Richard Florida proposed a new model of urban development that was built around the relationship between the creative class and urban development (Florida, 2014). According to Florida, creativity not only changes lives, but also influences urban form and social structure. This characterization of culture and urban amenities was not explored by early researchers in urban development theory.

At the beginning of the 21st century, the New Chicago School, represented by Terry Clark and Daniel Silver, had started an in-depth large-scale empirical study on metropolises around the world. Upholding the scene theory, which states that scenes can be composed of regional, spatial, and network elements, researchers proposed that at the center of all elements of urban design lies the influence of culture (Clark et al., 2004). "Scene" is a collection of elements such as citizen-oriented cultural and artistic consumption experience, convenience-oriented public products, and diverse populations (Clark et al., 2010). These assemblages contain not only the basic functions of social life but also its cultures, traditions, and community values. The values embedded in the cultural scene of a place are a new type of regional element that attracts human capital, promotes the practice of cultural consumption, and reshapes the functioning of the region. The scene theory

has drawn the attention of many to the importance of public cultural space for regional development and provided theoretical support for the study of cultural development. Contemporary research focuses on local interpretations and application of scene theory in the three main domains of planning—urban (Yá?ez & Navarro, 2014), rural (Fang, 2021), and tourism (Wei et al., 2020)—to deconstruct the public cultural space created by human–land symbiosis. The scene theory has been applied in many fields of study and in different scales. However, few studies have analyzed national cultural parks using the scene theory.

CONCEPT AND BACKGROUND

National cultural parks integrate cultural relics and resources of immense value, considerable influence, and important themes and involve management and operation processes. The park occupies an important space in China's high-quality development, a major innovative step toward the cultural governance and discourse systems that combine the material with the spiritual in the new era of development. The Yangtze River is a symbol of the multifaceted and integrated nature of the Chinese civilization. The construction of the Yangtze River National Cultural Park is immensely significant for developing the historical and cultural resources of the mighty Yangtze River; this is achieved via the activation of the cultural values associated with the river in the present times, improving the national cultural park system, and strengthening important symbols of Chinese culture. These cultural symbols can be equipped with richer signifiers and can create a field of memories across space and time (Wang & Zhan, 2022).

The civilization surrounding the Yangtze River is influenced and flourished by this river. It is characterized by romance, spirituality, intelligence, and pragmatism and has an open-minded and pioneering spirit. Located in the upper reaches of the Yangtze River, Chongqing is an important spatial carrier of the Yangtze River culture. The river runs through the whole territory of Chongqing, with a flow of 691 kilometers, accounting for 10.8% of the total mileage of the Yangtze River Basin and nourishing a population of approximately 33 million with rich natural resources and cultural deposits along its route. Building the Chongqing Yangtze River National Cultural Park with an optimum layout, distinctive features, functional connectivity, and openness (Zhang et al., 2022) carries huge significance. Chongqing is an important channel for the exchange of the Central Plains, Jing-Chu, and Wu-Yue cultures; it is an important representative of the Yangtze River civilization and a critical center for promoting construction of the park (Yin & Qi, 2021). The cultural park is an important initiative of Chongqing toward transforming the ecological and cultural resources of the Yangtze River into urban development resources, boosting the integration of culture and tourism, empowering urban construction, and benefiting the lives of the masses (Feng, 2023).

MATERIALS AND METHODOLOGY

Cultural Scene Dimension Construction

Scene theory introduces the concept of comfort of dwelling and combines it with the inherent culture of a place to formulate the guiding principles of "cultural amenities." Such amenities are often used to build facilities in high-value spaces that serve as business centers fully equipped to provide pleasurable experiences. Cultural amenities are the material carriers of regional belief systems and tend to have different connotations. Scene dimension represents its own meaning and characteristics, and amenities are an important indicator for constructing scenes (Dempsey, 2023). These amenities create a link between people and the "field," causing inhabitants to develop an emotional connection with the space (Hickey, 2018). Based on the natural ecological characteristics, historical and cultural heritage, and leisure consumption facilities of the Chongqing region of the Yangtze River Basin, this study has designed a system of cultural amenities for the Chongqing Yangtze River National Cultural Park. Three first-level ecological, cultural, and social dimensions and 15 second-level dimensions have been combined with a scene–theoretical analysis perspective to design this system (Table 1).

Table 1. Dimensions of cultural scenes in Chongqing Yangtze River National Cultural Park.

First-level dimension	Second-level dimension	Definition of different dimensions
Ecological	Primitiveness	Degree of preservation of natural ecosystems

	Protectiveness	Harmony of nature and habitat
	Distinctiveness	Characteristic landscape of Chongqing
	Sustainability	Overall sustainability of ecosystems
	Support	Supporting biodiversity and providing resources
Cultural	Tradition	Origins of cultural symbols
	Representation	Degree of identification of cultural symbols
	Activation	Degree of inheritance and innovation of cultural symbols
	Retention	Degree of maintenance of original cultural symbols
	Continuity	Uninterrupted survival of cultural symbols
Social	Publicity	Public universality and participation
	Convenience	Ease of movement of people and resources
	Variegation	Variety and diversity of amenities
	Participation	Driving economic development
	Normativeness	Social guidance and degree of standardization

Indicator System for Cultural Scene Dimension

The Chongqing Yangtze River National Cultural Park is centered on the main districts and counties of Chongqing Municipality through which the Yangtze River flows. This region comprises 18 districts and counties, including the districts of Yubei, Yuzhong, Jiangbei, Nanan, Beibei, Banan, Shapingba, Dadukou, Jiulongpo, Jiangjin, Changshou, Fuling, and Wanzhou and the counties of Fengdu, Zhongxian, Yunyang, Fengjie, and Wushan. This paper is based on the principles of wholeness and feasibility and identifies three major categories of 65 cultural amenities of the Chongqing Yangtze River National Cultural Park. Each of these cultural amenities was detailed in www.dianping.com and is confirmed by searching using Amap in Tables 2 and 3.

Table 2. Data on cultural amenities in the Chongqing section of Yangtze River Basin.

REGIONS	NUMBER OF CULTURAL AMENITIES			TOTAL NUMBER
	Ecogeographic type	Cultural symbols type	Leisure and consumption type	
YUBEI	39	131	11216	11386
YUZHONG	8	182	28454	28644
JIANGBEI	17	80	8756	8853
NANAN	29	127	8858	9014
BEIBEI	22	89	2055	2166
BANAN	43	70	2540	2653
SHAPINGBA	21	121	9735	9877
DADUKOU	4	33	653	690
JIULONGPO	19	124	6254	6397
JIANGJIN	35	64	3179	3278
CHANGSHOU	10	32	1664	1706
FULING	22	29	2124	2175
FENGDU	19	29	1050	1098
ZHONGXIAN	11	35	426	472
WANZHOU	22	43	2580	2645

YUNYANG	11	31	529	571
FENGJIE	31	40	879	950
WUSHAN	16	11	458	485

Table 3. Specific classification of cultural amenities

TYPE	CONNOTATION	SPECIFIC CLASSIFICATION
ECOGEOGRAPHIC TYPE	Natural ecology of Yangtze River National Cultural Park	·River landscape ·Geopark ·Characteristic countryside ·River-crossing bridge ·Nature reserve ·Water conservancy project ·Wetland park ·Forest park ·Lakeside park ·Zoo ·Botanical garden ·Oceanarium
CULTURAL SYMBOLS TYPE	Characteristics of Chongqing culture	·Historical building ·Display hall ·Monument/memorial ·Landmark ·Cultural park ·Cultural and creative tourism district ·Special town ·Pedestrian street ·Ancient village and town ·Former residence ·Temple and church ·Cultural heritage ·Patriotism education base ·Folk culture village ·Museum ·Exhibition hall ·Memorial park ·The Martyr Memorial Park
LEISURE AND CONSUMPTION TYPE	Benefits of social services in the Chongqing	·City park ·Library/bookstore ·Concert hall/auditorium ·Gymnasium ·Theater ·Senior activity center ·Viewing platform ·Transportation facility ·Tourist center ·Performance/event ·Recreation club ·Agritainment ·Mahjong and chess room ·Script murder/escape room ·Hot spring ·Party house ·Snow and ice amusement park ·Ski resort ·Wax museum ·Theme park ·Star hotel ·Homestay inn ·Amusement park/water park ·Cinema ·Shopping center ·Film and television base ·Campsite ·Farmhouse resort ·Night market ·Sichuan cuisine restaurant/tea house ·Colleges and universities ·Planning hall

	·Art gallery ·Art center/cultural center ·Science and technology museum/planetarium

In this paper, the Delphi method was adopted, and ten experts were asked to grade the 15 secondary dimensions under the scene dimension using the scale from 1 to 5; 5 represented the most positive score, 1 the most negative, and 3 showed neutrality. The scores represented the degree of influence of a cultural amenity in this subdimension (Brown, 1968). To ensure the objectivity or scientific value of the scoring, the results are weighted according to the familiarity level of different experts with the national cultural park, the culture of Chongqing region of the Yangtze River Basin, and the cultural scene (Table 4), with two experts scoring 1 point, three experts scoring 0.8 points, one expert scoring 0.6 points, and four experts scoring 0.4 points. The score for each cultural amenity was weighted and averaged.

Table 4. Criteria for assigning values for expert scoring.

FAMILIARITY LEVEL	ASSIGNED VALUE
EXTREMELY FAMILIAR	1
VERY FAMILIAR	0.8
FAMILIAR	0.6
NORMAL	0.4
NOT FAMILIAR	0.2
UNFAMILIAR	0

Calculation Method

Scores were assigned to each secondary dimension of every cultural amenity based on the score and number of each cultural amenity within the scene dimension. A district's scene score for a specific secondary dimension is the sum of the product of the number of cultural amenity objects in the district and the score for this dimension divided by the total number of cultural amenity objects in the district. A matrix of scores for the 18 districts and counties in the 15 secondary scene dimensions was calculated, and a total of 2,700 data points were obtained for analysis. The specific calculation formulas were as follows:

Ecological:

$$\mathrm{Se} = \frac{(S_1 \times N_1) + (S_2 \times N_2) + (S_3 \times N_3) + (S_4 \times N_4) + (S_5 \times N_5)}{N_i}, \quad (1)$$

Cultural:

$$\mathrm{Sc} = \frac{(S_6 \times N_6) + (S_7 \times N_7) + (S_8 \times N_8) + (S_9 \times N_9) + (S_{10} \times N_{10})}{N_i}, \quad (2)$$

Social:

$$\mathrm{Sy} = \frac{(S_{11} \times N_{11}) + (S_{12} \times N_{12}) + (S_{13} \times N_{13}) + (S_{14} \times N_{14}) + (S_{15} \times N_{15})}{N_i}, \quad (3)$$

where Ni is the number of all cultural comforts in the region.

Empirical Verification

The Ward method of SIMCA 14.1 was used to conduct hierarchical cluster analysis of the major cities and municipalities within the Chongqing Yangtze River National Cultural Park, which was verified by Principal Component Analysis (PCA) (Thomann & Maggetti, 2020). Orthogonal partial least-squares discrimination analysis (OPLS-DA) was performed (Ye & Lu, 2022) and various scene patterns of the 18 districts and counties in Chongqing were obtained. In addition, this paper uses qualitative comparative analysis (QCA) on a combination of condition variables under the scene dimensions of the first- and second-level dimensions that influence each other. The QCA method, developed by the American sociologist Charles Ragin, is a general term for a class of research ideas and analytical techniques (Rihoux & Ragin). As a research methodology, QCA represents a group perspective presented with set theory and Boolean algebra; each case in this application is viewed as a whole, and the extent to which different conditions and their combinations explain the results are obtained through comparative analysis between the cases (Marx et al., 2014). Among these cases, QCA includes crisp-sets (csQCA), multi-value set (mvQCA), and fuzzy-sets (fsQCA). Based on the research purpose and subject, this paper uses csQCA and calibrates the variables with 0 and 1 to perform QCA analysis (Greckhamer et al., 2013). On the basis of the classification of scene patterns and geographical location of the Chongqing Yangtze River National Cultural Park, the average value is used as the basis for the dichotomous assignment of csQCA, which is expressed in terms of 1 and 0 and called dichotomous assignment. Furthermore, the data matrix formed by the result forms a truth table (Pan et al., 2022). These data are collated to explore the combinations of conditions of the second-level dimensions that work together to lead to the results of a particular first-level dimension and to create a truth table that can be imported into the software Tosmana.

RESULT

Scene Score for Chongqing Yangtze River National Cultural Park

The coefficient of variation within a statistic can reflect the degree of differentiation within each element of the cultural environment (Lovie, 2006), according to the scores of the main cultural scenes in the Chongqing Yangtze River National Cultural Park (Table 5).

Table 5. Score description of major cultural scenes in Chongqing Yangtze River National Cultural Park.

SCENE DIMENSION	SCORE DESCRIPTION OF MAJOR CULTURAL SCENES				
	Maximum values	Minimum value	Mean value	Standard deviation	Coefficient of variation
PRIMITIVENESS	0.10961	0.00004	0.01831	0.02224	1.21475
PROTECTIVENESS	0.01003	0.00000	0.00101	0.00175	1.73125
DISTINCTIVENESS	0.01003	0.00000	0.00194	0.00222	1.14069
SUSTAINABILITY	0.00976	0.00000	0.00108	0.00166	1.53965
SUPPORT	0.04011	0.00001	0.00983	0.00900	0.91607
TRADITION	0.02487	0.00002	0.00554	0.00479	0.86434
REPRESENTATION	0.07020	0.00008	0.01483	0.01520	1.02456
ACTIVATION	0.06174	0.00000	0.00665	0.00891	1.33939
RETENTION	0.24068	0.00008	0.02934	0.04000	1.36321
CONTINUITY	0.08918	0.00004	0.01755	0.01501	0.85516
PUBLICITY	0.77093	0.00072	0.20126	0.14602	0.72556
CONVENIENCE	0.19895	0.00011	0.04524	0.03450	0.76270
VARIEGATION	3.88463	0.00105	0.46899	0.71006	1.51402

PARTICIPATION	4.56974	0.01000	1.93729	1.07606	0.55545
NORMATIVENESS	0.25698	0.00002	0.03360	0.04766	1.41860

Based on the results shown, the coefficient of variation is overall strong, and the degree of variation of the secondary dimensions of protection, uniqueness, and sustainability, belonging to the ecological dimension, indicates that the natural ecological environment within the Chongqing region of the Yangtze River Basin is majorly different. The secondary dimensions with smaller coefficients of variation are convenience, publicity, and participation, all of which belong to the social dimension, indicate that the social support system in the park is more complete and can achieve the function of social service. Openness and universality have been embodied, but the coefficients of variation for normativeness and diversity are stronger, and the degree of variation is larger; conversely, the degree of pluralism and diversity of cultural types, normative social guidance, and standardization are weak. The coefficients of variation of the original retention and activated dimensions in the cultural dimension are strong and large, indicating that the degree of inheritance and innovation of the original cultural symbols in the park is relatively lacking. The coefficients of the dimensions of tradition and continuity are relatively small, proving that the survival of traditional Chongqing culture has never been interrupted.

Scene Model Analysis of Chongqing Yangtze River National Cultural Park

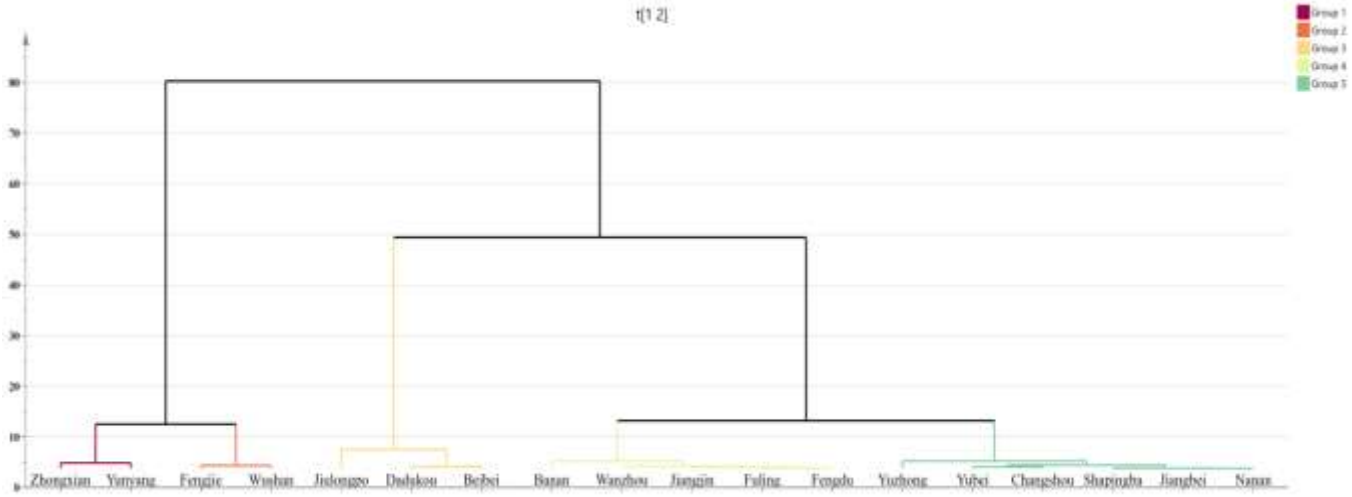

Figure 1.1. Results of scene segmentation of Chongqing Yangtze River National Cultural Park.

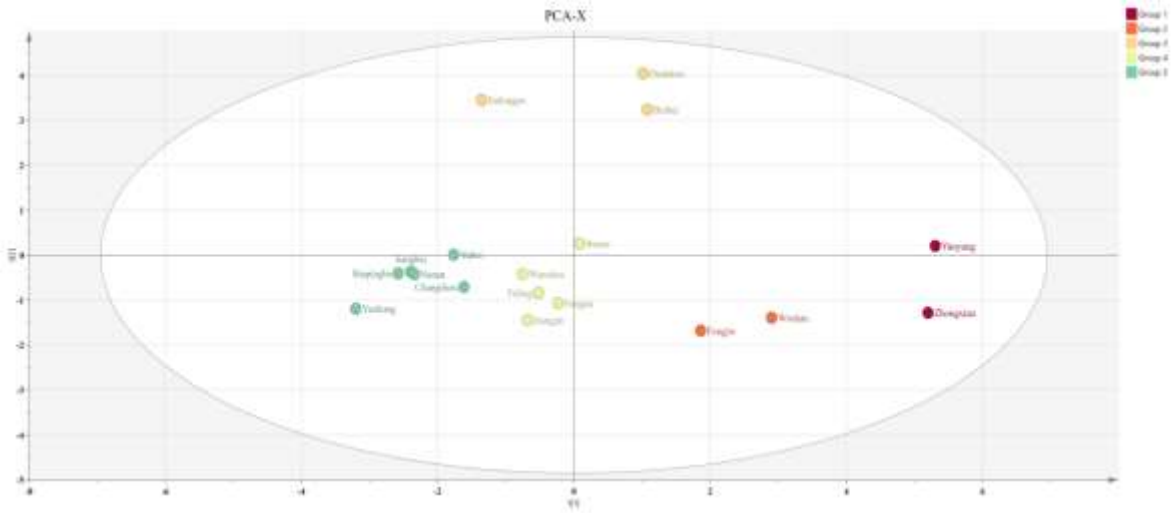

Figure 1.2. Scene clustering of major districts and counties in Chongqing Yangtze River National Cultural Park.

Figure 1.1 shows that the main district and county cultural scenes in the park can be divided into five categories: 1) Yunyang County and Zhongxian County; 2) Fengjie County and Wushan County; 3) Jiulongpo District, Dadukou District, and Beibei District; 4) Banan District, Wanzhou District, Fuling District, Fengdu County, and Jiangjin District; and 5) Yubei District, Yuzhong District, Jiangbei District, Shapingba District, Nanan District, and Changshou District. Additionally, five types of cultural scene patterns, as shown in Figures 1.2, were observed. These types differed mainly based on the first principal component of PCA, and the within-group differences related to the second principal component were noted. The first and second categories of districts and counties have higher scores on the second principal component. These districts and counties are significantly different from the other groups, and the within-group degree of differentiation is high, with Yunyang County and Zhongxian County being the most prominent. The fourth and fifth categories of districts and counties, in contrast, have some within-group homogenization problems.

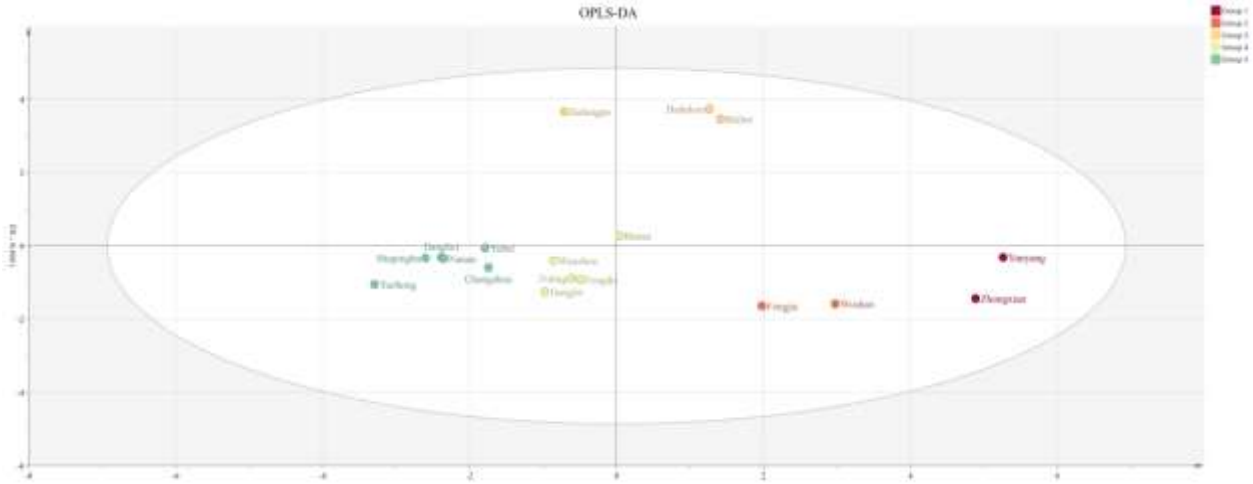

Figure 2.1. Score of scene mode characterization variables for major districts and counties in Chongqing Yangtze River National Cultural Park.

In Figure 2.1, the results of the OPLS-DA analysis show that the independent variable fit index (R2x) in this analysis was 0.618, the dependent variable fit index (R2y) was 0.856, and the model prediction index (Q2) was 0.704 with R2 and Q2 exceeding 0.5, indicating the feasibility of the model fit.

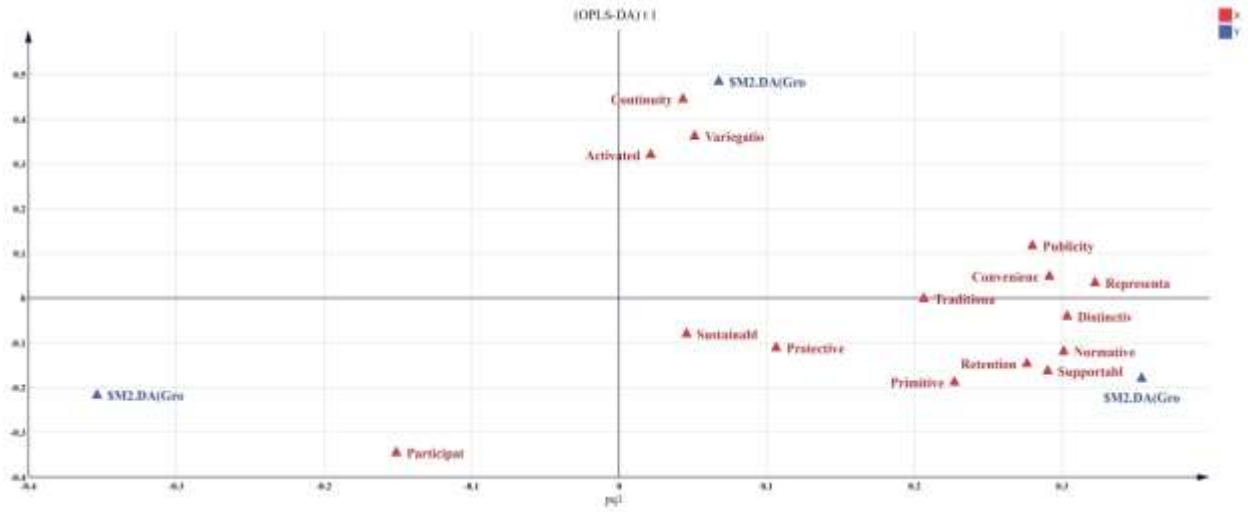

Figure 4. Characteristic variable loadings of scene patterns in major districts and counties of Chongqing Yangtze River National Cultural Park.

Different scene patterns were identified and their characteristic latitudes were filtered through the scene pattern score plot and load plot of the major districts and counties of the Chongqing region of the Yangtze River National Cultural Park. In Figure 2.2, the variables of continuity, activation, variegation, publicity, convenience, representation, and tradition are distributed in the positive half of the horizontal axis; meanwhile, distinctiveness, normativeness, sustainability, protection, primitiveness, retention, support, and participation variables are distributed in the negative half of the horizontal axis. This signifies that, overall, the cultural and social dimensions of the first level have been well maintained in the Chongqing Yangtze River National Cultural Park; however, the development of primitiveness in the ecological dimension and normativeness and participation in the social dimension has been slow. Further, the development of originality in the ecological dimension and normality and participation in the social dimension has been lacking. The overall ecological dimension of the first level with the variables of primitiveness, distinctiveness, sustainability, protection, and support has been deficient. Moreover, the score map corresponds to the load map, for example, Dadukou, Jiulongpo, and Beibei districts in the third scene correspond to the load map. This correspondence is reflected in the high contribution of continuity, retention, variegation, and distinctiveness to this scene.

Table 6. Coordinate values of latitude variable loadings of scene features in Chongqing Yangtze River National Cultural Park.

SCENE DIMENSION	VARIABLE LOADINGS 1	VARIABLE LOADINGS 2
PRIMITIVENESS	0.227	−0.188
PROTECTIVENESS	0.107	−0.110
DISTINCTIVENESS	0.303	−0.040
SUSTAINABILITY	0.045	−0.080
SUPPORT	0.290	−0.162
TRADITION	0.206	−0.001
REPRESENTATION	0.322	0.034
ACTIVATION	0.022	0.321
RETENTION	0.276	−0.145
CONTINUITY	0.043	0.445

PUBLICITY	0.280	0.116
CONVENIENCE	0.291	0.049
VARIEGATION	0.051	0.362
PARTICIPATION	−0.151	−0.345
NORMATIVENESS	0.301	−0.119

Table 6 lists the values of the coordinates of the variables in the loadings plot, i.e., variable loadings 1 and 2, and determines whether a correlation between the dimensions exists through comparisons of positive and negative relationships between the loadings. From the results presented in Table 5, all secondary dimensions under the first-level dimension of ecology show positive correlation; under the first-level dimension of culture, the second-level dimensions of tradition and retention show negative correlation with representation, activation and continuity; further, the social dimension shows negative correlation with representation, activation and continuity. The social dimensions of participation and normativeness are negatively correlated with publicity, convenience and variegation. This result confirms that the ecological nature of the Chongqing Yangtze River National Cultural Park is insufficient for the park's optimum utilization. Although a negative correlation exists between tradition and retention, the value is negligible (−0.001); however, a big difference exists between these variables, which indicates that the original culture of Chongqing is not maintained to a large extent. The correlation between the social dimensions of participation and normativeness is also negligible, indicating that the park is yet to become an impactful resource for the social capital and economic development of the country.

Configuration Analysis Within the Scene Dimension of Chongqing Yangtze River National Cultural Park

Using FsQCA 3.0 software, Boolean minimization operation is performed on the truth table (setting the consistency threshold as 0.8), and after normalization analysis, three types of QCA solutions were obtained, i.e., complex, parsimonious, and intermediate (Wagemann et al., 2016). In this study, the intermediate and optimized solutions were selected for the result analysis, and the coverage rate was used as the main observation index. The larger the value of the coverage rate, the greater the ability of the antecedent condition combination for explaining the causal paths (Frisvoll, 2012).

Analysis of the Regional Ecology Dimensional Configuration

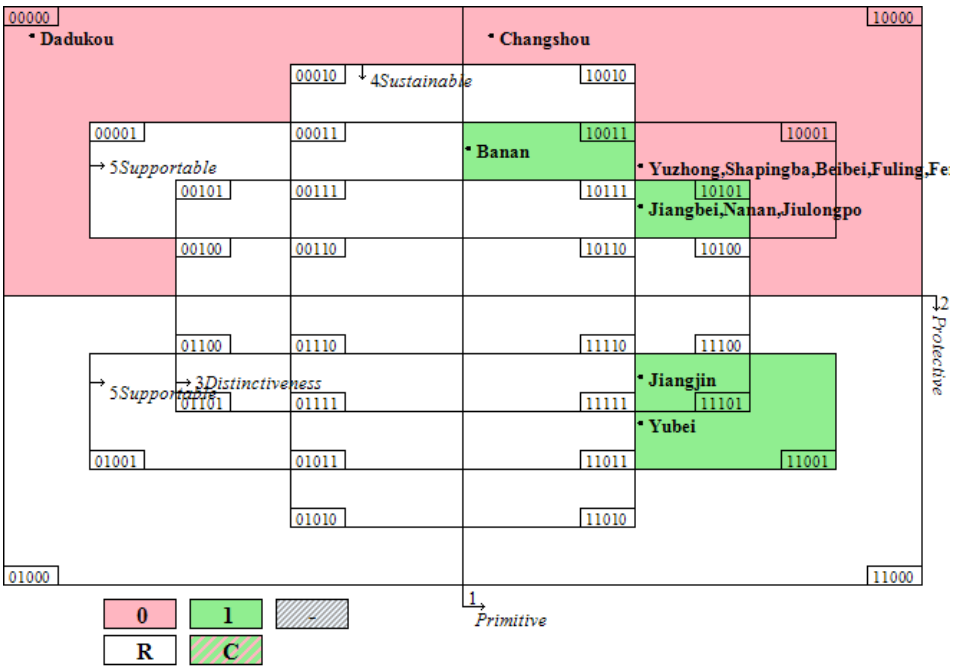

Figure 5. Regional ecology dimension configuration of Chongqing Yangtze River National Cultural Park scene.

Table 7. Results of the calculation of regional ecology dimensions.

CONDITIONAL VARIABLE	PATH 1	PATH 2	PATH 3
PRIMITIVENESS	◉	◉	◉
PROTECTIVENESS	◉		×
DISTINCTIVENESS		◉	×
SUSTAINABILITY	×	×	◉
SUPPORT	◉	◉	◉
RAW COVERAGE	0.333	0.667	0.167
UNIQUE COVERAGE	0.167	0.500	0.167
SOLUTION COVERAGE	1	1	1
CONSISTENCY	1	1	1

"◉" indicates that the condition exists. "×" indicates that the condition does not exist. Blank space means "not concerned."

Figure 3.1 and Table 7 shows in the dimension of regional ecology, the results of the combination of conditions form three combined paths, and the solution coverage and consistency is 1, indicating that the conditional variables composed of the five second-level dimensions are the necessary conditions for the development of the regional ecology of the Chongqing Yangtze River National Cultural Park. The three combined paths are (1) Primitiveness*Protectiveness*~Sustainability*Support; (2) Primitiveness*Distinctiveness*~Sustainability*Support; and (3) Primitiveness*~Protectiveness*~Distinctiveness*Sustainability*Support. The symbol * denotes a variable link, which expresses the intersection relationship of "and"; the symbol ~ denotes "not," which means that the variable must not exist in the combination. Primitiveness and support appear in three of the combined paths, suggesting that they play a dominant role, whereas protectiveness, distinctiveness and sustainability play a similar role. Path 2 constitutes the most influential combination of conditions on territorial ecology, explaining up to 67% of the cases.

Analysis of the Cultural Symbol Dimensional Configuration

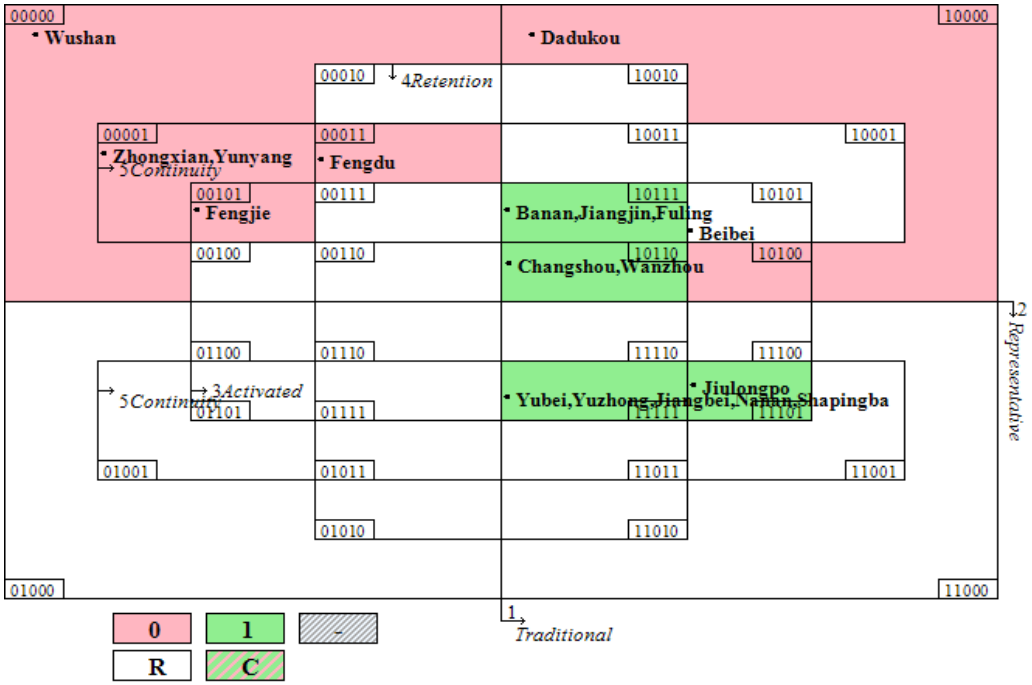

Figure 3.2. Cultural symbol dimension configuration of Chongqing Yangtze River National Cultural Park scene.

Table 8. Results of the calculation of cultural symbol dimensions.

CONDITIONAL VARIABLE	PATH 1	PATH 2	PATH 3
TRADITIONAL		◉	◉
REPRESENTATIVE	◉	◉	×
ACTIVATED	◉		×
RETENTION	◉	◉	×
CONTINUITY	◉	◉	◉
RAW COVERAGE	0.714	0.286	0.143
UNIQUE COVERAGE	0.571	0.143	0.143
SOLUTION COVERAGE	1	1	1
CONSISTENCY	1	1	1

"◉" indicates that the condition exists. "×" indicates that the condition does not exist. Blank space means "not concerned."

Figure 3.2 and Table 8 shows in the dimension of cultural symbols, three combined paths are formed, and the conditional variables of solution coverage and consistency of 1 indicate that these variables constituted by the five secondary dimensions are the necessary conditions for the survival and development of the culture of the Chongqing Yangtze River National Cultural Park. The three combined paths are as follows: (1) Continuity*Retention*Activation*Representation; (2) Continuity*Retention*Representation*Tradition; and (3) Continuity*Retention*~Activation*~Representation*Tradition. Continuity and tradition play a dominant role within these combinations, with retention, activation, and representation having almost similar roles. The explanation rate of Path 1 can reach 71%, which indicates that both the traditional and innovative parts of Chongqing culture are vital for its greater appreciation among the masses.

Analysis of the Social Perception Dimensional Configuration

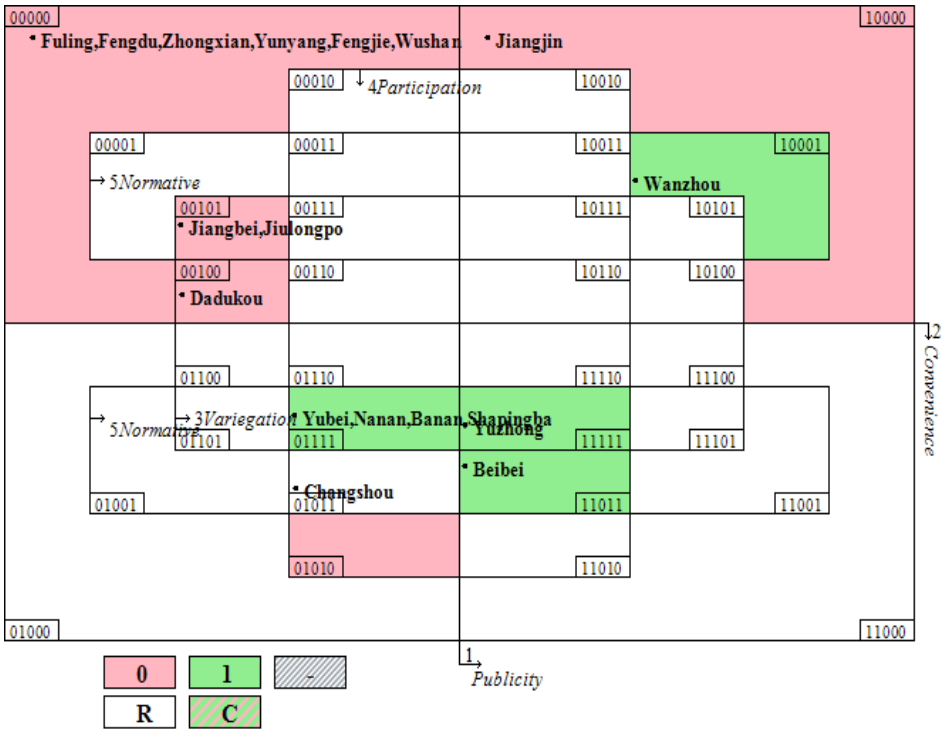

Figure 7. Social perception dimension configuration of Chongqing Yangtze River National Cultural Park scene.

Table 9. Results of the calculation of social perception dimensions.

CONDITIONAL VARIABLE	PATH 1	PATH 2	PATH 3
PUBLICITY	◉	◉	◉
CONVENIENCE	×		◉
VARIEGATION	◉	◉	◉
PARTICIPATION	◉	◉	
NORMATIVENESS		◉	◉
RAW COVERAGE	0.455	0.818	0.545
UNIQUE COVERAGE	0.455	0.091	0.545
SOLUTION COVERAGE	1	1	1
CONSISTENCY	1	1	1

"◉" indicates that the condition exists. "×" indicates that the condition does not exist. Blank space means "not concerned."

Figure 3.3 and Table 9 shows in the dimension of social perception, three combined paths were formulated and their variables of solution coverage and consistency measured 1. This result also shows that the conditional variables of the five secondary dimensions are the conditional variables for the development of social perception in the Chongqing Yangtze River National Cultural Park, and the three combined paths were as follows: (1) Publicity*Convenience*Variegation*Participation; (2) Publicity*Normativeness*Variegation*Participation; and (3) Publicity*Convenience*Variegation*Normativeness. Among them, publicity and variegation play a dominant role with convenience, participation, and normativeness having almost similar roles. Path 2 has the highest explanation rate of 82% and most influences the dimension of social perception.

DISCUSSION

Scene Division of Chongqing Yangtze River National Cultural Park

Based on empirical analysis, this paper classifies the Chongqing Yangtze River National Cultural Park scene into five categories. The first category includes Yunyang County and Zhongxian County, which are located on the north bank of the Yangtze River and belong to the lower part of the Chongqing region of the Yangtze River Basin. This section of the park has relatively few leisure and consumer cultural amenities compared to the other districts and counties around the park. The total number of comfort facilities is also small. Considering the similarities in geographic location and level of economic development, Yunyang County is paired with Zhongxian County in the first category. The second category comprises Fengjie County and Wushan County, which are located on the north bank of the Yangtze River and are the starting point and core area of the Three Gorges of the Yangtze River. These regions are rich in natural resources; although fewer leisure and consumer amenities are available here, this section of the park is a world-renowned tourist spot because of the scenic beauty of the Three Gorges of the Yangtze River, which are one of Chongqing's ten major cultural symbols. These first and second scene categories play an important role in the integration of culture and tourism in the Chongqing Yangtze River National Cultural Park.

The third category includes Jiulongpo, Dadukou, and Beibei districts, which are located in the western, southwestern, and northwestern parts of the main city of Chongqing, respectively. The scenes in this category have similar natural landscape and human resources. The fourth category includes Banan, Wanzhou, Fuling, and Jiangjin districts and Fengdu County, which are located across the upper and lower reaches of the Chongqing region of the Yangtze River Basin. The scenes in this category are similar to the third category. The fifth category includes the districts of Yubei, Yuzhong, Jiangbei, Shapingba, Nanan, and Changshou. This category is close to the main city of Chongqing and its surrounding areas. Due to the high level of development in and around the main city of Chongqing, human resources are higher, and leisure and consumption amenities are more diverse here.

Characteristics of Chongqing Yangtze River National Cultural Park Era

The geographical features of the Yangtze River, geographic location between districts and counties, and gap in the level of regional economic development and culture posed difficulties in the construction of Chongqing Yangtze River National Culture Park. As previously mentioned, the areas passing through the park are roughly classified into three categories: the Three Gorges Cultural Zone, the Three Gorges–Urban Cultural Transition Zone, and the Urban Cultural Zone. These three types of scenes belong to the same Chongqing cultural circle, and a high degree of similarity in cultural and social structures prevails in these scenes. In addition, the riverine culture surrounding the Yangtze River, with a unique mountainous landscape, has provided a suitable natural condition for the integration of diverse cultures (Schillinger & Lycett, 2019).These conducive factors can break the administrative and geographical boundary restrictions in the construction of the Chongqing Yangtze River National Cultural Park (Peng & Marinos, 2022). Considering these core elements, we propose ways of strengthening cooperation between districts and counties and reinforcing the representative cultural symbols of each region according to the characteristics of different scene dimensions. According to the famous cultural sphere theory in anthropology, the cultural and spatiotemporal system of the Chongqing region of the Yangtze River Basin, which is a dynamic and constantly evolving geographic area (Martin, 1998), has a number of small regional cultural circles. Chongqing culture is an important and unique subsystem in the Yangtze River cultural system. With the continuous development, diffusion, and integration of the cultural system, the old and new cultural circles are constantly overlapping and changing (Li et al., 2022). Through these processes, the strong and weak cultures collide and the forces of cultural gravity start to mold the common narrative to shape a predominant cultural system. Thus, the Chongqing Yangtze River National Cultural Park, through its innovative design, is geared toward serving as a catalyst for enhancing the sense of community and shared cultural values between all the people connected to it. For better achieving this purpose, the main city of Chongqing is selected as its core development base.

The limitations of this study are as follows. First, the collection of basic data needs to be updated and optimized; second, the spatial perception in determining the latitude of scene characteristics needs to be further improved

according to public perception; finally, the construction of the functional system and spatial articulation of the Chongqing Yangtze River National Cultural Park need to be explored in greater depth under the premise of scientific argumentation and in-depth cultural excavation.

CONCLUSIONS

This study is based on 18 carefully selected districts and counties within the planning scope of the Chongqing Yangtze River National Cultural Park. The study evaluates the construction of the characteristic cultural scene of the park using the Delphi method, analyzes its scene pattern using the hierarchical cluster analysis method, and verifies the results using PCA. This procedure is followed for the analysis of scene characteristic dimensions, and the study determines the optimal path for the construction of the Chongqing Yangtze River National Cultural Park. This paper draws the following conclusions.

The construction of the park should adhere to the principle of "human–nature–culture" interaction based on the optimization of the layout of the comfort scene, condensation of the cultural identity system, and enhancement of the people's sense of well-being and gain.

In terms of optimizing amenities, a large difference exists between secondary dimensions in the ecological dimension, reflecting the need for improving the hydrological environment of the Chongqing region of the Yangtze River Basin and the ecological management of its surroundings, especially the construction of natural reserves. In addition, the regional infrastructure requires improvement; a road network system should be built to connect the 18 districts and counties and form a transportation corridor along the Yangtze River in Chongqing for improved political, economic, and cultural exchanges.

In terms of condensing the cultural identity system, innovative use of the geographic and spiritual resources of the Chongqing region of the Yangtze River Basin along with the traditions of the Chongqing civilization through cooperation among the districts and counties is gradually taking shape. In this endeavor, the unique cultural characteristics of various scenes and full representation of regional variations are being applied to the greatest extent possible. One such variation is made in setting up cultural and creative tourism spots and special towns in the main city area and few to none in the Three Gorges Cultural Zone.

People living in the surrounding areas of the Yangtze River strive for a better life, high-quality cultural services, and establishment of self-identity. The Chongqing Yangtze River National Cultural Park is designed to cater to the material and cultural needs of all the people connected to it. By providing employment, optimizing income structure, and improving the level of consumption, this cultural park has immense potential to improve people's well-being. This enormous and intricately designed park has huge potential to represent the country's advanced civilization and rich cultural heritage. Overall, the Chongqing Yangtze River National Cultural Park is not meant to add cosmetic value to the country's landscape; it is designed with the purpose of making a contribution to China's holistic development.

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No potential conflict of interest was reported by the authors.

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