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Abstract: With Zhinan Village in Hangzhou selected as an example, an analysis is conducted of tourist’s loyalty of mountainous village tourist attractions in the view of tourism landscapes to put forward suggestions on the optimization of rural tourism landscapes. Based on the evaluation of rural tourism landscapes, structural equation models were employed to process the data with expectation, expectation-confirmation, satisfaction, place attachment, and loyalty. Results showed that tourists’ expectations and expectation-confirmation had significant impact on their satisfaction of rural tourism landscapes, which in turn affects their loyalty with place attachment playing a somewhat mediating role. It was proposed that to enhance tourist satisfaction, place attachment, and loyalty, efforts should be made to promote the reasonable planning of rural tourism landscape resources, the optimization of rural cultural landscapes leisure spaces, and the implementation of themed rural tourism landscapes experience activities among others.

Subjects: Tourism Marketing; Economics of Tourism; Tourism Behaviour

Keywords: Tourists’ loyalty; mountainous village; rural tourism landscape; place attachment; satisfaction; expectation

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PUBLIC INTEREST STATEMENT

In the process of promoting “Balancing Urban and Rural Development” and the “Rural Revitalization Strategy” in China, rural tourism is embracing unprecedented opportunities yet faced with stern challenges at the same time. With the advent of the era of experience economy, tourism demand is featured as increasingly individualized and diverse. As a result, how to promote tourist loyalty through differentiated rural tourism landscape is a major challenge posed to local authorities and government departments. Place attachment, generally used to describe bi-directional emotion of man–land relationship, helps to understand tourists’ perception of tourism landscape, and the conditions of loyalty behavior. With a devoted effort made to examine the relationship between tourists’ expectation, confirmation, satisfaction, place attachment and loyalty, this study has provided empirical insight into the enhancement of coordination, territoriality, and rationality of landscape planning, the optimization of rural living environment and the promotion of rural social and economic value.
1. Introduction
Rural landscape is the carrier of rural tourism (Zheng, 2013), which in turn affects the changes of rural landscape pattern (Deng et al., 2010). Thanks to the special planning and design as well as the proper exploration, the natural and cultural landscapes in rural areas have been built into a rural tourist space that is not only reflective of regional cultural characteristics, but also appealing to tourists, displaying certain ecological, economic, social and tourism values (Long, 2018). With the four elements of natural environment, settlement, economy and culture integrated, rural landscape helps promote living standards and the popularization of science besides its role played in ecologic, production, recreational, and aesthetic activities (Sun, 2013). The unique and beautiful ecological environment in the rural areas and the abundant rural culture help meet the city dwellers’ need to return to nature, both physical and mental, which has contributed to the emergence and fast development of rural tourism. Place attachment, the emotional connection between human and place (Altman & Law, 1992), is referred to as space attachment in research fields such as landscape, architecture and urban planning (Huang, 2016). Having been a hot research topic in foreign recreational geography and environmental psychology in the past twenty years (Zou et al., 2013), place attachment theory helps local governments and planners to better understand the perception and satisfaction of tourists and local residents for the tourism landscape, its special value, and the conditions for the occurrence of tourists’ loyalty behavior, which is conducive to the featured design of landscape with rich connotation in the planning process, to maintain their emotional connection to tourism destination (Tang, 2008). Studies have showed that place attachment is affected both by tourists’ perceived value, satisfaction, and loyalty (Lee & Jeong, 2021; Liu et al., 2020; Wang, 2018). The development of rural tourism depends on the type and behaviors of attracted tourists, and the likelihood of revisiting is related to place attachment, satisfaction and loyalty, which help to assess and select tourism groups (Kastenholz et al., 2018). Place attachment has a significant positive impact on tourists’ emotion towards and satisfaction of landscape (Dukjae & Ju-Hyoung, 2017). Therefore, the impact of tourists’ place attachment on repeated choice of a certain tourist destination as well as the local circumstances should be fully considered in the tourism landscape design and plan (Li et al., 2018).

With Zhinan Village in Hangzhou of Zhejiang selected as an example, on the basis of the evaluation of rural tourism landscapes, this study, employing structural equation models (SEM) to process the data with expectation, expectations-confirmation, satisfaction, place attachment of rural tourism landscapes as antecedent variables, is aimed to investigate the impact mechanism of tourists’ loyalty on mountainous village tourist attraction and put forward some suggestions on the optimization of rural tourism landscapes and the promotion of their tourist appeal.

2. Literature review and research hypotheses

2.1. Expectation, disconfirmation and satisfaction
Of the diverse theoretical models of empirical research on tourist satisfaction, the expectation and disconfirmation theory, which was first applied in the analysis of consumer behaviors and featured as concise and clear-cut, has enjoyed prominence in the research. Customers, after comparing the actual performances with expectations, produced before the purchase, are more willing to consume again if the actual performance is better with positive differences, while looking for alternatives due to negative differences, in accordance with the cognitive model of the antecedents and consequences of satisfaction decision proposed by famous scientist Oliver (1980). Customer satisfaction is a measurement of a series of emotional reflections of to what degree the consumption experience has met their needs (Oliver, 1997). The influence of expectation and perception on satisfaction and loyalty have been showed in the American Customer Satisfaction Index (ACSI) model, which consists of three premise variables (customer expectation, perceived quality and perceived value) and three outcome variables (customer satisfaction, customer loyalty and
customer complaint) (Fornell et al., 1996). Baker & Crompton (2000) defined tourist satisfaction as the comprehensive evaluation result by tourists of the extent to which tourist landscapes, infrastructure, recreation, environment and reception services et al. meet their needs in tourism activities. Tourist satisfaction is the function of difference between expectation and actual perception in tourist place (Li, 2003), which is the driving force to promote the intangible assets of scenic spots, enhance the appeal of tourist attraction, and improve the revisit rate of tourists, as well as what enables tourist destinations to generate profits (Yue, 1998). As has been confirmed by prior researches, the promotion of consumer satisfaction helps enhance the customer loyalty when the actual perception is consistent with the expectation (Bosque & Martin, 2008; Li & Bao, 2015), and the satisfaction and loyalty will be positively affected when the perceived performance is greater than the expectation (López & Sánchez, 2014).

Since ecological environment, economic development, settlement and cultural landscapes are the main elements of mountainous rural landscapes, given the complex interaction of terrain with the regional society, economy, culture and ecology, under the principle of ecological protection, the study is mainly focused on the coordination between human activities and rural landscape patterns in mountainous countryside so as to promote the development of rural landscapes (Chen et al., 2019). As a result of the economic development and the construction of rural tourism, many mountainous villages with a low altitude have formed a tourism landscape pattern with distinctive mountainous landscape features, which is generally referred to as mountainous rural tourism landscape. Therefore, the assessment of mountainous rural tourism landscapes is of significance to the investigation into the relationship between expectation, expectation-confirmation and satisfaction. Here in the following are two hypotheses that have been put forward:

H1: Tourist expectation has a significant positive impact on satisfaction.

H2: Tourist expectation-confirmation has a significant positive impact on satisfaction.

2.2. Place attachment and loyalty
Tourist psychologists have pointed out that the acceptance and discernment in tourist destination landscape resources are demonstrated in tourists’ feeling and intuition, which are specified as the physiological experience and the psychological experience respectively (Sun, 2013), which reveal the unidirectional relationship of man with the land, whereas the bi-directional relationship is referred to as the sense of place, which is a focus of research in humanistic geography that has been explored in an in-depth way. First proposed by Tuan (1974), it is defined as the combination of the features of a place and the attachment felt by different groups of people. Pretty et al. (2003) further categorized the sense of place as place attachment, sense of community and place dependence. According to Hammitt and his co-authors, place attachment enjoys an absolute predominance among all the elements that affect the tourist-destination bond (Hammitt et al.,
On the other hand, Williams et al. (1992) proposed a universally applicable two-dimensional theoretical framework with place dependence and place identity, as two major influential factors (Cundill et al., 2017). With some relevant concepts still evolving, sense of place and place attachment are two highly inclusive concepts with the latter laying more emphasis on human psychological process (Zhu & Liu, 2011). An evaluation of tourist destinations on the basis of tourists' subjective estimation, reflected in their feedback (Hayllar & Griffin, 2005), could contribute to a better understanding of tourists' preference, the design of favorable products and the promotion of tourist destinations (Young, 1999). Moreover, with estimations from local residents, a deeper research into disagreements and conflicts could promote the development and management of the target tourist destinations so as to enhance their competitiveness on the longer term (Dustin et al., 2002).

With the focus of discussion on the effect of place attachment on tourist demand (especially the rate of revisiting), it has been concluded that a stronger place attachment will bring about higher revisiting rate and loyalty (Xu, 2017). Stedman (2002) believes that the individuals' perception of the value and their satisfaction of a place stems from the fulfillment of their material and physiology needs and is generally linked with their multifaceted and overall evaluation of a place. Place attachment is a positive psychological cue that leads to diverse experience of satisfaction, according to Wickham (2000). Therefore, the enhancement of tourists' place attachment will bring about a more positive psychological and cognitive connection, which in turn positively affects satisfaction. Loyalty, generally classified as behavioral loyalty and attitudinal loyalty, is another variable widely employed in the research concerning tourist destinations (Backman & Crompton, 1991; Day, 1969). As has been pointed out in previous researches, expectation, perception, satisfaction and place attachment can all be the leading variables in the loyalty influencing mechanism (Oliver & DeSarbo, 1988; Qu & Li, 2010; Rasoolimanesh et al., 2019; Tian et al., 2020; Um et al., 2006). The significant positive effects and reverse influences of place attachment on satisfaction were both verified(Sun et al., 2020; Zhang et al., 2020). Studies have shown that place attachment can directly affect loyalty and play a mediating role between satisfaction and loyalty (Boaque et al., 2006; Liu, 2019; Wang et al., 2017). In view of this, a relationship model has been constructed of tourists' expectation, expectation-confirmation, satisfaction, place attachment, and loyalty in rural tourism landscapes (Figure 1), and four hypotheses have been put forward:

H3: Tourist satisfaction has a significant positive effect on place attachment.

H4: Tourist satisfaction has a significant positive effect on loyalty.

H5: Tourists’ place attachment has a significant positive effect on loyalty.

H6: Tourists’ place attachment has a mediating effect on the impact of satisfaction on loyalty.

3. Research design

3.1. Study area
Zhinan Village, located in Lin'an District of Hangzhou City, inside a 2-hour traffic circle in Yangtze River Delta Economic Zone, enjoys obvious regional advantages. With a total coverage of 7.86 square kilometers and an average altitude of 600 meters, it is mainly featured as a low mountain area boasting a beautiful ecological environment and distinctive cultural deposits. Widely known for its “seven ancient things”, namely the ancient surnames, tombs, halls, temples, trees, ponds, and residences, Zhinan Village also enjoys titles such as “one of the most beautiful historic villages in Eastern China” and a “typical representation of autumn
| Feature layer     | Indicator layer                                           | Factors |
|-------------------|----------------------------------------------------------|---------|
|                   |                                                          | 1       | 2       | 3       | 4       |
| Natural landscape| X1 Chances to view strange mountain landscapes            | 0.85    |         |         |         |
|                   | X2 Chances to view beautiful water landscape              | 0.82    |         |         |         |
|                   | X3 Chances to view the rich and beautiful plant landscape | 0.79    |         |         |         |
|                   | X4 Chances to watch the phonological landscape            | 0.79    |         |         |         |
|                   | X5 Chances to view the sky and sky (sunrise, clouds, etc.)| 0.73    |         |         |         |
|                   | X6 Chances to watch animals such as fish, birds and insects| 0.70    |         |         |         |

(Continued)
| Feature layer         | Indicator layer                                                                 | Factors |
|----------------------|----------------------------------------------------------------------------------|---------|
| Settlement landscape | X7 Chances to walk on village roads and streets of local features                 | 0.82    |
|                      | X8 Chances to localize the appearances of new buildings                           | 0.74    |
|                      | X9 Chances to preserve the beauty and ecological well being of pavements          | 0.71    |
|                      | X10 Chances to experience the rustic atmosphere of the architectural landscape of houses (including courtyards and external walls) | 0.71    |
|                      | X11 Chances to experience the local flavor from the landscape sketch              | 0.70    |
|                      | X12 Chances to engage in rural leisure and recreational activities with local characteristics (such as pavilions and pavilions) | 0.58    |

(Continued)
| Feature layer        | Indicator layer                                                                 | 1        | 2        | 3        | 4        |
|---------------------|---------------------------------------------------------------------------------|----------|----------|----------|----------|
| Cultural landscape  | X13 Chances for the exposure to the local culture in the farmhouse bookstore    |          |          |          | 0.85     |
|                     | X14 Chances to experience traditional cultural customs with local characteristics |          |          |          | 0.82     |
|                     | X15 Chances to learn about local history from the cultural auditorium           |          |          |          | 0.71     |
|                     | X16 Chances to enjoy local featured performances and events (eg Red-leaf       |          |          |          | 0.60     |
|                     |  Photography Festival)                                                         |          |          |          |          |
| Economic landscape  | X17 Chances to experience the rural commercial landscape (shops, farmhouses,   |          |          |          | 0.83     |
|                     | homestays)                                                                      |          |          |          |          |
|                     | X18 Chances to enjoy local commodities (such as souvenirs, snacks, etc.)       |          |          |          | 0.80     |
|                     | X19 Chances to embrace the beauty of the idyllic landscapes such as terraces  |          |          |          | 0.76     |
|                     | and tea gardens                                                                  |          |          |          |          |
| Eigenvalues         |                                                                                 | 8.28     | 2.33     | 1.41     | 1.18     |
| Cumulative variance |                                                                                 | 43.58    | 55.86    | 63.26    | 69.47    |
| rate (%)            |                                                                                 |          |          |          |          |
Table 2. Dimension, reliability and validity analysis of variables in the research model

| Value               | Measurement item                                      | Mean | Standardized load | T value | Combined reliability | Cron-bach's α | KMO value |
|---------------------|------------------------------------------------------|------|-------------------|---------|----------------------|---------------|-----------|
| Expectation         | E1 Natural landscape                                 | 4.22 | 0.68              | 13.36   | 0.82                 | 0.81          | 0.79      |
|                     | E2 Settlement landscape                              | 4.20 | 0.94              | 14.17   |                      |               |           |
|                     | E3 Cultural landscape                                | 3.98 | 0.64              | 11.90   |                      |               |           |
|                     | E4 Economic landscape                                | 4.25 | 0.64              | —       |                      |               |           |
| Expectation-       | D1 Natural landscape                                | −0.20| 0.57              | 11.09   | 0.78                 | 0.75          | 0.75      |
| confirmation       | D2 Settlement landscape                              | −0.33| 0.90              | 12.45   |                      |               |           |
|                     | D3 Cultural landscape                                | −0.44| 0.63              | 11.00   |                      |               |           |
|                     | D4 Economic landscape                                | −0.29| 0.61              | —       |                      |               |           |
| Satisfaction       | S1 It is worth the time and money to experience the | 3.96 | 0.90              | —       | 0.94                 | 0.93          | 0.77      |
|                     | tourist landscape in the village                    |      |                   |         |                      |               |           |
|                     | S2 The tourist experience has met my expectations    | 3.84 | 0.93              | 24.20   |                      |               |           |
|                     | S3 I am generally satisfied with the tourist        | 3.95 | 0.92              | 23.80   |                      |               |           |
|                     | landscape of the village                            |      |                   |         |                      |               |           |

(Continued)
| Value | Measurement item | Mean | Standardized load | T value | Combined reliability | Cron-bach's α | KMO value |
|-------|------------------|------|-------------------|---------|----------------------|---------------|-----------|
| Place attachment | PD1 I prefer mountainous villages to other types of villages | 3.96 | 0.62 | — | 0.93 | 0.92 | 0.91 |
| | PD2 The tourist landscape is unique here in this village | 3.50 | 0.80 | 10.65 | | | |
| | PD3 The tourist landscape of the village has brought me a personal and authentic experience | 3.71 | 0.87 | 11.27 | | | |
| | PI1 I like the village’s tourist landscape better than that of other villages | 3.57 | 0.86 | 11.24 | | | |
| | PI2 I feel that I am integrated with the tourist landscape of the village | 3.69 | 0.87 | 11.32 | | | |
| | PI3 I am very attached to the tourist landscape of the village | 3.74 | 0.91 | 11.62 | | | |
Table 2. (Continued)

| Value   | Measurement item                                                                 | Mean | Standardized load | T value | Combined reliability | Cronbach’s α | KMO value |
|---------|----------------------------------------------------------------------------------|------|-------------------|---------|----------------------|---------------|-----------|
| Loyalty | L1 Mountain-type tourist landscape is my first choice when taking a trip         | 3.96 | 0.70              | 13.22   | 0.91                 | 0.90          | 0.82      |
|         | L2 I have the desire to pay a second visit                                       | 3.99 | 0.90              | 20.44   |                      |               |           |
|         | L3 I will recommend others to visit here                                          | 4.06 | 0.93              | 21.46   |                      |               |           |
|         | L4 I am willing to share this fulfilled tourist experience with others           | 4.11 | 0.87              | —       |                      |               |           |

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Table 3. Correlation coefficients and discriminant validity among variables

| Value          | Mean   |
|----------------|--------|
|                |        |
| Standard deviation |       |
| 1. Expectation | 4.16   |
| 2. Expectation-confirmation | -0.03 |
| 3. Satisfaction | 3.92   |
| 4. Place attachment | 3.70  |
| 5. Loyalty     | 4.03   |

Table 4. Final model fitting index

| X2/df | RMSEA | GFI | IFI | PGFI | PNFI | PCFI |
|-------|-------|-----|-----|------|------|------|
| <5    | <0.08 | >0.8| >0.9| >0.5 | >0.5 | >0.5 |
| 2.268 | 0.070 | 0.871| 0.946| 0.681| 0.782| 0.815|
| pass  | pass  | pass| pass| pass | pass | pass |

scenery in Jiangnan Region”. In 2015, listed as one of the first batch of featured towns in Hangzhou, “Red-leaf Township” was established, embracing a rapid development of rural tourism and a skyrocket growth in the number of visitors (received 300 thousand tourists and created 10 million Yuan tourism revenue1). Aiming to strengthen the management of tourist attractions, improve the service quality of tourist attractions, and promote the development, utilization and environmental protection of tourism resources in China, General Administration of Quality Supervision, Inspection and Quarantine of the People’s Republic of China published “Standard of rating for quality of tourist attractions” (GB/T 17775-2003), dividing tourist attractions into 5A (Highest) to 1A (Lowest). Zhinan Village was listed as a national 3A-level tourist attraction in 2018, whereas a total of 450 thousand tourists were received in 2019 with a revenue of 30 millions generated. Meanwhile, efforts have been made to build it into a national 4A-level tourist attraction.

3.2. Structure of questionnaire

A self-administrated survey was conducted at Zhinan Village using a structured questionnaire, which covers factors ranging from expectation, expectation-confirmation, place attachment, satisfaction, to loyalty of tourists. With reference drawn from previous literature (Liu, 2019; Ramkisson et al., 2013; Wei et al., 2014; Yuksel et al., 2010; Zheng, 2012), and the features of mountainous tourism landscapes and planning and construction conditions taken into consideration, upon consultations with experts in relevant fields, as well as a revisit to and the supplementation of the scale after a preliminary survey, the questionnaire was designed to consist of three parts: (①) basic information such as gender, age, education background, occupation and monthly income; (②) expectation, expectation-confirmation, place attachment (place dependence and place identity) and satisfaction survey, covering the four categories of nature, settlement, culture and economic landscapes; (③) loyalty survey, including chances of recommendation and intention to revisit. All items were measured by a 5-point Likert’s scale (5 = strongly agree, 1 = strongly disagree), whereas face and content validity were assessed through a small-scale tourist survey after several expert consultations.

3.3. Ethical consideration

Formal permission was obtained from the administration of Zhinan Village before the questionnaire was conducted. Throughout the survey, all the participants were informed of the objectives
of the study with no coercion but timely help provided to the elderly. Afterwards, all issues concerning research ethics were strictly observed and examined with the information of participants remaining anonymous and treated with strict confidentiality.

3.4. Data collection
Random convenience sampling was employed in this field investigation at the Red-leaf Zhinan Tourist Attraction. Specifically, surveys were conducted of tourists selected at the visitor center, Tianchi, terraces, commercial streets and farmhouses during the 2 months from July to August 2019. Of the 300 questionnaires distributed, 258 were returned, with an effective recovery rate of 86%. Respondents were almost equally split between male (50.4%) and female (49.6%), whereas more than half (53.5%) were over 40 years old and held a college or bachelor’s degree (58.5%). In terms of occupations and income, two main groups were identified: enterprise personnel (26.4%) and students (15.2%) mostly with a monthly income of 8,000 yuan and less (65%). Geographically, 90.3% of them came from the Yangtze River Delta with 58.9% from cities, mostly being first timers (62.4%).

3.5. Data analysis method
To investigate the relationship between the expectation, expectation-confirmation, place attachment, satisfaction, and loyalty of tourists in Red-leaf Zhinan Tourist Attraction, an analysis was conducted using SEM, checking the reliability and validity of the overall loyalty mechanism model and correcting model to fit well. To research the quality of the expectation-confirmation scale model through factor analysis method, data was divided into two groups randomly using the dichotomy method, with one group (129 questionnaires) analyzed with the exploratory factor analysis of SPSS22.0 software and a confirmatory factor analysis conducted of the other using AMOS24.0 software on the expected factor model scale previously obtained.

4. Results and analysis

4.1. Exploratory factor analysis
Factors with eigenvalues greater than 1 were selected to obtain a rotation factor matrix in order to conduct an exploratory factor analysis. As is shown in Table 1, the KMO value is 0.88, the chi-square value is 1553.02, df = 171, sig = 0.00, indicating that the scale is suitable for factor analysis. When the load factor value is greater than 0.5, it is indicative that the variable and the common factor are significantly interdependent on each other (Hair et al., 2010). The results have also shown that a total of 4 public factors were obtained, consistent with the four index elements, namely the natural, settlement, cultural and economic landscape, which were set in the design of the questionnaire scale. The four elements in the table can better reflect the information of 19 variables, with a cumulative variance contribution rate of 69.470%, making for a proper formal questionnaire. The confirmatory factor analysis results were $X^2/df = 1.77 < 5$, RMSEA = 0.07 < 0.08, with other indicators (RM, GFI, IFI, PGFI, PNFI, PCFI) also falling within the standard range. Comprehensive measurement results of various indicators show that the model was a good fit, while expectation and expectation-confirmation scale have high reliability and validity.

4.2. Model reliability and validity test
With reference drawn from the research methods and recommendations by Jia and Lin (2016), and all valid questionnaires selected and the average value of each dimension in the expectation and confirmation scale used as the measurement index of the research model, a confirmatory factor analysis was conducted of the five variable dimensions in the research model diagram. It can be seen from Table 2 that the standard load factor coefficients of each measurement item in this dimension range from 0.57 to 0.94, all greater than 0.5 (p < 0.001). On the other hand, the combined reliability values range from 0.78 to 0.94, Cronbach’s values range from 0.75 to 0.93, and KMO values range from 0.75 to 0.91. As can be seen from Table 3, the AVE value of each variable is basically greater than the correlation coefficient between the variables, and all variables fall within a reasonable range except that the AVE value of the perceived difference variable is less than 0.5.
With the correction index MI as a reference, as is shown in Table 4, the model was partially modified to include the following final fitting indicators: $\chi^2 = 410.45$, $p = 0.00$, $\chi^2/df = 2.27$, RMSEA = 0.07, GFI = 0.87, IFI = 0.95, PGFI = 0.68, PNFI = 0.78, PCFI = 0.82. With all indicators meeting reasonable acceptance validity, it is safe to conclude that the model has a good fitting effect, high reliability and validity.

4.3. Analysis of model results
With the employment of AMOS24.0 statistical software, an analysis was made of the constructed model, whereas a test is conducted of the validity of the above hypotheses H1~ H6 with the research findings shown in Figure 2. It can be seen from Table 5 that the p-values of the standardized path coefficients between the different variables involved in the H1~ H4 hypothesis are all lower than 0.001, and the p-value in the H5 hypothesis is $0.02 < 0.05$, indicating that the potential variables on the left side of the path are significant for the interpretation of variable scale data, and the hypotheses of H1~ H5 are all valid. From the standardization effect, the direct effect of satisfaction on loyalty is 0.62, and the indirect effect produced by place attachment is 0.22, with a total effect of 0.84 (0.62 + 0.22).

To test the mediating effect of place attachment in the impact of satisfaction on loyalty, the Bootstrap procedure in AMOS software was employed for analysis with a sample size of 5000 and a confidence level of 95%. Results have showed that with the partial correction confidence interval selected and under the indirect influence, the results showed that the indirect effect of satisfaction on loyalty has a lower limit of 0.01 and an upper limit of 0.38 with zero excluded from the confidence interval. From this, it can be seen that the mediating effect of satisfaction on loyalty by means of place attachment is significant and H6 is valid.

5. Discussion and conclusions

5.1. Research conclusions
(1) Tourists’ perception of rural tourism landscape was lower than expectation. As can be seen in Table 3, the mean value of all rural tourism landscape was higher than 4.0 except cultural landscape, while the value of expectation-confirmation was negative with that of cultural landscape reaching the lowest of −0.44, which indicated that tourists are generally disappointed
Table 5. Relationship between hypothetical paths and verification results

| Assumption serial number | Hypothetical path                      | Standardized path coefficient | p-value | Direct effect | Indirect effect | Total effect | Validation results |
|--------------------------|----------------------------------------|------------------------------|---------|---------------|----------------|-------------|--------------------|
| H1                       | Expectation → Satisfaction              | 0.56                         | ***     | 0.56          | —              | 0.56        | support            |
| H2                       | Expectation-confirmation → Satisfaction | 0.61                         | ***     | 0.61          | —              | 0.61        | support            |
| H3                       | Satisfaction → Place attachment        | 0.89                         | ***     | 0.89          | —              | 0.89        | support            |
| H4                       | Satisfaction → Loyalty                 | 0.62                         | ***     | 0.62          | —              | 0.84        | support            |
| H5                       | Place attachment → Loyalty             | 0.25                         | 0.02    | 0.25          | —              | 0.25        | support            |
| H6                       | Satisfaction → Place attachment → Loyalty | —                           | —       | —             | 0.22           | —           | support            |

***/** means the significant level of 0.001/0.01/0.05 respectively.
with the tourism landscape, especially with the cultural landscape. On the one hand, the highlighted features of Zhinan Village such as ancient trees with red leaves (earlier November), plant landscapes of rapeseed blossoms (in April) and terrace landscape of golden waves of rice spikes (in October) were not available to tourists who paid visits back in July and August when the research was conducted. In addition, the fact that the ancient road landscape is hidden in mountains and forests has made them less accessible to the middle-aged and elderly tourists, hence the disappointment. On the other hand, the landscape planning, mainly led by the local government, is featured with the lack of proper excavation, decent presentation and active utilization of local cultural landscape resources.

(2) The expectation and expectation-confirmation were positively correlated with tourist satisfaction, with a direct effect of 0.53 and 0.61, respectively, so hypotheses 1 and 2 were confirmed by the result of the current study. The lower the expectation-confirmation was, the higher the satisfaction is. As a part of the tourist experience, expectation, usually known as the previous psychological feelings, is often adjusted with various factors throughout the tourist experience and the fitness of expectation with perception reveals the consistency of inner feelings and external experience. In the previous studies of the antecedents of satisfaction factors, it has been found that perception has a direct impact on satisfaction, and the difference between expectation and perception measures the degree of inconsistency, which emphasizes the role of tourists’ emotional factors and such inconsistency also significantly affects the satisfaction.

(3) The satisfaction of rural tourism landscape is positively correlated with tourists’ place attachment and loyalty, with a direct effect of 0.89 and 0.66, respectively, so hypotheses 3 and 4 were confirmed. Furthermore, place attachment has a significant positive impact on loyalty with a direct effect of 0.25, so hypothesis 5 was confirmed. Tourists’ high satisfaction with the tourist destination will promote the emotional, spiritual and material exchanges between themselves and the destinations, bringing about more positive assessments and feedback. Such exchanges further promote tourists’ loyalty, as is reflected in the intention to revisit and recommend. Place attachment plays a somewhat mediating role in the impact of satisfaction on tourist loyalty, with an indirect effect of 0.22, so hypothesis 6 was confirmed. Satisfaction has both direct and indirect impact on loyalty, as a result of the role of place attachment, which also serves as a connecting link in the research model. The research on place attachment, i.e., the emotional relationship between human and place, shows that tourists with different emotion levels have their loyalty behaviors induced to different degrees after an experience of the tourist destination landscape, having a positive effect on the stabilization and further development of tourist market.

5.2. Proposals on future development

(1) To conduct rational planning Rural tourism landscape resources to enhance tourists’ satisfaction

Mountainous rural areas are rich in natural landscape resources, thus highly appreciation-worthy, but animal and plant landscapes are obviously influenced by the succession of seasons. Under such circumstance, under the principle of practicality and artistry, appropriate planning and promotion strategies should be adopted for different types of landscape playing to the strength of local vegetation and catering to the tourist activities so that a unique mountainous plant landscape can be built with the ecological security of mountain areas ensured (Liu & Zhang, 2018). As a result, the needs of tourists for life, production, leisure, and aesthetic experience should be taken into consideration in the rural landscape planning, throughout the various stages of investigation, overall orientation and actual construction. Such efforts will contribute to a full understanding of the features of tourists’ place attachment, which will help strengthen the rational planning and activation construction of rural tourism landscape, improving the quality of tourists’ perception of rural tourism landscape with higher satisfaction and better loyalty.
To optimize the space of rural cultural landscape places to enhance tourists’ place attachment

The rural cultural landscape plays a critical role in the inheritance and protection of the history and memory of the rural areas, helping generate a sense of belonging for visitors who were engaged in respective activities (Zhai, 2015). And as an important part of rural landscape environment and the essential embodiment of rural cultural landscape, the rural settlement landscape should have its space rationally planned and optimized with the respect for the original village texture, the integration of unique rural cultural elements and the adoption of local materials and techniques. On the one hand, local residents and tourists should be involved in the establishment and protection of the landscape culture with the tourists’ sense of belonging generated and promoted by creating a unique village culture and an atmosphere of featured themes through the proper utilization of material space. On the other hand, the service and management should be promoted so that the tourists’ place dependence will be enhanced and their place identity with the village will be improved. Also, it is advised that intangible cultural heritage should be integrated into the physical cultural space, attaching importance to localized, experiential and tangible designs such as 3D interactive experiences with the help of technologies like AR, VR, MR and so on.

To launch themed activities of rural tourism landscape in order to enhance tourists’ loyalty

Tourists tend to generate feelings towards the mountainous rural tourism landscape in their interaction with the destinations as part of the experience. Therefore, themed landscape engaging activities that help tourists experience local culture should be launched so as to make such emotions positive, which, in turn, will contribute to the inclinations to revisit or recommend. In other words, innovative yet practical themed projects featured with unique services are recommended in the mountainous areas to cater for various needs of the tourists (Zhou et al., 2017). For instance, besides the traditional sensory stimulation activities such as rock climbing, ascent and drifting, activities should be launched to improve interpersonal communication, exercise psychological quality and soothe physical and mental emotions, all of which will be well received. In addition, along with the succession of seasons, different types of natural landscape should be promoted with various featured activities launched, to name just a few, celebrations of local customs, terrace and rapeseed flower field concerts and Permaculture experience activities in order to promote tourists’ participation and satisfaction, thereby enhancing tourist loyalty.

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References
Altman, I., & Low, S. M. (1992). Place attachment. Plenum Press. https://doi.org/10.1007/978-1-4684-8753-4
Beckman, S. J., & Crompton, J. L. (1991). The usefulness of selected variables for predicting activity loyalty. Leisure Sciences, 13(3), 205–220. https://doi.org/10.1080/01490409109513138
Baker, D. A., & Crompton, J. L. (2000). Quality, satisfaction and behavioral intentions. Annals of Tourism Research, 27(3), 785-804. https://doi.org/10.1016/S0093-8159(00)00108-5
Booque, I., Martin, H., & Collado, J. (2006). The role of expectations in the consumer satisfaction formation process: Empirical evidence in the travel agency sector. Tourism Management, 27(3), 410–419. https://doi.org/10.1016/j.tourman.2004.10.006
Bosque, I. R., & Martin, H. S. (2008). Tourist satisfaction a cognitive-affective model. Annals of Tourism Research, 35(2), 551–573. https://doi.org/10.1016/j.annals.2008.02.006
Chen, Q., Li, M. Y., Li, Y. C., & Li, S. S. (2019). Progress of mountain rural landscapes research. Journal of Chongqing Normal University (Natural Science), 36...
Liu, C. (2019). Study on landscape planning and design of mountainous rural settlement in West Zhejiang: Take Lin’an guide village as an example. M.A. Thesis. Zhejiang Agriculture & Forestry University.

Liu, J.-W., & Zhong, K. L. (2018). The investigation and its application of mountain village plant landscape: A case study of Buyi settlement of Biandan mountain area in Guizhou. Chinese Landscape Architecture, 34(5), 33–37. https://doi.org/10.3969/j.1002-5006.2015.10.006

Liu, Y., Hultman, M., Eisengrich, A. B., & Wei, X. (2020). How does brand loyalty interact with tourism destination? Exploring the effect of brand loyalty on place attachment. Annals of Tourism Research, 81(Mar.), 102879.1-102879.13. https://doi.org/10.1016/j.annals.2020.102879

Long, Z. Z. (2018). Research on rural landscape planning and design based on rural culture. M.A. Thesis. Hubei University of Technology.

López, M. N., & Sánchez, M. (2014). Cognitive and affective determinants of satisfaction, willingness to pay, and loyalty in suburban parks. Urban Forestry & Urban Greening, 13(2), 375–384. https://doi.org/10.1016/j.ufug.2013.08.007

Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decision. Journal of Marketing Research, 11(4), 460–469. https://doi.org/10.1177/00222437801104005

Oliver, R. L. (1997). Satisfaction: A behavioral perspective on the consumer. Irwin/McGraw-Hill.

Oliver, R. L., & DeSarbo, W. S. (1998). Response determinants in satisfaction judgments. Journal of Consumer Research, 14(4), 495–507. https://doi.org/10.1086/209131

Pretty, G. H., Chipuer, H. M., & Brampton, P. (2003). Sense of place amongst adolescents and adults in two rural Australian towns: The discriminating features of place attachment, sense of community and place dependence in relation to place identity. Journal of Environmental Psychology, 23(3), 273–287. https://doi.org/10.1016/S0272-4944(02)00079-8

Qui, Y., & Li, T. Y. (2010). A review about the loyalty of tourists in tourism destinations overseas in the past decade. Tourism Tribune, 25(1), 86–94. https://doi.org/10.3969/j.1002-5006.2010.01.020

Ramkisson, H., Graham, S. L. D., & Weiler, B. (2013). Testing the dimensionality of place attachment and its relationship with place satisfaction and pro-environmental behaviors: A structural equation modelling approach. Tourism Management, 36(Jun.), 552–566. https://doi.org/10.1016/j.tourman.2012.09.003

Rasouliroumanesh, S. M., Noor, S. M., Schubeth, F., & Jaafar, M. (2019). Investigating the effects of tourist engagement on satisfaction and loyalty. The Service Industries Journal, 39(7-8), 559–574. https://doi.org/10.1080/02642069.2019.1570152

Stedman, R. C. (2002). Toward a social psychology of place: Predicting behavior from place-based cognitions, attitudes, and identity. Environment and Behavior, 34(5), 561–581. https://doi.org/10.1177/0013916502340501

Sun, F. Z., Liu, R., Ouyang, C. S., & Jia, Y. J. (2020). Study on the relationship between tourists’ perceived value and behavior intention: From the perspective of accommodation tourists. Shandong Social Sciences, (1), 126–133. https://doi.org/10.14112/cnki.37-1053/c.2020.01.016

Sun, Y. H. (2013). Research on the planning and design of rural landscape from the perspective of ecological civilization. M.A. Thesis. Zhejiang: Zhejiang
Agriculture & Forestry University. https://doi.org/10.7666/d.y2365385
Tang, W. Y. (2008). Sense of place: A new perspective of tourism planning. Tourism Tribune, 23(8), 11–12. https://doi.org/10.3969/j.issn.1002-5006.2008.08.007
Tian, D., Wang, Q. Y., Law, R., & Zhang, M. (2020). Influence of cultural identity on tourists’ authenticity perception, tourist satisfaction, and traveler loyalty. Sustainability, 12(16), 6344. https://doi.org/10.3390/su12166344
Tuan, Y. F. (1974). Topophilia: A study of environmental perception, attitudes, and values. Prentice Hall.
Um, S., Chon, K., & Ro, Y. (2006). Antecedents of revisit intention. Annals of Tourism Research, 33(4), 1141–1158. https://doi.org/10.1016/j.anals.2006.06.003

Wang, J. Z., Wang, G., & Li, W. W. (2017). Research on the relationship between sightseeing tourists’ place attachment, satisfaction and loyalty. Areal Research and Development, 36(5), 115–145. https://doi.org/10.3969/j.issn.1003-2363.2017.05.021
Wang, L. (2018). A study on the relationship among tourist’ perceived value, place attachment and revisit intention. M.A. Thesis. Guangdong: Jinan University.
Wei, H. Y., Tao, Z. M., & Pan, K. Y. (2014). A study on the loyalty of rural tourists based on rural sexuality—A case study on the Nanjing Shitang family. Journal of Agrotechnical Economics, (3), 108–116. https://doi.org/10.13124/j.cnki.joe.2014.03.013

Wickham, T. D. (2000). Attachment to places and activities: The relationship of psychological constructs to customer satisfaction. The Pennsylvania State University.
Williams, D. R., Patterson, M. E., Roggenbuck, J. W., & Watson, A. E. (1992). Beyond the commodity metaphor: Examining emotional and symbolic attachment to place. Leisure Sciences, 14(1), 29–46. https://doi.org/10.1080/01490409209513155
Xu, L. L. (2017). A research on relationship among rural image, tourist involvement and place attachment for rural tourists. M.A. Thesis. Anhui Agricultural University.
Young, M. (1999). The social construction of tourist places. Australian Geographer, 30(3), 373–389. https://doi.org/10.1080/00049189993648
Yue, H. R. (1998). Operation and management of scenic spot. Yunnan University Press.
Yuksel, A., Yuksel, F., & Bilim, Y. (2010). Destination attachment: Effects on customer satisfaction and cognitive, affective and conative loyalty. Tourism Management, 31(2), 274–284. https://doi.org/10.1016/j.tourman.2009.03.007
Zhai, Y. Z. (2015). Regional cultural studies rural cultural tourism landscape design. M. A. Thesis. Xi’an University of Architecture and Technology. https://doi.org/10.7666/d.D714675
Zhang, H., Zhang, J., Qiu, M. Y., & Li, L. (2020). The impact of musicscape images on tourists’ place attachment in tourism destination: The case study of Kulangsu, Xiamen. Human Geography, 35(3), 58–64. https://doi.org/10.13959/j.1003-2398.2020.03.007
Zheng, W. J. (2012). Studies on tourists’ expectation and perception about urban landscape in Guilin city. Journal of Central South University of Forestry & Technology, 32(11), 149–153. https://doi.org/10.14067/j.cnki.1673-923x.2012.11.011
Zheng, W. J. (2013). The value cognition and function reconstruction of rural landscape on tourism perspective: Based on the literatures analysis. Research and Development, 32(1), 102–106. https://doi.org/10.3969/j.issn.1003-2363.2013.01.020
Zhou, X. Q., Ming, Q. Z., & Chen, J. B. (2017). Analysis of mountain health-tourism product system. Resource Development & Market, 33(6), 727–731. https://doi.org/10.3969/j.issn.1005-8141.2017.06.016
Zhu, H., & Liu, B. (2013). Concepts analysis and research implications: Sense of place, place attachment and place identity. Journal of South China Normal University(Natural science edition), (1): 1–8.
Zou, T. Q., Gao, Z., & Zhong, L. S. (2013). Schools of Tourism Academic Thought (2nd ed.). Nankai University Press.
