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Spatial Distribution Characteristics and Influencing Factors of Cultural and Tourism Resources in Xihu District of Hangzhou

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Abstract: Exploring the spatial distribution characteristics of regional cultural and tourism resources (CTRs) is crucial to the sustainable development of cultural and tourism industries. Based on 651 CTRs obtained from the latest round of field surveys in the Xihu District of Hangzhou, this article analyzed the spatial distribution of these CTRs from an overall, categorical, and hierarchical multiple perspective using the average nearest neighbor index and kernel density analysis and explored the reasons for the differences in the spatial distribution of the above different types of CTRs using multiple linear regression and Geodetector. The results indicate that the CTRs present a spatially clustered state, and the distribution of CTRs in different categories and grades has diverse characteristics, as natural resources have three high-density areas, humanistic resources have one high-density area, and both general and superior resources have only one high-density area, but the low-density areas are different. In addition, the spatial distribution of the overall, different categories, and different grades of CTRs in this region is influenced by several factors, with the West Lake generating the greatest impact. Additionally, interactive factors can have a greater impact than single factors. These results enrich the research content of Hangzhou's cultural and tourism industries and provide theoretical support for the high-quality development of Xihu District's cultural and tourism industries.

Keywords: cultural and tourism resources; spatial distribution; influencing factors; Geodetector; Hangzhou's Xihu District

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1. Introduction

Cultural and tourism resources (CTRs) are prerequisites and the foundation for the development of the cultural and tourism industries. Analyzing the characteristics of CTRs is a necessary task to ensure the rational and sustainable development of the industries [1–8]. With a developed economy, an affluent population, a thriving tourism industry, and a profound cultural heritage, Hangzhou's Xihu District is one of the richest areas in Zhejiang Province in terms of CTRs. During the "13th Five-Year Plan" period, Xihu District successfully created the Zhejiang Province Total Area Tourism Demonstration Zone, with an increase in the number of scenic spots above Grade 3A, star-rated hotels, and travel agencies. However, there are some problems in the development of the cultural and tourism industries in the Xihu District, such as the lack of integrated planning, brand awareness, and unbalanced development within the region. In this paper, we analyze the spatial distribution characteristics of CTRs in the Xihu District using the latest data obtained from the 2022 survey and look for the reasons that influence their spatial differences.

This study is based on the survey works, in which CTRs are defined as all kinds of things and phenomena in nature and human society that can be attractive to tourists, have a certain cultural or tourism value, can be exploited for high-quality tourism development, and can generate economic, social, and ecological benefits. "Tourism attraction" is an academic term commonly used by European and American scholars [9–12]. In the 1970s,

MacCannell and Leiper proposed the concept of "tourism attraction," and the two scholars coincided in their views, both emphasizing its inherent attractive characteristics [13,14]. The concept, which has been used to date, reflects the pursuit of individualization and therefore has led to some harmful content being included in this research category [15], such as Canadian casinos that also fit the definition of a tourism attraction [16]. Since the 1970s, China's tourism industry has developed rapidly, and scholars in the fields of geography, sociology, and economics have carried out a series of studies on tourism. Their research object is called "tourism resources" [17–20]. Bao, as one of the representative scholars, believes that tourism resources refer to natural existence and cultural heritage that are attractive to tourists, as well as artificial creations that are directly used for tourism purposes [21]. It is evident that both Chinese and Western scholars emphasize the aspect of "attractiveness" as a significant focus in their study of the concept (see the concept from: "Classification, investigation and evaluation of cultural and tourism resources in Zhejiang Province").

In the 1950s, the famous ecologists Clark and Evans proposed the concept of "nearest neighbor analysis." Since then, the concept has gradually developed into a spatial analysis method in human geography. Furthermore, kernel density estimates are often used to reflect the aggregation of geographic elements within a given region. Both analytical approaches can objectively reflect the distribution patterns and aggregation states of geographical elements in space and are therefore widely used in geological studies [22–26]. Geodetector is a new statistical method used to detect spatial heterogeneity and reveal the driving factors behind it [27]. It is widely used in several fields, including public health [28], geological research [29], economic geography [30], land use [31], and tourism development [32].

The study of the spatial distribution of research objects has many practical implications. Snith believes that the spatial distribution of tourism resources has a profound impact on the layout of tourism productivity [33], while Williams believes that the spatial distribution of tourist attractions reflects the state of tourism's economic development [34]. The spatial distribution of CTRs can affect the sense of tourist experience, transportation planning, and the economic benefits of the related industries [35,36]. Therefore, it is important to clarify the spatial distribution pattern of CTRs for the development of related industries in the Xihu District. The spatial distribution has been studied in various ways, as some scholars have used mathematical models [37], while others have studied the spatial distribution of tourist attractions through the "core- periphery" model [38]. Some scholars have carried out dynamic studies on the spatial distribution of research objects [39–43], such as Rainer and Zakariya, who respectively analyzed the spatial construction and evolution of leisure agriculture in northwest Argentina and historical squares in Melaka [44,45]. In addition, there are many static studies on the spatial distribution of research objects [46–49]. A large number of studies have been conducted by Chinese scholars at different spatial scales, including countries [23,50], urban agglomerations [51,52], natural regions [53], provinces [54], and cities [32,55]. However, it can be clearly seen that there are fewer studies at the district and county scales. In this paper, we will explore what kind of distribution characteristics CTRs would show within a smaller administrative area, using the Xihu District as an example.

Through our literature review, we found that it is also important for scholars to study the influence factors. Krugman once proposed that the first nature and the second nature jointly affect spatial differentiation and urban development, in which the natural characteristics such as climate and landform are the first nature and the characteristics produced by human activities such as human environment and technological foundation are the second nature [56]. At present, the study of factors influencing spatial distribution tends to lead to a systematic analysis of the natural environment and human society in multiple dimensions. Natural environmental factors such as hydrology, topography, and climate and economic and social factors such as economic base, transportation conditions, infrastructure, and government policies are common factors. MacDonald found that the distribution of rural tourism in Canada is mainly influenced by natural factors such as hydrology and topography [57],

while Gronau, Papatheodorou, and Masson found that transportation factors profoundly affect the distribution of leisure tourism resources [58–60]. Nilsson found that rural tourism sites are influenced by rural infrastructure [61], while Sijtsma and Wilson found that rural tourism sites are influenced by a combination of natural and social factors [62,63]. In addition, we also found that Chinese scholars mainly analyzed the influencing factors from both qualitative and quantitative aspects. Qualitative analysis has been mainly used in earlier studies. Zhu et al. took the Zhoushan Islands in Zhejiang Province as their location of study and believed that regional tourism spatial integration was subject to the interaction of various factors [64]. Zhang pointed out through qualitative analysis that the spatial distribution of different types of sports tourism resources in the Beijing suburbs is dominated by factors such as terrain, tourist markets, transportation locations, natural and cultural conditions, and regional conditions [65]. Through quantitative analysis, it is possible to determine the direction and extent of the influencing factors, providing an objective basis for research. Zhu et al. used Geodetector to analyze the causes of spatial distribution of recreational business district (RBD) in Beijing and found that different types of RBDs are dominated by various influencing factors, and the influence of tourist density is worth paying attention to [40]. Wang et al. conducted a study of 9820 A-grade tourist attractions in China and found that they were influenced by landforms, river basins, population, economic development, urban agglomerations, and transport networks [66]. According to the existing research, we can find that the spatial distribution of various tourism resources will be affected by a variety of factors. Each region has different conditions, and we therefore aim to answer whether there is a certain unique factor that affects the distribution of local CTRs in Hangzhou's Xihu District.

In order to explore these issues, a series of works were carried out in this study. Firstly, our team underwent nine months of field surveys, two months of compilation and review, and ultimately identified 651 CTRs, including information such as names, locations, types, and rankings. Secondly, to clarify the types of spatial distribution of CTRs in the Xihu District, we used the average nearest neighbor index and kernel density analysis to analyze from multiple perspectives: overall, natural, humanistic, general, and superior. Thirdly, to explore the differences in the spatial distribution of overall, natural, humanistic, general, and superior CTRs, we selected nine indicators from the three dimensions of social and economic, nature and ecology, and location conditions and analyzed them using multiple linear regression and Geodetector.

2. Materials and Methods

2.1. Study Area

Xihu District is located in the western part of the main city of Hangzhou. The total area of the jurisdiction is 312.43 square kilometers, and the geographical coordinates range from 30°10′ N to 30°16′ N and 120°4′ E to 120°10′ E. At present, it has jurisdiction over 10 subdistricts, including Jiangcun, Liuxia, Wenxin, Gudang, Cuiyuan, Xixi, Beishan, Lingyin, Zhuantang, and Xihu, and 2 towns, Shuangpu and Sandun (see Figure 1).

Xihu District is located in the transition zone of settlement between the hills and mountains of western Zhejiang and the Hangjiahu Plain. The terrain in the region is high in the west and low in the northeast and southeast. There are four types of landforms: plains, valleys, hills, and waters. Hills and valleys are mainly distributed in the middle of the Xihu District, while plains are distributed in the north and south of the area. There are densely covered rivers and lakes, including the famous West Lake and Qiantang River. The region has unique conditions for CTRs, with the interplay of urban and rural areas and the integration of mountains and water. West Lake is a perfect blend of nature and humanity. "Ten Views of the West Lake" have been handed down for more than 800 years since the Southern Song Dynasty. Xixi Wetland is known as the "kidney of the city". The grand spring tide of the Qiantang River is a rare natural phenomenon that is unique in the world.

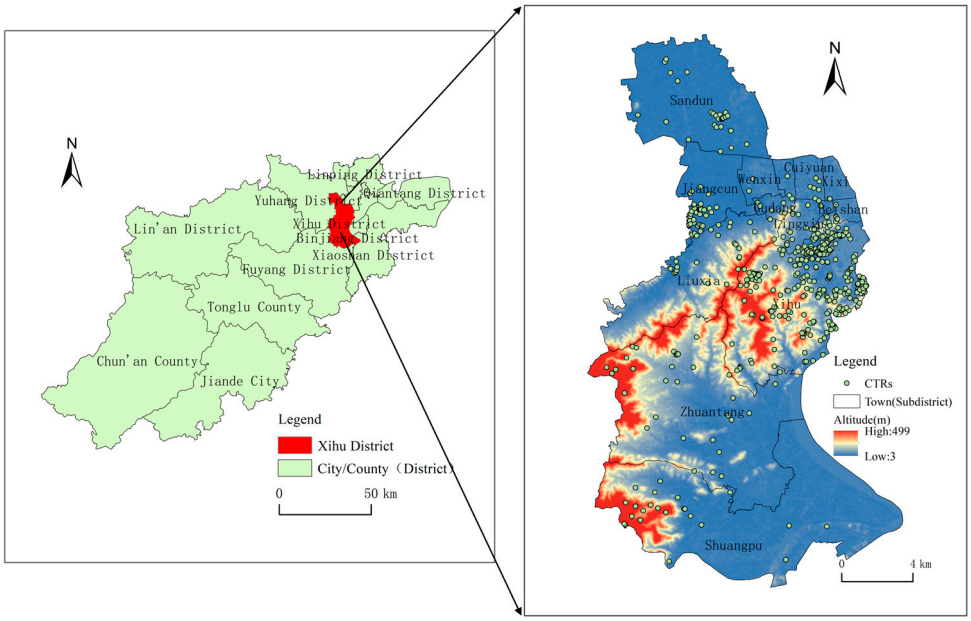


Figure 1. Location of the Hangzhou's Xihu District.

2.2. Data Collection and Processing

In December 2021, the Zhejiang Provincial Department of Culture and Tourism hosted the Zhejiang Provincial Survey of Cultural and Tourism Resources Mobilization Conference in Hangzhou, representing the start of a new round of provincial survey work. We set up an investigation team in 2022 with the task of investigating CTRs in Hangzhou's Xihu District. Our investigation team carried out a 9-month field survey, positioning CTRs with the help of mobile phone positioning function, taking photos of resources, and communicating with government workers, local people, and cultural and tourism industry practitioners, obtaining a large number of the latest data. After several rounds of discussions with experts, we sorted out a total of 651 CTRs in Xihu District and defined their categories and grades. The survey method is scientific and rigorous, with strong representation and guaranteed data quality, which can truly reflect the basic situation of current CTRs in Xihu District.

Except for the 651 CTRs, other data were obtained through multiple sources. First, the number of resident population and administrative area of 12 towns (subdistricts) in the Xihu District of Hangzhou were obtained from the Seventh National Census of Hangzhou City in 2020 and the "Dictionary of Administrative Regions of the People's Republic of China—Zhejiang Volume". Second, the number and locations of star hotels and restaurants in Hangzhou's Xihu District were obtained through Gaode Map POI data. Third, altitude data, slope data, and topographic relief data were obtained from ASTER GDEM of the Geospatial Data Cloud (https://www.gscloud.cn/, accessed on 1 March 2023) with a spatial resolution of 30 m. Finally, the river data and road data within the Xihu District are obtained from the National Geomatics Center of China (https://www.ngcc.cn/ngcc/html/1/index.html, accessed on 1 March 2023).

2.3. Research Methodology

2.3.1. Average Nearest Neighbor Index

There are three typical distribution states of geographical spatial elements, namely, aggregation, uniform, and random. The average nearest neighbor index (NNI) can be used in geography to reflect the distribution of point elements in space with its value. The formula for the calculation is as follows:

$$R = \frac{\overline{r_i}}{\overline{r_e}} \quad (1)$$

In the formula, R is expressed as the nearest neighbor index, $\overline{r_i}$ is the actual average nearest neighbor distance, and $\overline{r_e}$ is the theoretical average nearest neighbor distance. When $R > 1$, the distribution of point elements is uniform; when $R = 1$, the spatial distribution category of point elements is random; when $R < 1$ the distribution of point elements has a tendency to aggregate.

2.3.2. Kernel Density Analysis

Kernel density estimation is commonly used to reflect the aggregation of geographical elements in a particular space. The value of the kernel density reflects the strength of the aggregation and is expressed as follows:

$$f_n(x) = \frac{1}{nh}\sum_{i=1}^{n} k\left(\frac{x - x_i}{h}\right) \tag{2}$$

In this formula, $k(x)$ represents the kernel density function, the value of h is the bandwidth, also called the search radius, which is greater than 0, $x - x_i$ represents the distance from the estimated point x to the sample point x_i, n represents the number of points in space. The higher the value of $f(x)$, the denser the points.

2.3.3. Multiple Linear Regression

The specific mechanisms of influence factors on the distribution of CTRs need to be quantitatively analyzed. The multiple linear regression model can quantitatively analyze the action direction of the independent variable on the dependent variable, and its calculation expression is as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_n X_n + \varepsilon \tag{3}$$

In this formula, Y represents the dependent variable, X_n represents the independent variable, n represents the number of independent variables, β_0, β_1, . . . , β_n is the constant term coefficient, and ε is the random disturbance term.

2.3.4. Geodetector

Geodetector is a new statistical method used to detect spatial heterogeneity and reveal the driving factors. This method has no linear assumption, an elegant form, and a clear physical meaning [27]. Its core idea is based on the assumption that if an independent variable has an essential influence on a dependent variable, then the spatial distribution of the independent variable and the dependent variable should be similar. Q-statistics can be used to measure spatial heterogeneity, detect explanatory factors, and analyze interactions between variables. The formula for the calculation is as follows:

$$q = 1 - \frac{SSW}{SST} = 1 - \frac{\sum_{h=1}^{L} N_h {\sigma_h}^2}{N\sigma^2} \tag{4}$$

In this formula, N_h and σ_h^2 are the number of elements and variance of Strata h, respectively, and N and σ^2 are the number of elements and variance of the entire study area, respectively. SSW and SST represent the Within Sum of Squares and the Total Sum of Squares. The value of q ranges from 0 to 1, indicating that influencing factor X has $100 \times q$% explanatory power on Y. A larger value of q indicates that X has stronger explanatory power on Y. When q = 1, it means that influencing factor X completely controls the spatial distribution of Y. When q = 0, it indicates that there is no relationship between X and Y.

The Geodetector also has the function of interactive detection, which is used to identify the interaction between different influence factors X, i.e., whether the explanatory power of the dependent variable Y will change when the two factors act together or whether the influence of the factors on Y is independent of each other. By calculating and comparing

the sizes of $q(X_1)$, $q(X_2)$, and $q(X_1 \cap X_2)$, the relationship between the two factors is determined. As shown in Table 1, the results are divided into five categories.

Table 1. Interaction result types.

Judgment Basis	Types of Interactions
$q(X_1 \cap X_2) < \text{Min}(q(X_1), q(X_2))$	Non-linear attenuation
$\text{Min}(q(X1), q(X2)) < q(X_1 \cap X_2) < \text{Max}(q(X1), q(X2))$	Single-factor non-linear attenuation
$q(X1 \cap X2) > \text{Max}(q(X1), q(X2))$	Bi-factor enhancement
$q(X1 \cap X2) = q(X1) + q(X2)$	Independent
$q(X1 \cap X2) > q(X1) + q(X2)$	Non-linear enhancement

3. Results

3.1. Overall Spatial Distribution Characteristics

In this study, the spatial distribution of CTRs in the Xihu District was demonstrated using ArcGIS 10.8 (Figure 2). The CTRs of the Xihu District are mainly concentrated in the central area, with a relatively scarce distribution in the south and north. Specifically, the West Lake is located in the Xihu Subdistrict, which has 406 CTRs, accounting for 62.366% of the Xihu District; the Xixi Wetland, located in Jiangcun Subdistrict, has 56 CTRs, accounting for 8.602% of Xihu District, and the two subdistricts together account for 70.968% of Xihu District; and the 189 CTRs spread throughout the remaining 10 towns (subdistricts) only make up 29.032% of the total resources in the Xihu District. From the perspective of density, the density of CTRs of Beishan Subdistrict, which is close to West Lake, is the highest, with 9.639 pcs/km^2, followed by that of Xihu Subdistrict, with 8.337 pcs/km^2, while the density of Zhuantang Subdistrict, Wenxin Subdistrict and Sandun Town is all less than 1 pcs/km^2 (Table 2). It can be found that the distribution of CTRs in the Xihu District is not balanced, and the West Lake has a strong influence on the distribution of CTRs in this area.

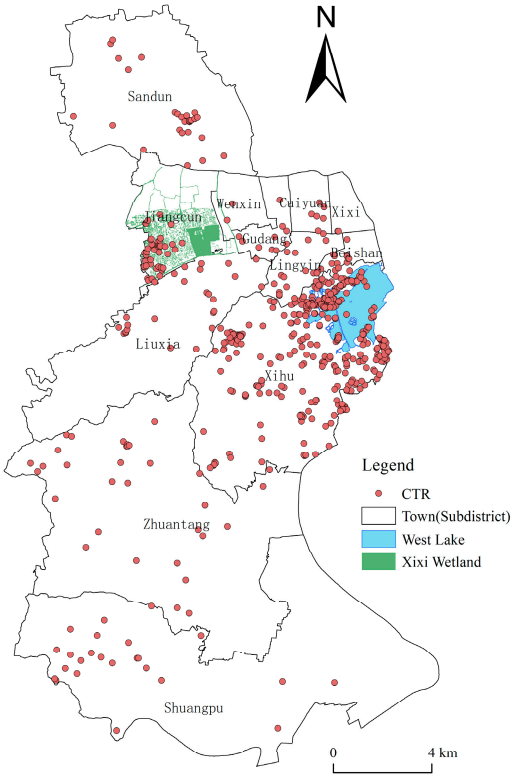


Figure 2. Spatial distribution of CTRs in Xihu District.

Table 2. CTRs statistics for each town (subdistrict) in Xihu District.

Town (Subdistrict) Name	Number of Resources (pcs)	Percentage (%)	Area (km^2)	Resource Density (pcs/km^2)
Beishan	24	3.687	2.490	9.639
Cuiyuan	6	0.922	3.900	1.538
Gudang	6	0.922	4.640	1.293
Jiangcun	56	8.602	13.840	4.046
Lingyin	9	1.382	6.000	1.500
Liuxia	17	2.611	36.100	0.471
Sandun	37	5.684	37.580	0.985
Shuangpu	28	4.301	81.810	0.342
Wenxin	5	0.768	5.050	0.990
Xihu	406	62.366	48.700	8.337
Xixi	11	1.690	3.030	3.630
Zhuantang	46	7.066	78.000	0.590

3.1.1. Spatial Distribution Pattern

As shown in Table 3, it can be found that the actual average nearest neighbor distance between CTRs in the Xihu District is 170.595 m, while the theoretical average nearest neighbor distance is 389.611 m. The nearest neighbor index R is 0.438, which is less than 1, the Z value is −27.439, and the *p* value is 0. The likelihood of randomly generating such a clustering pattern is less than 1%, with extremely high confidence and significance. From this, we can learn that the CTRs of Xihu District are in a distinct clustered state (Figure 3).

Table 3. Xihu District CTRs nearest neighbor index analysis results.

Item	Value
Actual average nearest neighbor distance	170.595
Theoretical average nearest neighbor distance	389.612
Nearest neighbor index	0.438
Z Value	−27.439
p Value	0.000

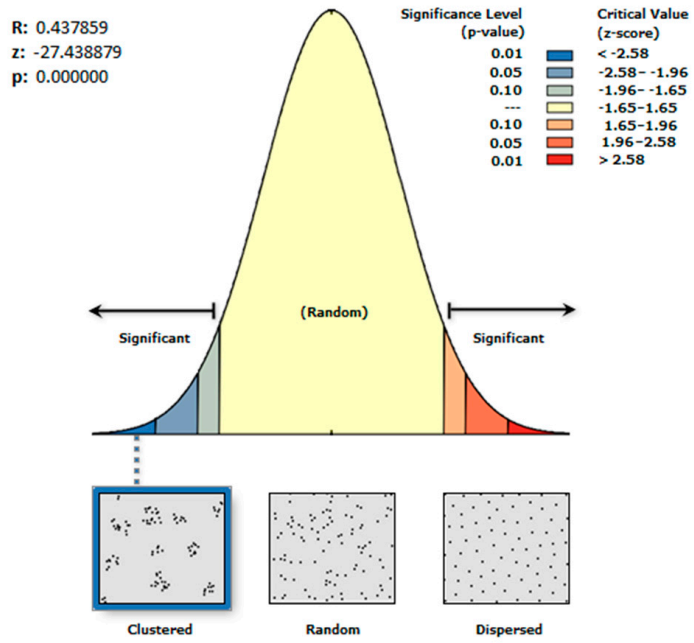


Figure 3. Average nearest neighbor index of CTRs.

3.1.2. Spatial Distribution Density

The average nearest neighbor index reveals that CTRs in this region are clustered, but the specific aggregation locations and aggregation forms require further analysis. The results of the kernel density analysis of the CTRs in the Xihu District of Hangzhou are shown in Figure 4. Generally, there are few high-density areas with CTRs in the Xihu District, which are mainly concentrated in Xihu Subdistrict and Jiangcun Subdistrict, and the rest of the towns (subdistricts) have a lower core density. In particular, there is a high-density area in the north of Xihu Subdistrict, where the resources are gathered to the highest degree, and there is a radiation effect, radiating to Beishan Subdistrict and Lingyin Subdistrict in the north, this area is abundant in related resources, such as the famous Broken Bridge, Bai Causeway, Baochu Tower, Yue Temple, Qixia Cave, and others.

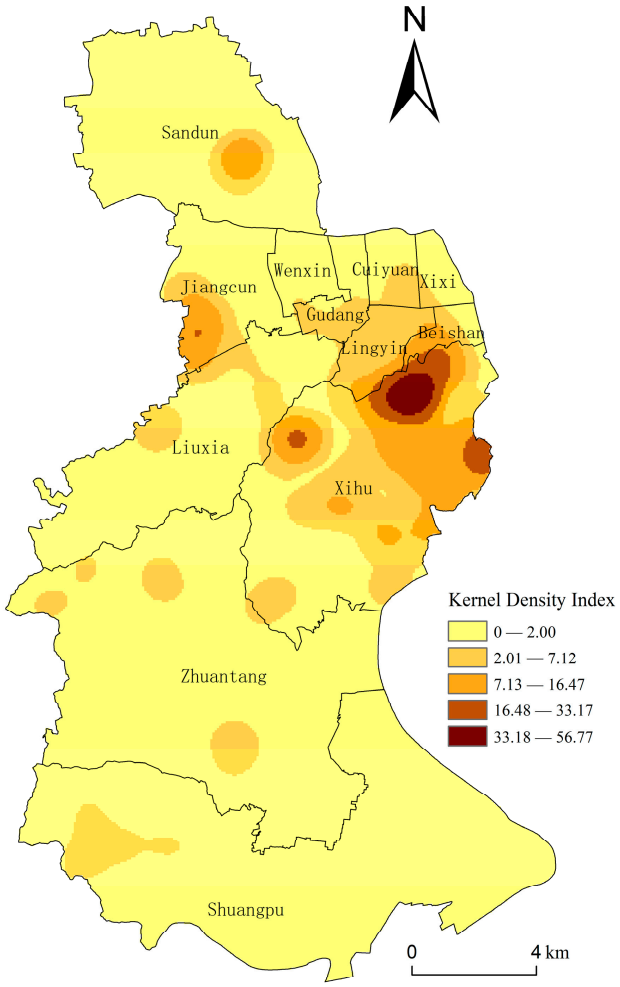
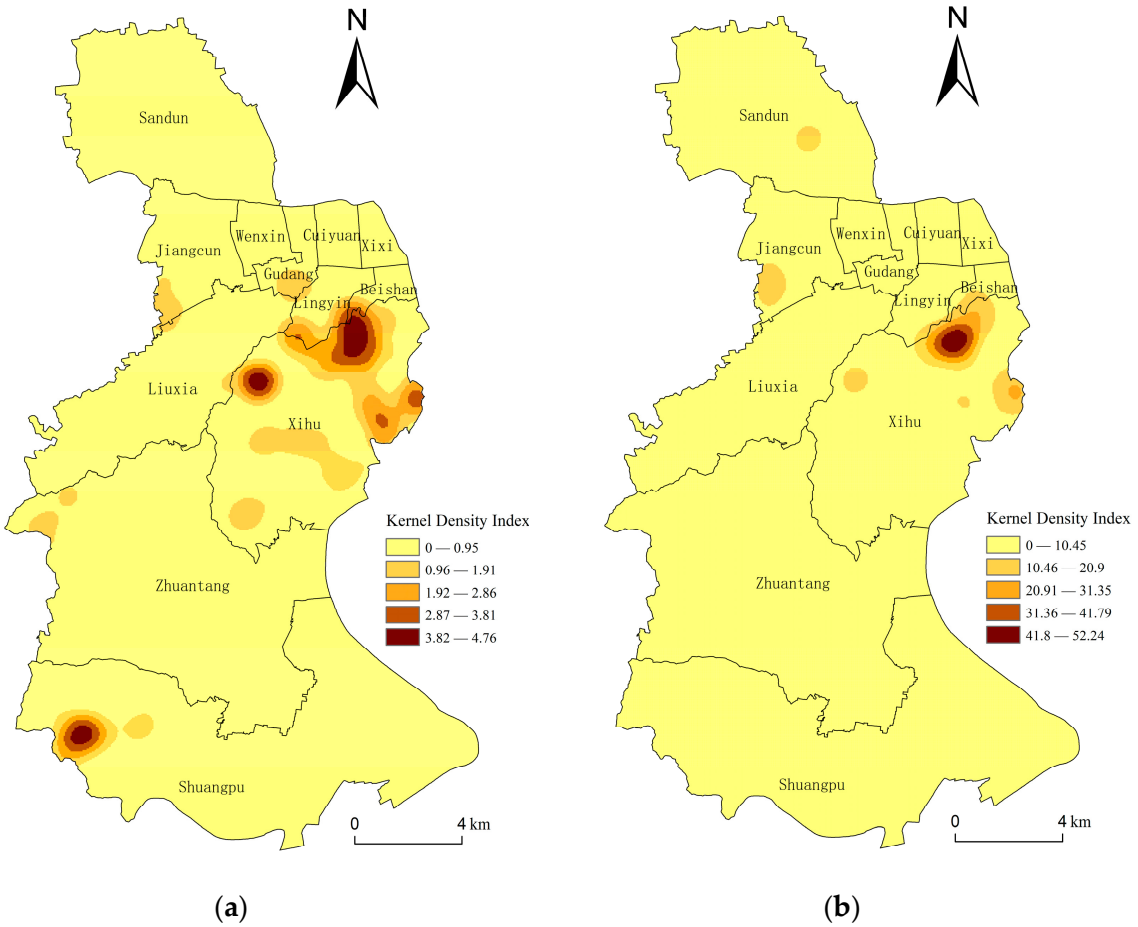


Figure 4. Kernel density map of all CTRs in the Xihu District.

There are three sub-density areas in the east and west of Xihu Subdistrict and the southwest of Jiangcun Subdistrict. In the eastern part of Xihu District the site of Wu Mountain is located, which adjoins the Qiantang River in the east and overlooks West Lake in the west. There are famous resources such as Wugong Temple, Ruangong Temple, indicating that the area has a deep cultural and historical background. The sub-density area to the west of Xihu Subdistrict is a cluster of Buddhist buildings led by Lingyin Temple, including three Tianzhu Temples. The sub-density area in the southwest of Jiangcun subdistrict is the location of the famous Xixi Wetland, which is rich in natural and cultural resources.

3.2. Category Distribution Characteristics

According to the requirements of Provincial Standard, this study summarizes the eight main categories of CTRs into two categories: natural resources and humanistic resources. The ArcGIS 10.8 was used to analyze the kernel density of natural resources and human resources, respectively. We found that there are three high-density natural resource areas in Hangzhou's Xihu District, located north and west of Xihu Subdistrict and west of Shuangpu Town, which are distributed independently (Figure 5a). There are two sub-density areas in the east of Xihu Subdistrict, which are connected to the high-density area, forming an "L"-shaped belt area that surrounds the West Lake from the north, west, and south directions. The rest of the town's (or subdistrict's) natural resources kernel density value is lower. Specifically, the north of Xihu Subdistrict is characterized by "Lake and mountain silhouetted against each other." This area mainly includes the area from the northern waters of West Lake to Baoshi Mountain. The west side of Xihu Subdistrict is dominated by Feilai Peak, which has many caves, such as Qinglin Cave, Longhong Cave, and Huyuan Cave. The western part of Shuangpu Town features natural resources such as Ling Mountain, Tongjian Lake, Fengshui Cave, and Banbishan Reservoir. The sub-density area in the east of Xihu Subdistrict is the location of Wu Mountain and Yuhuang Mountain, represented by the mountain resource, indicating that the natural resources in Xihu District are exceptionally abundant.



(**a**) (**b**)

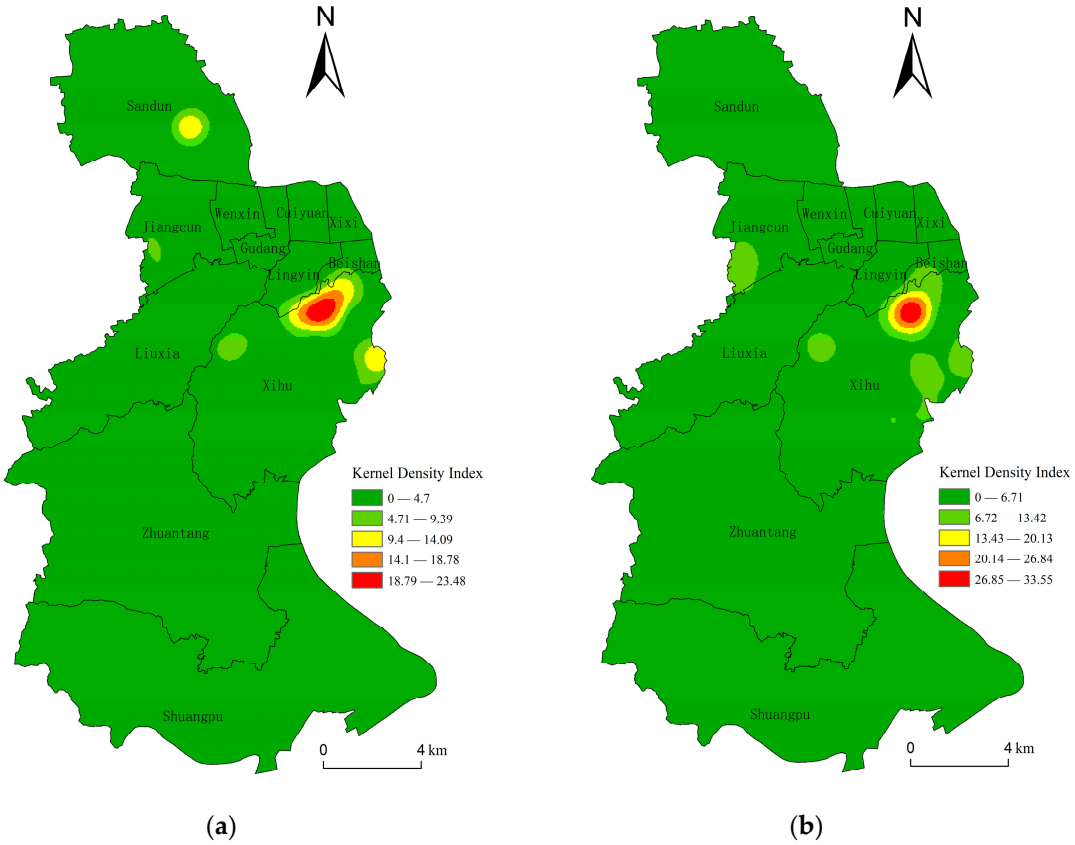
Figure 5. Kernel density map of different categories of CTRs in the Xihu District: (**a**) Natural resources; (**b**) humanistic resources.

As shown in Figure 5b, there is only one high-density humanistic resource area in Hangzhou's Xihu District, which is located in the northern part of Xihu Subdistrict, and separate low-density areas are located in the central part of Sandun Town, the southwestern part of Jiangcun Subdistrict, and the western and eastern parts of Xihu Subdistrict. By

analyzing the humanistic resources in Xihu District, we can see that the only high-density area lies in the area of Baoshi Mountain, Beishan Street, and Gu Mountain. The scenery of West Lake once attracted numerous celebrities to leave their footprints here in history, where there are many historical buildings and some key national cultural relics protected units, such as Baopu Daoist Temple, Baochu Tower, Yue Temple, Jiang Jingguo's old residence, Jingyi Villa, and other humanistic resources, which shows that the humanistic atmosphere in Xihu District is very strong.

3.3. Hierarchical Distribution Characteristics

In this study, the CTRs of Hangzhou's Xihu District are graded and evaluated according to the Provincial Standard, and the resources of grades 1 to 2 are classified as general resources, and those of grades 3 to 5 are classified as superior resources. ArcGIS 10.8 was used for kernel density analysis of general and superior grade resources (Figure 6a,b). It can be found that the distribution of high-density areas of general and superior resources is similar, with only one area in both areas, located to the north of Xihu Subdistrict. However, there are differences in low-density areas. The general resources have three low-density areas in the middle of Sandun Town, east and west of Xihu Subdistrict, and the superior resources have four low-density areas in the southwest of Jiangcun Subdistrict, east and west of Xihu Subdistrict.



(**a**) (**b**)

Figure 6. Kernel density map of different grades of CTRs in the Xihu District: (**a**) General resources; (**b**) superior resources.

Specific analysis shows that the CTRs in the northern part of Xihu Subdistrict are very intensive. There are many superior resources in this area, such as Bai Causeway, the Broken Bridge, and the Yue Temple. At the same time, the superior resources radiated into the surrounding area, giving rise to a group of general resources, such as the Baoqing Villa and the Jianpao Villa, and a series of historic buildings built along Beishan street around the lake, such as the Lu House, the Xing House, etc.

3.4. Factors Influencing the Spatial Distribution of Cultural and Tourism Resources in Hangzhou Xihu District

3.4.1. Selection of Influencing Factors

As shown in the Table 4, this study referred to many similar research results, combined with the actual situation of Hangzhou's Xihu District and the availability of data, and finally determined nine indicators from three dimensions: social and economic, nature and ecology, and location conditions. Among them, the social and economic dimension includes three indicators: population density (X1), hotel density (X2), and restaurant density (X3); the nature and ecology dimension includes four indicators of altitude (X4), slope (X5), topographic relief (X6), and river density (X7); the location condition dimension includes two indicators of road density (X8) and distance from West Lake (X9) (Table 5).

Table 4. Literature review of factors influencing the spatial distribution.

Research Object	Influencing Factors	Authors
Leisure tourism resources in Chengdu	Transportation accessibility, Demographic factors, Regional economy, Spatial agglomeration	Li et al. [32]
Rural tourism in Changsha	Natural environment, Economic base, Resource conditions, Humanities and society	Niu et al. [67]
Leisure agriculture in Hebei Province	Social and economic, Agricultural base, Transportation conditions, Tourism market, Natural resources	Xiang et al. [68]
High-grade scenic spots in Beijing-Tianjin-Hebei city cluster	Resource conditions, Market conditions, Policy environment	Tang et al. [69]
RBDs in Beijing	Traffic conditions, Density of residents, Density of tourists, Location of scenic spots, Land price	Zhu et al. [40]
A-class tourist attractions in the middle reaches of Yangtze River city group	Resource base, Market conditions, Policy environment	Jia et al. [70]
Sports tourism resources in Guangdong Province	Service support, Transportation capacity, People's living standard, Industry support and guidance, Economic income effect, Market cultivation and development	Xia et al. [71]

Table 5. Factors influencing the spatial distribution of CTRs in the Xihu District.

Dimension	Indicator	Code	Indicator Description
Social and Economic	Population density	X1	Reflecting the towns (subdistricts) population density
	Hotel density	X2	Reflecting visitor density
	Restaurant density	X3	Reflecting resource packages and consumption levels and demand
Nature and Ecology	Altitude	X4	Reflecting the most basic geographical elements of the region
	Slope	X5	Reflecting the topography within the region
	Terrain undulation	X6	Reflecting the topographic complexity of the region
	River density	X7	Reflecting the abundance of water resources in the region
Location conditions	Road density	X8	Reflecting the convenience of regional transportation
	Distance from West Lake	X9	Reflecting the degree of regional location advantages and disadvantages

Social and economic dimension: The main service objects of CTRs are local residents and incoming tourists. Therefore, theoretically, the distribution of CTRs is strongly cor-

related with the density of local residents and foreign tourists. It is worth noting that the activity characteristic that distinguishes incoming tourists from local residents is the demand for accommodation, especially overnight accommodation. Therefore, the statistical density of star-rated hotels can reflect the density of tourists to some extent. Additionally, the restaurant is a necessary place for local residents and incoming tourists to travel. Four categories, "Chinese restaurants," "foreign restaurants," "tea ceremony hall," and "pastry store", were selected to represent the catering elements of Hangzhou. These categories were chosen based on the local catering characteristics of Hangzhou, highlighting the attributes of tourism catering. Based on the number of local residents, the number of hotels and restaurants, combined with the administrative area of 12 towns (subdistricts), the population density, hotel density, and restaurant density of each town (subdistrict) in Xihu District, can be calculated.

Nature and ecology dimension: The natural environment is an essential dependency of CTRs, especially for resources such as mountains, rivers, lakes, and seas, which directly demonstrate their natural beauty. The average elevation, average slope, and average topographic relief of each town (subdistrict) in the Xihu District were calculated using ArcGIS 10.8. Additionally, the area can be combined to compute the overall length of rivers and the density of rivers in this area.

Location conditions dimension: ArcGIS 10.8 is used to count the total road mileage of each town (subdistrict) in the Xihu District and calculate the road density by combining the area of the region. In this study, road density serves to illustrate the convenience of road traffic in the region. Given that the West Lake is crucial to Hangzhou's reputation and urban growth, how much of an impact does it have on CTRs? In reality, the West Lake has an irregular surface. It is transformed into a point element for the purposes of scientific and objective statistics, the average distance from each town's (subdistrict's) CTRs to West Lake is calculated, and the average distance is used as an indicator to detect the influence of West Lake.

3.4.2. Multiple Linear Regression Analysis

Using Stata 17 software, multiple linear regression analysis was performed on the selected indicators to examine the directionality of influencing factors on the spatial distribution of cultural tourist resources in Hangzhou's Xihu District. First, we conducted a covariance test for nine indicators. Next, we determined the variance inflation factor (VIF), eliminated the factors with higher covariance (VIF > 5), and ultimately kept seven indicators: population density (X1), hotel density (X2), hotel density (X3), slope (X5), river density (X7), road density (X8), and distance from West Lake (X9). As shown in Table 6, their VIF values are all less than five, and R^2 = 0.9027 and adjusted R^2 = 0.7324, indicating that each influence factor has a strong effect on the cultural and tourism kernel density of the Xihu District. Here, F = 15.30, Prob > F = 0.0331, which indicates that the model passed the test and is meaningful.

Table 6. Multiple linear regression results of the factors influencing culture and tourism resources.

Dimension	Indicator	Code	Coef.	Coef.Beta	VIF
Social and Economic	Population density	X1	−0.00026	−0.94957	3.84
	Hotel density	X2	−0.05944	−0.03032	2.03
	Restaurant density	X3	0.00022	0.00409	3.50
Nature and Ecology	Slope	X5	−0.17511	−0.85074	4.37
	River density	X7	−2.61018	−0.67287	4.19
Location conditions	Road density	X8	0.17911	0.14319	4.35
	The distance from West Lake	X9	−0.70306	−1.37153	3.93
Model data		R^2 = 0.9027	Adj R^2 = 0.7324		
		F = 15.30	Prob > F = 0.0331		

The findings demonstrate that population density, hotel density, slope, river density, and the distance from West Lake have a negative impact on the kernel density of CTRs in Xihu District, whereas hotel density and road density have a positive impact. The regression beta coefficient values for the negative factors are −0.950, −0.030, −0.851, −0.673, and −1.372, respectively. Firstly, the distance from West Lake has the greatest negative effect, indicating that the farther away from West Lake, the sparser the distribution of CTRs in the Xihu District, which is of vital importance to the West Lake area, and even to Hangzhou City. Secondly, population density indicates that the denser the local residents, the less the distribution of resources. The reason is that residents tend to concentrate in the urban area due to the construction and development of the city, the limited number of resources, hotel density, and river density, which are also affected by this and have a negative impact. Thirdly, the values of the regression beta coefficients for hotel density and road density are positive, 0.004 and 0.143, respectively, indicating that they have a positive impact on the exploitation and development of CTRs in the Xihu District, with road density having a larger positive impact. The accessibility of CTRs is important for their sustainable development.

3.4.3. Single-Factor Detection

The multiple linear regression model can determine the overall direction of influence factors on the kernel density distribution of CTRs, but the specific influence and interaction strength need further analysis. In order to determine how much the influence factors affect the spatial differentiation of the kernel density of CTRs in the Xihu District of Hangzhou, the Geodetector model is next applied based on the results of the previous analysis.

The previous analysis also revealed that the clustering distribution of the natural and humanistic categories, as well as the general and superior resources, are additional characteristics of the CTRs in Hangzhou's Xihu District. Do the primary variables influencing their spatial distribution then differ? Therefore, in addition to the overall analysis, this paper also analyzes the resources according to the categories of natural and humanistic, general and superior for geodetection, and provides a reliable basis for the sustainable development of regional CTRs.

As shown in Table 7, the same factor has different impacts on the spatial distribution of all resources, natural and humanistic resources, and general and superior resources in this area. For all resources, the top three factors in the influence factor detection are hotel density, road density, and the distance from West Lake. The distance from West Lake has the strongest influence, as the population density and slope are around 0.3, while hotel density and river density are less influential at around 0.1.

Table 7. Single-factor detection results of Geodetector.

Dimension	Indicator	All Resources	Natural Resources	Humanistic Resources	General Resources	Superior Resources
Social and Economic	Population density (X1)	0.303	0.170	0.341	0.273	0.338
	Hotel density (X2)	0.598	0.254	0.650	0.509	0.642
	Restaurant density (X3)	0.138	0.161	0.145	0.130	0.161
Nature and Ecology	Slope(X5)	0.355	0.356	0.347	0.267	0.400
	River density(X7)	0.173	0.106	0.176	0.147	0.197
Location conditions	Road density (X8)	0.503	0.553	0.469	0.563	0.449
	The distance from West Lake (X9)	0.901	0.769	0.89	0.907	0.874

For natural resources, the distance from West Lake has the greatest influence on the spatial distribution. Because the mountains surround the West Lake from the north, west,

and south, the integration of the lake and the mountains has created numerous natural landscapes, and such a posture determines the proximity of natural resources to the West Lake. In addition, road density (X8) and slope (X5) also have important effects on the distribution of natural resources, with q-values of 0.553 and 0.356, respectively. Xihu District, as one of the main urban areas of Hangzhou, has well-developed road traffic, and natural resources are enhanced in accessibility by roads. The slope is an important component of the natural landscape, especially for the geomorphic landscape.

For humanistic resources, it can be found that the three most influential factors are the distance from West Lake > hotel density > road density. The West Lake is a natural lake, but it also has significant humanistic value. The footprints of numerous historical figures, including Su Dongpo, Bai Juyi, Yue Fei, and Mao Zedong, can be found all around the West Lake. These individuals either left their famous poems, evidence of their activities, or stories and legends here, leaving the West Lake with a rich humanistic heritage that has in turn given rise to numerous humanistic resources all around it. At the same time, the environment in which human resources are located is often suitable for human activities, making it easy to attract tourists. Moreover, the creation of some humanistic resources is market-oriented, such as the location of museums, which tend to be in areas with more population or tourists, which makes the influence of population and tourists increase. Additionally, the impact of roads is enhanced in areas close to more frequent human activity, where traffic and travel needs are greater and infrastructure, such as roads, is better developed.

For general resources, the most influential are still the distance from West Lake, road density, and hotel density, with q-values of 0.907, 0.563 and 0.509, respectively. When compared to all resources at the general level, the q-values of population density and hotel density both show a reduction, indicating a decline in the impact of both indicators on the respective general resources. As general grade resources, they are inherently of low quality, unable to satisfy people's needs for high-quality daily rest and enjoyment, and less attractive to locals and tourists. As a result, there is a weaker correlation between the distribution of general resources and factors relating to the population and the number of visitors.

For superior resources, the distance from West Lake has the strongest influence with a q-value of 0.874, followed by two major influencing factors in order of hotel density and road density with q-values of 0.642 and 0.449, respectively. Additionally, q values of population density and hotel density exhibit a clear recovery when compared to general resources, demonstrating that residents and tourists are more likely to seek out high-quality CTRs in the tourism sector. In addition, the q value of the slope reached the highest value in its comparison process at 0.400, indicating that the spatial distribution of superior resources is more sensitive to the slope factor, because slope creates a three-dimensional sense of the resources and helps to enhance their ornamental quality. On the contrary, road density has the lowest value in this comparison, at 0.449. It shows that excellent resources get rid of the restrictions of infrastructure factors such as road traffic to a certain extent because of their social influence.

3.4.4. Interaction Detection of Factors

The previous paper analyzed the influence of single influencing factors on the spatial distribution of CTRs in the Xihu District, while whether the distribution of culture and tourism is subject to the combined effect of multiple factors and the strength of that force needs to be detected interactively. The detection results are shown in Figure 7. It can be seen that interaction factors have more influence on the spatial distribution of both CTRs in the Xihu District than single factors, and there are two types of enhancement: bi-factor enhancement and non-linear enhancement.

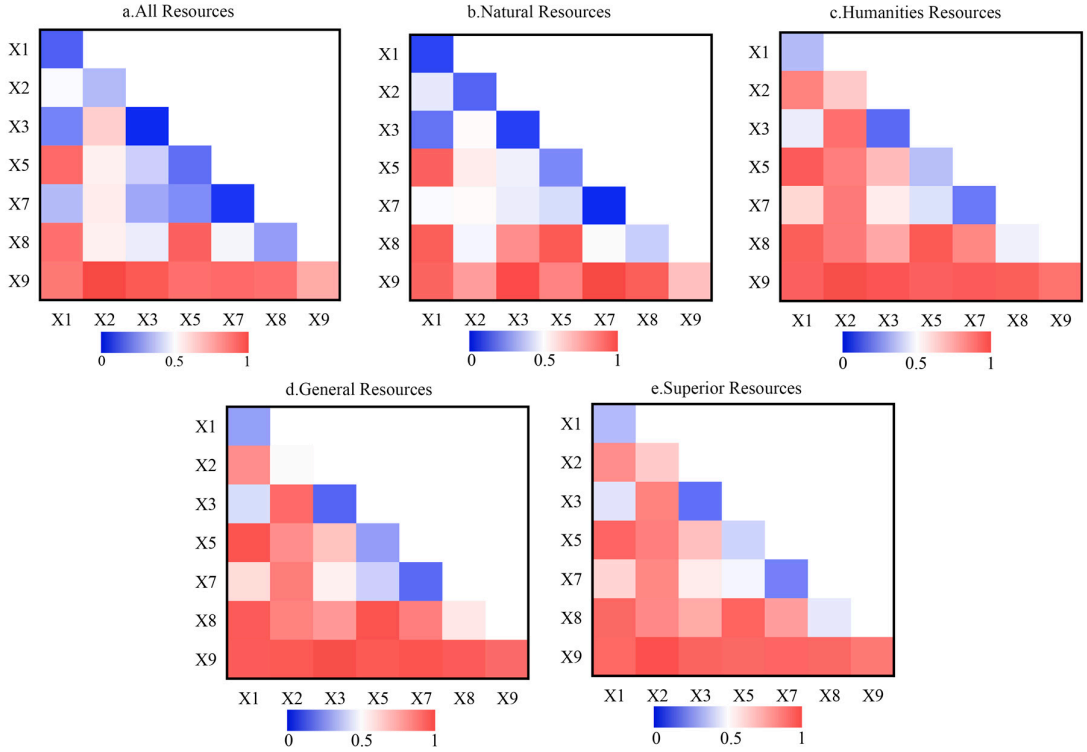


Figure 7. Interaction detection results.

For all resources, humanistic resources and superior resources, the interaction effect of hotel density and the distance from West Lake is the strongest, which shows bi-factor enhancement, namely q(X2∩X9) > Max(q(X2), q(X9)), with q values of 0.980, 0.989, and 0.979, respectively. In terms of natural resources, the strongest interaction was found for river density and the distance from West Lake, with a bi-factor enhancement and a q-value of 0.924. For general resources, the interaction between hotel density and the distance from West Lake is the strongest, which is also a double factor enhancement, where the q value is 0.991. The geographical distribution of CTRs in Xihu District has been significantly influenced by location conditions, according to data analysis, and the importance of West Lake in particular cannot be ignored. The spatial distribution of CTRs in Xihu District is the consequence of the combined action of numerous elements, regardless of the form of enhancement, because it demonstrates that any two factors have greater influence than a single factor after interaction.

Based on the analysis of the five perspectives in Figure 7, it is possible to summarize some of the patterns of influence factors that have an impact on the spatial distribution of CTRs in the Xihu District. First of all, the distance from West Lake (X9) shows a bi-factor enhancement after interacting with other factors, and the highest interaction values are all generated with the X9 factor, and the rest of the interaction values related to X9 are also in the higher range, indicating that West Lake plays the most important role in influencing the distribution of CTRs, so the exploration and development of CTRs in this area must focus on the role of West Lake. Secondly, the non-linear enhancement combinations analyzed from various perspectives have certain similarities, such as X1 ∩ X5, X7 ∩ X8, X2 ∩ X3, and X2 ∩ X5, X7 ∩ X8. All analyses from any perspective show a non-linear enhancement. This suggests that the interplay of these factors has greatly enhanced the impact on the spatial distribution of CTRs in the Xihu District. Finally, the interaction values for both X3 and X7 show a significant increase, indicating that even one weak influencing factor has its importance and cannot be ignored in the actual development process. For example, hotel density (X3) and river density (X7) each have relatively low q-values and little effect when considered separately.

4. Discussion

Based on the data obtained from the 2022 survey, we analyze the spatial distribution characteristics of CTRs in the Xihu District by using the nearest neighbor index and kernel density estimation, and we explore the impact factors on spatial distribution through multiple linear regression and Geodetector. In general, we find that the spatial distribution of CTRs in the Xihu District of Hangzhou presents a typical aggregation distribution, which is also true for different types and levels of resources. At the same time, a variety of factors affect the spatial distribution of CTRs, among which West Lake is the most noteworthy. We will now discuss the characteristics of the key findings, research contributions, and limitations of this study.

First, similar to the distribution state of tourism resources in many earlier studies [32,36,37,39], the CTRs in the Xihu District also show an aggregation status. As shown in Figures 4–6, the northern part of Xihu Subdistrict is where CTRs come together from the perspective of the whole, different types, and different grades. A possible explanation for this might be that the areas where these resources are gathered have one or more favorable factors, such as a unique natural environment, a long history and culture, convenient transportation, and so on, and the West Lake is one such area.

Second, the spatial distribution of CTRs in the Xihu District is the result of a number of influencing factors, which is also similar to previous studies [40,44]. This study combined the actual situation of the Xihu District and did not choose "the distance from the city center" [32] or "the distance from the administrative center" [42], but instead chose "the distance from the West Lake" as one of the factors of influence, highlighting the characteristics of this region. From Table 7, we can see that each influencing factor has different influences. It can also be seen from Figure 7 that the influencing factors will generate interactive forces that are stronger than those generated by a single influencing factor. Moreover, we find that the influence generated by the West Lake deserves the most attention.

Third, although a large number of similar studies have been conducted before, previous studies tended to be geographical elements within a larger spatial range, while this study focused on a relatively small area—Hangzhou's Xihu District. Meanwhile, previous studies have focused on tourism resources or a particular type of tourism resource, but this study attempted to combine culture and tourism. Therefore, this study can make up for the gap in the research area and is a continuation of the previous research.

Based on the exploration of the spatial distribution characteristics and influencing factors of CTRs mentioned above, combined with the requirements of the comprehensive and modern development of the cultural and tourism industries in Hangzhou's Xihu District, we propose a new layout of "two circles and two areas" for the cultural and tourism development of the whole area, as follows: Firstly, the cultural and tourism circle around "West Lake". Based on the above studies, West Lake, as the most important cultural and tourism resource in the Xihu District, exerts a profound influence on the whole regional resources. Secondly, the cultural and tourism circle around "Xixi", integrating the surrounding high-quality "water, street, city, valley" CTRs. At the same time, this will strengthen the protection of the ecological environment of Xixi Wetland, promote "cleaning, greening, beautifying, and brightening", and give full play to the ecological advantages of the wetland as a "beautiful village with beautiful water". Thirdly, research and Tourism Area in the north of the city: The north of the Xihu District is part of the Western Science and Technology Corridor of Hangzhou, which is connected to Future Science and Technology City and Qingshan Lake Science and Technology City. Relying on Zhejiang University, Zhijiang Laboratory, and other science and education clusters, a research brand could be established and a pioneering area for research and creative tourism could be built. Finally, Zhijiang Future Tourism Area: This area is located in the south of Xihu District, near the Qiantang River. In the future, it could be developed into a cultural tourism agglomeration area with Jiangnan charm, international style, and oriented towards the future.

This study was based on the original data obtained from the cultural tourism resources survey in Zhejiang Province in 2022. Thus, the spatial distribution and influencing factors

of cultural tourism resources in the Xihu District are only analyzed for this year, and there is no dynamic evolution study of the laws of resource change. It is hoped that subsequent studies can analyze the development characteristics of CTRs in different time periods and summarize the spatio-temporal evolution characteristics.

5. Conclusions

This paper takes 651 CTRs obtained from the 2022 Hangzhou's Xihu District census as the research object, takes towns (subdistricts) as the research unit, analyzes the spatial distribution characteristics of overall resources, natural and humanistic resources, general and superior class resources, analyzes their distribution types and distribution densities using nearest neighbor index and kernel density, explores the factors affecting the spatial distribution of CTRs in the Xihu District using multiple linear regression and Geodetector, and obtains the following conclusions:

1. The CTRs in the Xihu District of Hangzhou have a spatial pattern of "more in the middle and less in the north and south", and form a distribution feature of "one main and more sporadic," with West Lake as the center and Xixi Wetland as the secondary center. The high-density area of CTRs in Xihu District of Hangzhou is distributed in the north of Xihu Subdistrict, and three sub-density areas are distributed in the east and west of Xihu Subdistrict and the southwest of Jiangcun Subdistrict. At the same time, the high-density area in the north of Xihu Subdistrict is connected with the sub-density area in the east to form a belt area, while the west of Xihu Subdistrict and the southwest of Jiangcun Subdistrict also form another belt area, indicating that West Lake and Xixi Wetland form a spatial pattern of "point with line" with the high-density area and sub-density area.
2. The natural and humanistic and general and superior resources are spatially clustered in Hangzhou's Xihu District. The high-density and low-density areas of natural resources are distributed in an "L"-shaped belt, surrounding the West Lake in the north, west, and south directions, respectively, while the individual high-density and low-density areas are distributed independently. The degree of aggregation of human resources is not high, and there are fewer high-density areas and low-density areas. The distribution of high-density areas of general and superior resources is relatively similar, with differences in low-density areas.
3. The three dimensions of social and economic, nature and ecology, and location conditions determine how CTRs are distributed spatially in the Xihu District of Hangzhou. Each indicator has a different direction and strength of influence on this distribution. Among them, hotel density and road density have a positive effect on the spatial distribution of CTRs, while population density, hotel density, slope, river density and the distance from West Lake have a negative effect on the spatial distribution of CTRs.
4. Each influencing factor has the same effect on the spatial distribution of all resources, natural and humanistic resources, general and superior resources, but also has differences. First of all, the distance from West Lake has the greatest influence on the spatial distribution of all types of CTRs. Secondly, population density has a low impact on natural resources and a high impact on other resources. Thirdly, the impact of slope on superior resources is higher than that of other categories. Finally, hotel density and river density have a relatively low impact on various resources.
5. The interplay of factors affecting the spatial distribution of CTRs in Hangzhou's Xihu District is greater than the impact of single factors. Among them, the distance from West Lake has a large impact after participating in the interaction. The interaction of hotel density and the distance from West Lake has the greatest influence on the spatial distribution of all resources, including humanistic class and superior resources; the interaction of river density and the distance from West Lake has the greatest influence on natural resources; and the interaction of hotel density and the distance from West Lake has the greatest influence on the spatial distribution of general resources.

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References

1. Hopwood, B.; Mellor, M.; O'Brien, G. Sustainable development: Mapping different approaches. *Sustain. Dev.* **2005**, *13*, 38–52. [CrossRef]
2. Prud'Homme, B.; Raymond, L. Sustainable development practices in the hospitality industry: An empirical study of their impact on customer satisfaction and intentions. *Int. J. Hosp. Manag.* **2013**, *34*, 116–126. [CrossRef]
3. Font, X.; McCabe, S. Sustainability and marketing in tourism: Its contexts, paradoxes, approaches, challenges and potential. *J. Sustain. Tour.* **2017**, *25*, 869–883. [CrossRef]
4. Higgins-Desbiolles, F. Sustainable tourism: Sustaining tourism or something more? *Tour. Manag. Perspect.* **2018**, *25*, 157–160. [CrossRef]
5. Lee, T.H.; Jan, F.H. Can community-based tourism contribute to sustainable development? Evidence from residents' percetions of the sustainability. *Tour. Manag.* **2019**, *70*, 368–380. [CrossRef]
6. Sharpley, R. Tourism, sustainable development and the theoretical divide: 20 years on. *J. Sustain. Tour.* **2020**, *28*, 1932–1946. [CrossRef]
7. Molina-Collado, A.; Santos-Vijande, M.L.; Gómez-Rico, M.; Madera, J.M. Sustainability in hospitality and tourism: A review of key research topics from 1994 to 2020. *Int. J. Contemp. Hosp. Manag.* **2022**, *34*, 3029–3064. [CrossRef]
8. Mwesiumo, D.; Halfdanarson, J.; Shlopak, M. Navigating the early stages of a large sustainability-oriented rural tourism development project: Lessons from Træna, Norway. *Tour. Manag.* **2022**, *89*, 104456. [CrossRef]
9. Gunn, C. *Tourism Planning*; Crane Russack: New York, NY, USA, 1979; p. 71.
10. Lundberg, D. *The Tourist Business*, 5th ed.; Van Nostrand Reinhold: New York, NY, USA, 1985; p. 33.
11. Youell, R. *The Complete A–Z Leisure, Travel & Tourism Handbook*; Hodder & Stoughton: London, UK, 1996; p. 45.
12. Nelson, V. The construction of Slovenia as a European tourism destination in guidebooks. *Geoforum* **2012**, *43*, 1099–1107. [CrossRef]
13. Maccannell, D. *The Tourist: A New Theory of the Leisure Class*; Schocken Books: New York, NY, USA, 1976; p. 43.
14. Leiper, N. The framework of tourism: Towards a definition of tourism, tourist, and the tourist industry. *Ann. Tour. Res.* **1979**, *6*, 390–406. [CrossRef]
15. Zhang, J. From "Tourism Resource" to "Tourist Attraction". *Tour. Trib.* **2021**, *36*, 45–59.
16. Smith, G.; Hinch, T. Canadian casinos as tourist attractions: Chasing the pot of God. *J. Travel Res.* **1996**, *34*, 37–45. [CrossRef]
17. Guo, L. *Human Geography (Encyclopedia of China Geography Volume)*; Encyclopedia of China Publishing House: Beijing, China, 1996; pp. 3–6.
18. Huang, H. *Tourism Economics*; Shanghai Academy of Social Sciences Press: Shanghai, China, 1985; pp. 2–6.
19. Xie, Y. *Basic Tourism*; China Tourism Press: Beijing, China, 2004; pp. 2–8.
20. Lu, Y. *Modern Tourism Geography*; Jiangsu People's Publishing House: Nanjing, China, 1988; pp. 3–9.
21. Bao, J.; Chu, Y. *Tourism Geography*; Higher Education Press: Beijing, China, 1993; pp. 4–10.
22. An, H.; Xiao, C.; Ding, M. The Spatial Pattern of Ski Areas and Its Driving Factors in China: A Strategy for Healthy Devel-opment of the Ski Industry. *Sustainability* **2019**, *11*, 3138. [CrossRef]
23. Li, H.; Xu, M.; Li, J.; Li, Z.; Wang, Z.; Zhuang, W.; Li, C. Spatial Distribution Characteristics of Japan's Forest Therapy Bases and Their Influencing Factors. *Sustainability* **2022**, *14*, 15156. [CrossRef]
24. Li, B.; Wang, J.; Jin, Y. Spatial Distribution Characteristics of Traditional Villages and Influence Factors Thereof in Hilly and Gully Areas of Northern Shaanxi. *Sustainability* **2022**, *14*, 15327. [CrossRef]
25. Li, X.; Yang, M.; Long, L.; Liu, M.; Liu, H.; Liu, J. Geographical Distribution and Influencing Factors of Intangible Cultural Heritage in the Three Gorges Reservoir Area. *Sustainability* **2023**, *15*, 3025. [CrossRef]
26. Zhang, Y.; Li, W.; Li, Z.; Yang, M.; Zhai, F.; Li, Z.; Yao, H.; Li, H. Spatial Distribution Characteristics and Influencing Factors of Key Rural Tourism Villages in China. *Sustainability* **2022**, *14*, 14064. [CrossRef]
27. Wang, J.; Xu, C. Geodetector: Principle and prospective. *Acta Geogr. Sin.* **2017**, *72*, 116–134.
28. Wang, J.; Li, X.; Christakos, G.; Liao, Y.; Zhang, T.; Gu, X.; Zheng, X. Geographical Detectors-Based Health Risk Assessment and its Application in the Neural Tube Defects Study of the Heshun Region, China. *Int. J. Geogr. Inf. Sci.* **2010**, *24*, 107–127. [CrossRef]

29. Lou, C.R.; Liu, H.Y.; Li, Y.F.; Li, Y.L. Socioeconomic Drivers of PM 2.5 in the Accumulation Phase of Air Pollution Episodes in the Yangtze River Delta of China. *Int. J. Environ. Res. Public Health* **2016**, *13*, 928. [CrossRef]
30. Liu, Y.; Yang, R. The Spatial Characteristics and Formation Mechanism of the County Urbanization in China. *Acta Geogr. Sin.* **2012**, *67*, 1011–1020.
31. Li, X.; Xie, Y.; Wang, J.; Christakos, G.; Si, J.; Zhao, H.; Ding, Y.; Li, J. Influence of planting patterns on fluoroquinolone residues in the soil of an intensive vegetable cultivation area in northern China. *Sci. Total Environ.* **2013**, *458–460*, 63–69. [CrossRef]
32. Li, L.; Hou, G.; Xia, S.; Huang, Z. Spatial distribution characteristics and influencing factors of leisure tourism resources in Chengdu. *J. Nat. Resour.* **2020**, *35*, 683–697. [CrossRef]
33. Snith, S. *Recreation Geography*; Longman: London, UK; New York, NY, USA, 1983; p. 73.
34. Williams, S.; Lew, A.A. *Tourism Geography: Critical Understandings of Place, Space and Experience*, 3rd ed.; Routledge: London, UK, 2014; pp. 83–86.
35. Wu, R.; Zhang, H.; Zhang, J.; Chen, X.; Zhang, S.; Yan, B. Micro-scale spatial structure and spatial associations of urban historical and cultural tourism destinations: A case study of Confucius Temple, Nanjing. *Geogr. Res.* **2014**, *33*, 2427–2436.
36. Xu, Y.; Rollo, J.; Jones, D.S.; Esteban, Y.; Tong, H.; Mu, Q. Towards Sustainable Heritage Tourism: A Space Syntax-Based Analysis Method to Improve Tourists' Spatial Cognition in Chinese Historic Districts. *Buildings* **2020**, *10*, 29. [CrossRef]
37. Eymann, A.; Ronning, G. Micro-econometric models of tourists' destination choice. *Reg. Sci. Urban Econ.* **1997**, *27*, 735–761. [CrossRef]
38. Weaver, D.B. Peripheries of the periphery: Tourism in Tobago and Barbuda. *Ann. Tour. Res.* **1998**, *25*, 292–313. [CrossRef]
39. Lee, S.H.; Choi, J.Y.; Yoo, S.H.; Oh, Y.G. Evaluating spatial centrality for integrated tourism management in rural areas using GIS and network analysis. *Tour. Manag.* **2013**, *34*, 14–24. [CrossRef]
40. Pearce, D.G. Tourism in Paris Studies at the Microscale. *Ann. Tour. Res.* **1999**, *26*, 77–97. [CrossRef]
41. Go, F.M.; Govers, R. Integrated quality management for tourist destinations: A European perspective on achieving competitiveness. *Tour. Manag.* **2000**, *21*, 79–88. [CrossRef]
42. Pavlovich, K. The evolution and transformation of a tourism destination network: The Waitomo Caves, New Zealand. *Tour. Manag.* **2003**, *24*, 203–216. [CrossRef]
43. Nepal, S. Tourism and Remote Mountain Settlements: Spatial and Temporal Development of Tourist Infrastructure in the Mt Everest Region, Nepal. *Tour. Geogr.* **2005**, *7*, 205–227. [CrossRef]
44. Rainer, G. Constructing globalized spaces of tourism and leisure: Political ecologies of the Salta Wine Route (NW-Argentina). *J. Rural. Stud.* **2016**, *43*, 104–117. [CrossRef]
45. Zakariya, K.; Harun, N.Z.; Mansor, M. Place Meaning of the Historic Square as Tourism Attraction and Community Leisure Space. *Procedia-Soc. Behav. Sci.* **2015**, *202*, 477–486. [CrossRef]
46. Bevilacqua, E.; Casti, E. The structure and impact of international tourism in the Veneto region, Italy. *Geo. J.* **1989**, *19*, 285–287. [CrossRef]
47. Kwan, M.P. Space-Time and Integral Measures of Individual Accessibility: A Comparative Analysis Using a Point-based Framework. *Geogr. Anal.* **2010**, *30*, 191–216. [CrossRef]
48. Baidal, J.A.I. Regional tourism planning in Spain. *Ann. Tour. Res.* **2004**, *31*, 313–333. [CrossRef]
49. Mings, R.C.; Mchugh, K.E. The Spatial Configuration of Travel to Yellowstone National Park. *J. Travel Res.* **1992**, *30*, 38–46. [CrossRef]
50. Wang, X.; Li, X. Characteristics and influencing factors of the key villages of rural tourism in China. *Acta Geogr. Sin.* **2022**, *77*, 900–917.
51. Wang, H.; Yuan, J.; Meng, X. Spatial Distribution and Its Influencing Factors of Level-A Scenic Spots in Northeast China. *Sci. Geogr. Sin.* **2017**, *37*, 895–903.
52. Sarrión-Gavilán, M.D.; Benítez-Márquez, M.D.; Mora-Rangel, E.O. Spatial distribution of tourism supply in Andalusia. *Tour. Manag. Perspect.* **2015**, *15*, 29–45. [CrossRef]
53. Tian, J.; Ming, Q.; Liu, A. Spatial Distribution and Influencing Factors of Mountain-type A-class Tourist Attractions in Southwest China. *J. Nat. Sci. Hunan Norm. Univ.* **2021**, *44*, 50–60.
54. Hu, M.; Li, Z.; Hou, G.; Li, T. Multi-Scale Spatial Patterns Characteristic of Rural Tourism Attractions in Jiangsu Province. *Econ. Geogr.* **2015**, *35*, 202–208.
55. Zhu, H.; Liu, J.; Tao, H.; Li, L.; Wang, R. Temporal-spatial pattern and contributing factors of urban RBDs in Beijing. *Acta Geo-Graph. Sin.* **2015**, *70*, 1215–1228.
56. Krugman, P. First nature, second nature, and metropolitan location. *J. Reg. Sci.* **1993**, *33*, 129–144. [CrossRef]
57. Macdonald, R.; Jolliffe, L. Cultural rural tourism. *Ann. Tour. Res.* **2003**, *30*, 307–322. [CrossRef]
58. Gronau, W.; Kagermeier, A. Key factors for successful leisure and tourism public transport provision. *J. Transp. Geogr.* **2007**, *15*, 127–135. [CrossRef]
59. Papatheodorou, A.; Lei, Z. Leisure travel in Europe and airline business models: A study of regional airports in Great Britain. *J. Air Transp. Manag.* **2006**, *12*, 47–52. [CrossRef]
60. Masson, S.; Petiot, R. Can the high speed rail reinforce tourism attractiveness? The case of the high speed rail between Per-pignan (France) and Barcelona (Spain). *Technovation* **2009**, *29*, 611–617. [CrossRef]
61. Nilsson, P.A. Staying on farms—An Ideological Background. *Ann. Tour. Res.* **2002**, *29*, 7–24. [CrossRef]

62. Sijtsma, F.J.; Daams, M.N.; Farjon, H.; Buijs, A.E. Deep feelings around a shallow coast. A spatial analysis of tourism jobs and the attractivity of nature in the Dutch Wadden area. *Ocean Coast. Manag.* **2012**, *68*, 138–148. [CrossRef]
63. Wilson, S.; Fesenmaier, D.R.; Fesenmaier, J.; Van Es, J.C. Factors for Success in Rural Tourism Development. *J. Travel Res.* **2001**, *40*, 132–138. [CrossRef]
64. Zhu, J.; Lu, L.; Yang, X.; Cao, W. On the Evolution Mechanism of Tourism Spatial Structure of Island Resorts. *Hum. Geogr.* **2007**, *22*, 34–39.
65. Zhang, X. *The Distribution of The Sports Tourism Attractions and The Analysis of Influencing Factors—A Case Study of Beijing Suburb*; Henan University: Zhengzhou, China, 2016.
66. Wang, T.; Wang, L.; Ning, Z.-Z. Spatial pattern of tourist attractions and its influencing factors in China. *J. Spat. Sci.* **2020**, *65*, 327–344. [CrossRef]
67. Niu, Y.; Zhao, X. Analysis of the Influencing Factors of the Spatial Differentiation of Rural Tourism Development Level in Changsha City Based on the Geo-detector. *J. Hunan Univ. Technol.* **2021**, *35*, 87–96.
68. Xiang, Y.; Chen, Y.; Hou, Y.; Qu, B. Spatial Distribution and Influencing Factors of Leisure Agriculture: A Case from Hebei Province. *Sci. Geogr. Sin.* **2019**, *39*, 1806–1813.
69. Tang, C.; Sun, M.; Wan, Z. Spatial Distribution Characteristics of High-Level Scenic Spots and Its Influencing Factors in Beijing-Tianjin-Hebei Urban Agglomeration. *Econ. Geogr.* **2019**, *39*, 204–213.
70. Jia, Y.; Hu, J.; Liu, D.; Zhu, L. Spatial Evolution and Influence Mechanism of A-Level Scenic Spots in Urban Agglomeration in the Middle Reaches of the Yangtze River. *Econ. Geogr.* **2019**, *39*, 198–206.
71. Xia, J.; Liu, B.; Zuo, Y. Spatial differentiation, influencing factors and development paths of sports tourism resources in Guangdong province. *J. Phys. Educ.* **2023**, *30*, 1–8.

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