

# Folk Festivals as Restorative Environments Based on Attention Restoration Theory—The Roles of Liminal Experience and Timing

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**Background:** Research on the restorative environment has long focused on the natural environment, while the research on the humanistic social environment is still in its infancy. In particular, there has been no special research on the restoration of festival environments.

**Methods:** Based on attention restoration theory (ART), Rites of Passage, and social time, a theoretical model of the restorativeness of folk festival environments was established. Through an empirical study of the Qinhuai Lantern Festival Event, the model was tested by structural equation modeling.

**Results:** Overall, there were two paths, direct and indirect, for the positive prediction of restoration by being away and compatibility; fascination direct positive predict restoration, and extent could indirectly positive predict restoration through liminal experience; time of visiting played a moderating role in the positive prediction of liminal experience by being away; the direct positive prediction of restoration by extent was significant and moderating during the Lantern Festival and the lantern fair period.

**Conclusion:** The folk festival environment is restorative. Folk festival environment restoration has the internal mechanism of “environment restoration feature perception → liminal experience → restoration”. The restoration of the folk festival environment is moderated by social time.

**Significance:** This is the first time that attention restoration theory (ART) has been applied to the study of a “hard fascination” humanistic social environment, thus yielding empirical evidence for the development of this theory. The results suggest management requirements for the improvement of the indication system of festival tourism destinations and the promotion of rest and leisure facilities, and management tips for the timing decision of festival activities against the background of the COVID-19 epidemic.

**Keywords:** restorative environment, folk festival environment, liminal experience, social time

## Introduction

Social psychological pressure caused by high-level urbanization will cause psychological fatigue and even seriously affect people's physical and mental health.<sup>1</sup> Environmental psychology research has found a kind of “restorative environment” that can help people better recover from psychological fatigue and negative emotions caused by stress. Because of its great value in promoting the sustainable development of people and society, this kind of environment has become a research focus of related disciplines such as environmental psychology<sup>2</sup> and tourism management.<sup>3</sup> Thus far, the research on restorative environment has mainly focused on the natural environment and its natural components,<sup>4</sup> while there has been little research on the humanistic social environment. One view is that the humanistic social environment as a restorative environment is less effective than the natural environment.<sup>5</sup> If this is indeed generally true, how can we explain the cultural creation of various settling spirits in human society and the vigorous development of cultural tourism in the world? The concept of “restorative environment” was put forward by Kaplan et al based on the influences of outdoor life on psychology.<sup>6</sup> They applied this concept in subsequent studies to develop attention restoration theory (ART) and further confirmed the physical and mental restoration function of museums<sup>7</sup> and

monasteries.<sup>8</sup> Research on the restoration function of the existing humanistic social environment has mainly focused on the urban built environment to investigate the restorative characteristics of the environment, as well as the influences of personal and social factors such as age, personality, and culture on the restoration value.<sup>9</sup> On the whole, first of all, compared with the rich and colorful social life of human society, the current research is extremely scarce; second, current research has been limited to museums<sup>7</sup> and religious places,<sup>8,10</sup> cemeteries,<sup>11</sup> and other “soft fascination” environments. “Soft fascination” environment is one that do not entirely occupy the space in one’s head, although capturing attention effortlessly.<sup>12</sup> While the “hard fascination”<sup>13</sup> environment that can provide strong stimulation lacks research. “Hard fascination” environment is one that forcefully grab one’s attention and is difficult to resist. As a result, it tend to fill the mind, leaving little room for more peripheral mental activity or reflection.<sup>12</sup> Especially regarding festivals, which were originally created to meet people’s spiritual needs and psychological comfort, no research has been carried out. Finally, research on the restoration mechanism of humanistic social environment remains quite scarce, leaving much work to be done to fully reveal the logic and influence boundary of restoration. Due to the richness and heterogeneity of human society and culture, the restoration and restoration mechanisms of different humanistic social environments are often different. Empirical research based on various humanistic social environments will provide a necessary accumulation of data for the development of related theories.

This study aims to examine the restoration function of folk festival environment, establish an integrated model of the relationships among the environmental restorative characteristics of perception, liminal experience, timing, and restoration, broaden the boundary of the research on the restoration environment, deepen the understanding of the restoration mechanism of humanistic social environment, and provide a reference for decision-making in festival tourism destination management.

## Theory and Hypothesis

### Attention Restoration Theory and Hypothesis of Folk Festival Environment

#### Restoration

##### Attention Restoration Theory (ART)

According to attention restoration theory, in daily life, people must arouse directed attention to maintain efficiency and order. However, directed attention consumes significant energy and easily leads to mental fatigue, so it is necessary to supplement directed attention in a restorative environment. Attention restoration theory posits four characteristics of a restorative environment, namely being away, fascination, extent, and compatibility. Of these, being away means that the environment has the characteristics of being away from the daily life that leads to psychological fatigue; fascination means that the environment has characteristics that can arouse people’s interest without directed attention; extent refers to the rich and continuous characteristics of the content in the environment; and compatibility means that the environment can well match people’s needs and abilities. People in a restorative environment will be able to experience the four-stage gradual restoration process of “calming the mind-directed attention restoration-thinking about the present-reflecting on life”.<sup>14</sup> “Restoration” is the process and result of regaining the psychological, physiological, and social abilities that are lost in the process of adapting to the external environment.<sup>15</sup> Basu et al argue that, soft fascination can be characterized as the interaction of both attentional effort and mental bandwidth.<sup>12</sup> Dominique Moran explores the applicability and practicality of using Attention Restoration Theory (ART) to frame experience in a custodial context.<sup>16</sup> Recent research has extended Attention Restoration Theory to landscapes that are experienced while driving at high speeds, suggesting the speed of human’s active movement should be considered as an essential factor in this theory.<sup>17</sup>

##### Hypothesis of Folk Festival Environment Restoration

“Festival” is a cover term for festivals and related celebrations, including various traditional and modern festivals. Traditional festivals originate from the living environment and cultural customs of a place, usually with religious or historical and cultural origins.<sup>18</sup> Folk festivals are a kind of traditional festivals, large-scale public celebrations held periodically based on a local festival folk custom. Studies have shown that places with a sense of culture and history can promote restoration,<sup>11,19,20</sup> that restoration in the humanistic social environment is directly related to architecture and environmental design,<sup>21,22</sup> and that the folk festival environment is a kind of well-designed traditional cultural

environment. It is filled with objects symbolizing this holiday, including specific decorations, food, costumes, etc., often ornate and sumptuous, in addition to elaborate rituals, games or entertainment.

Traditional holidays are the core of folk festivals and are a special node time related to the existence and significance of life that is highlighted as distinct from ordinary days. The utilitarianism, morality, and other features of daily life are dispelled to a certain extent by ceremonies, carnivals, and games during festivals, placing festivals in a critical relationship with everyday life and allowing common people to obtain a life experience beyond daily rationality—a sense of festival.<sup>23</sup> It can be seen that folk festival environment has the restorative characteristic of “being away”. A study showed that the stronger the visual appeal of the environment, the greater the restoration potential.<sup>24</sup> The folk festival environment is a carefully decorated environment in which people are attracted by and unconsciously throw themselves into the wonderful programs and performances that can be seen everywhere, reflecting the “fascination” restorative characteristic of folk festival environment. Festivals usually have a relatively fixed period and theme, and a series of rich ceremonies and customs activities is carried out in an inherent rhythm, which reflects the composite characteristics of festivals<sup>25</sup> and the internal consistency of folk festival environment. Folk participate in festivals with an inherited code of conduct and jointly complete the practice of festivals,<sup>26</sup> which reflects the “compatibility” characteristic of folk festival environment. Studies have shown that “people” play a central role in “compatibility”,<sup>27</sup> and “the space that belongs to you” is more conducive to restoration.<sup>28</sup> As festivals are the shared experience of local communities, the folk festival environment often has a spatial scale covering the whole place, and the rich content and extensive space reflect the “extent” characteristic of folk festival environment.

Settling the body and mind is an important function of traditional festivals.<sup>29</sup> In summary, the folk festival environment has four restorative characteristics: being away, fascination, compatibility, and extent. This study hypothesizes that the festival audience can recover physically and mentally through participation. Namely:

H1: Perception of the restorative characteristics of folk festival environment has a positive predictive effect for physical and mental restoration.

H1a, b, c, and d: Perception of being away, fascination, compatibility, and extent of folk festival environment each have a positive predictive effect for physical and mental restoration.

## Rites of Passage Theory and the Intermediary Hypothesis of Liminal Experience

### Rites of Passage Theory

Gennep believes that an individual's life is a process of constantly going from one stage to another. Rites of passage not only show the process of transformation, but also promote it. Rites of passage can be divided into three stages: First, “rites of separation” means that the old identity, status, or ideological framework is abandoned; then comes “liminal stage” in which the individual who faces the change feels as if wandering between the two worlds physically and in the sense of magico-religieuses; finally, in “rites of incorporation”, individuals gain a new identity.<sup>30</sup> Liminal stage are the most important stage in rites of passage, namely “rites liminaires”. Turner further applied the rites liminaires theory to social and cultural life, developing “liminality” into a classic concept in the field of anthropology. Turner believed that the liminality period can be a persistent “sacred marginal” social state; in this state, the liminality groups are anti-structured. They no longer rely on differences in status, occupation, and other factors to communicate with each other, but have a high sense of belonging that Turner calls “communitas”. Liminality groups are creative and can create and recreate society and culture.<sup>31</sup>

### The Intermediary Hypothesis of Liminal Experience

A festival is a node time in a specific time system, which has the transitional nature of connecting the preceding with the following, and the core of festival experience is liminal experience.<sup>32</sup> According to Getz's festival liminal experience model, the festival experience takes place in a liminal area composed of transcendental time and specific space. The liminal area can make participants immerse themselves in it, forget trivial matters of life, obtain physical and mental relaxation and rest, and produce experiences of joy, harmony, and happiness.<sup>33</sup> At present, it is believed that visitors and staff in the festival environment can obtain a liminal experience or a quasi-liminal experience. The quasi-liminal

experience is a break from the everyday, recreational experience that is voluntary, optional, and does not involve personal crisis or status change, and emphasizes the individual's participation in leisure activities in society, with a special symbolic nature.<sup>34</sup> A liminal experience of tourists in festivals includes the collective carnival, the catharsis and release of daily troubles and pressures, the transcendence and even reversal of daily behavior norms, the self-renewal of roles, and the harmonious state of equal blending of interpersonal relationships.<sup>35</sup> The staff in the festival environment can also experience a fuzziness of work norms and disciplines, the pleasure of being briefly immersed in the festival atmosphere, and the quasi-liminal experience of being in a harmonious state with tourists.<sup>36</sup>

The festival environment builds liminality through festivals, ceremonies, and carnivals, criticizes the daily environment, and shows the restorative characteristics of being away, fascination, compatibility, and extent. Through the perception of the above-mentioned restorative characteristics, the audience of festivals can obtain liminal experience, and through liminal experience, they can compensate their daily life and recover their body and mind. This study expects that liminal experience mediates the psychological and physical restoration of the audience from the perception of restoration of folk festival environment. Namely:

H2: Liminal experience mediates the positive predictive effect of perception of restorative characteristics of folk festival environment on physical and mental restoration.

H2 a, b, c, and d: Liminal experience mediates the positive predictive effect of being away, fascination, compatibility, and extent perception of folk festival environment on physical and mental restoration.

## Social Time Theory and Timing Adjustment Hypothesis

Social time is a way of human existence that is based on measuring time and infused with people's practical activities as well as social and cultural factors. Social time is not entirely a "quantitative" concept, but more of a "qualitative" prescription.<sup>37</sup> From the perspective of epistemology, social time is a heterogeneous experience of heterogeneous unit time that is distinguished by time periods.<sup>38</sup>

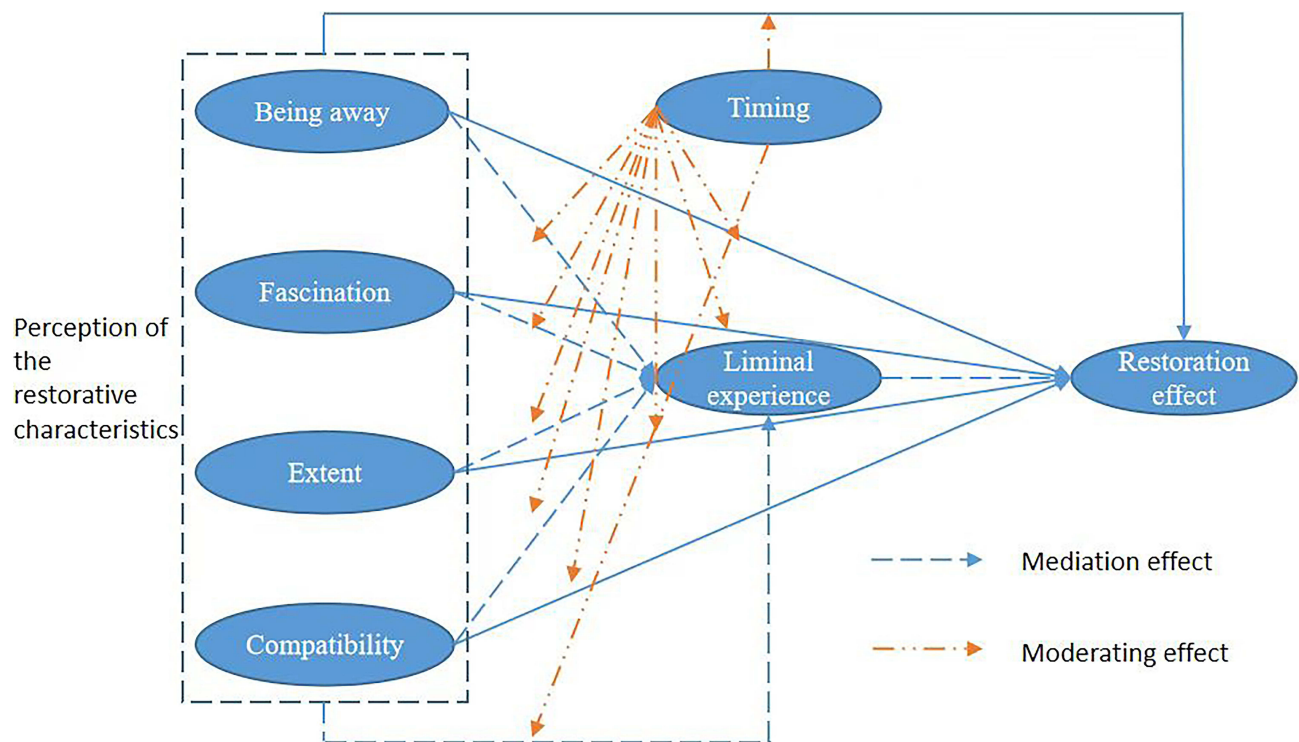
Existing research has confirmed that different timings cause significant differences in subjects' perception of restorative characteristics of the environment in the "fascination" dimension, and the scores of working days are lower than those of weekends or holidays. Research on the influences of social state on the perception of the restorative characteristics of the environment has also found that the subjects in any social state had a more positive perception of the restorative characteristics of the environment on weekends and holidays.<sup>39</sup> Also, regarding time of day in the urban environment, a night scene helped to restore the directed attention of the subjects and provided a good reflective function, but these functions did not hold during the day.<sup>40</sup> These studies reflect that people not only follow the natural time law of "start work at sunrise and rest at sunset" reflecting the existence of natural time, but also are moderated by institutionalized time as the subjects and objects of social time.

Holidays are the core of festivals, but festivals and holidays do not necessarily coincide in time. Under the joint construction of the modern time system and festival economy, the celebration or performance activities of folk festivals often exceed the starting and ending time of traditional festivals, and the liminality seems to be lengthened. This study expects that in such a longer festival time period, the interweaving of multiple time systems will afford the festival audience heterogeneous time experiences and will adjust the perception of the restorative characteristics of folk festival environment to produce liminal experience and obtain the restoration effect. Namely:

H3 Timing moderates the positive prediction process of liminal experience by the perception of restorative characteristics of folk festival environment.

H3a, b, c, and d: Timing moderates the positive prediction process of liminal experience by the perception of being away, fascination, compatibility, and extent of folk festival environment.

H4: Timing moderates the positive prediction process of the perception of restorative characteristics of folk festival environment for physical and mental restoration.



**Figure 1** Hypothesis model of restoration of folk festival environment.

H4a, b, c, and d: Timing moderates the positive prediction process of perception of being away, fascination, compatibility and extent of folk festival environment for physical and mental restoration.

In summary, a hypothetical model of the relationships among perception of restorative characteristics of folk festival environment, liminal experience, perception of restoration, and timing was established, as shown in [Figure 1](#).

## Research Design and Data Collection

Because this study aims to verify the restoration model of folk festival environment, tourists in the environment of Qinhuai Lantern Festival Event were selected as the target group. The Lantern Festival is one of the most important traditional festivals among Chinese folk, and the viewing of lanterns is its main festival custom. According to the tradition, people all over China will organize themselves to tie lanterns, set up lantern displays, and enjoy lanterns, gradually forming a lantern fair, and the Qinhuai Lantern Fair is a grand fair formed due to the lantern viewing custom of the people in the Qinhuai River valley in Nanjing, China, which are traditional Chinese folk festivals every year. It is a representative folk festival manifested by decorating lanterns, viewing and playing lanterns, and gatherings and carnivals.<sup>41</sup> As mentioned earlier, viewing lanterns is a custom of every folk. Except for some people who have professional skills to participate in the planning and organization of lantern fairs, lantern tying and exhibition, most people spend their traditional festivals in the form of viewing lanterns, playing with lanterns and guessing lantern riddles, etc. As a grand festival event, the Qinhuai Lantern Festival Event is filled with dazzling lanterns, interesting games, festive music and crowded and lively people, these attractions have a strong appeal, and it is often difficult for people in this environment to have space for quiet thinking, which is a typical hard fascination environment. In this study, a questionnaire survey was used to record the demographic information and lantern viewing behavior of tourists in Qinhuai Lantern Festival Event, and to measure their perception of restorative characteristics in the environment of Qinhuai Lantern Festival Event, their liminal experience, and their perception of mental and physical restoration.

## Variable Measurement

On the basis of a deep understanding of the attention restoration theory, this study used the Perceived Destination Restorative Quality Scale (PDRQS)<sup>42</sup> for reference to measure tourists' perception of the restorative characteristics of the

folk festival environment. In order to make the respondents better cooperate with the survey and improve the data quality, the author modified and refined the PDRQS scale adaptively, finally forming a perception scale of the restorative characteristics of folk festival environment. This scale measures “being away” from “physical being away” and “psychological being away”, and simplify the four questions in the “psychological being away” dimension of the PDRQS scale into three questions, measuring the perception of getting rid of daily life, daily work, and daily obligations, for a total of six questions. The five items of “fascination” in the PDRQS scale are refined into three items that measure the fascination perception of the overall environment, lanterns, and experience activities of the Lantern Festival Event. “Compatibility” is measured along two dimensions, namely “internal compatibility of the environment” and “compatibility of the environment with people”. “Internal compatibility of the environment”, ie, the consistency of the environment, is the subject of two questions. “Compatibility of the environment with people” is the subject of four questions along the four dimensions of information, motivation, code of conduct, and ability.<sup>14</sup> The nine questions regarding “compatibility” of the PDRQS scale are refined to six questions. The five questions regarding “extent” in the PDRQS scale are refined into three items measuring the perception of the scope of the environment and of the number and diversity of things in the environment. The issue of “disharmony”, shown by Chen et al to be inapplicable to Chinese tourists, is removed.<sup>43</sup> The questions were then adapted to reflect the actual situation of the environment of Qinhua Lantern Festival Event.

Based on the theory of rites of passage, the liminal experience scale is adapted according to the actual situation of Qinhua Lantern Festival Event by referring to Ma’s research.<sup>35</sup> Ma believes that the liminal experience of festival visitors is mainly manifested in: the collective carnival ritual; the release and venting of worries and stresses in daily life; the transcendence and reversal of daily behavioral norms; the self-renewal of roles and the entry into a state of equal, authentic and natural intermingling of visitor relationships during the event. The liminal experience scale includes four questions such as “The atmosphere of collective carnival in Qinhua Lantern Festival Event excites me”.

The restoration effect perception scale, based on Hartig’s research,<sup>15</sup> measures the restoration effect of folk festival environment along the three dimensions of physiology, psychology, and social interaction with six questions.

The scale is scored on a five-point Likert scale, with 1 = strongly disagree, 3 = uncertain, and 5 = strongly agree.

## Survey Implementation and Sample Situation

An investigation of 36 Qinhua Lantern Festival Events since 1986 shows that the modern Qinhua Lantern Festival Event can be divided into two stages, namely the “lantern fair period” and “lantern exhibition period”, in which the lantern fair period starts from the lighting ceremony to the 18th day of the first lunar month, and the period from the 19th of the first lunar month to the end of the lantern exhibition constitutes the lantern exhibition period. The duration of the modern Qinhua Lantern Festival Event has greatly exceeded the time range of “lights up on the 8th day and lights down on the 18th day of the first lunar month” in the traditional lantern fair, but the Lantern Festival is still the absolute climax of the modern Lantern Festival Event. This research survey spans three years, ie, from January 17 (the 23rd day of the twelfth lunar month) to May 31, 2020 (affected by the COVID-19 epidemic, the lantern fair was closed from January 24 (Chinese New Year’s Eve) and restarted on March 15), from February 4 (the 23rd day of the twelfth lunar month) to May 5, 2021, and from January 28 to February 18, 2022 (18th day of the first lunar month), held at the Lantern Festival Event sites in Qinhua District and Lishui District, Nanjing City. It covered the lantern fair period, Lantern Festival, and lantern exhibition period, and included some data before the epidemic, but mainly involved data for the post-epidemic period. In order to better understand the festival audience’s experience of perceived restoration from the environment, the author also collected 207 entries of relevant UGC as of February 28, 2022, from [www.ctrip.com](http://www.ctrip.com), [www.qunar.com](http://www.qunar.com), [mafengwo.cn](http://mafengwo.cn), and [www.meituan.com](http://www.meituan.com) as a supplement. [www.ctrip.com](http://www.ctrip.com), [www.qunar.com](http://www.qunar.com), [mafengwo.cn](http://mafengwo.cn) are online travel agency, and [www.meituan.com](http://www.meituan.com) is an online integrated life service provider, including hotels and lodging, leisure and entertainment, attractions and tickets, etc. These four websites are currently the top ranking websites in China in terms of number of users. The author used “Qinhua Lantern Festival” as the keyword and collected related comments from users, these data can reflect the real experience of visitors to the Qinhua Lantern Festival Event. These data were publicly published on the Internet by visitors to the Qinhua Lantern Festival Event under non-actual names, and the data were not collected for commercial use in this study.

The questionnaire was pilot-tested by convenient sampling. There were 50 responses, of which 43 were complete, giving a valid response rate of 86%, and the results of the pilot test were evaluated by using Cronbach's reliability and factor analysis. The reliability coefficient was first calculated for the items of each construct, and the standard lower bound for Cronbach's alpha set at 0.7,<sup>44</sup> with items that did not significantly contribute to the reliability being eliminated. A factor analysis was then performed to examine whether the items produced the anticipated number of factors and whether the individual items were loaded on their appropriate factors. All items had high loadings on their related factors and low cross-loadings on other factors, showing good convergent and discriminate validities.

Using a convenience sampling method, a total of 900 questionnaires were distributed and 763 valid questionnaires were collected, with an effective rate of 84.78%. See [Appendix](#) for details of the questionnaire. The salient demographic characteristics of the sample are as follows: females accounted for 52.72%, slightly higher than males; the two most stressed age groups (21–35 years and 36–50 years) accounted for 79.7%, and the samples were representative; the education level was mainly college or undergraduate, accounting for 71.53%; the occupation distribution was dominated by enterprise employees and students, accounting for 69.3% in total; and the monthly income of 50.24% of the respondents was between 3000–10,000 yuan. Regarding the decision of lantern viewing, 57.18% of the respondents chose to visit the Lantern Festival Event during the Lantern Festival and 51.24% chose to visit the Lantern Festival Event during the lantern fair period, which shows the influence of folk culture on the decision-making of people's viewing time. Lantern viewing as a traditional folk custom has a stable heritage, so 56.43% of the respondents were lantern viewers more than once.

## Empirical Analysis

### Reliability and Validity

First, Cronbach's  $\alpha$  coefficient was used to test the reliability of the scale. The results showed that the Cronbach's  $\alpha$  coefficients of being away, fascination, extent, compatibility, liminal experience, and restoration effect were 0.927, 0.802, 0.851, 0.912, 0.890 and 0.904, respectively, all above the conventional threshold of 0.7, indicating that the scale has high internal consistency, reliability, and stability.

Second, in order to further verify whether the model structure proposed in this study is consistent with the obtained data, confirmatory factor analysis of variables was carried out with AMOS 23.0. The goodness-of-fit indices of the model were  $\chi^2/df = 1.722$ , less than 3; RMSEA = 0.042, less than 0.08; CFI = 0.968, IFI = 0.968, NFI = 0.926, and GFI = 0.909, all greater than 0.9, indicative of a good fit of the model to the data. It can be seen from [Table 1](#) that the factor loads of six latent variables corresponding to each item were all above 0.5, indicating that the items were representative; the values of average variance extracted (AVE) of the six latent variables were all greater than 0.5, and the values of composite reliability (CR) were all greater than 0.7, indicating that the convergent validity of the six latent variables was ideal.

It can be seen from [Table 2](#) that there were significant correlations among the six latent variables ( $p < 0.01$ ). At the same time, the correlation coefficients between latent variables were all smaller than the square root of the AVE, indicating good discriminant validity among latent variables.

## Hypothesis Test

### Structural Model Inspection

Maximum likelihood estimation (ML) was used to estimate the parameters and test the hypotheses. The results for the fit of the model were:  $\chi^2/df = 1.722$ , which was less than 3, and the fitting was ideal; RMSEA = 0.042, less than 0.08, with ideal adaptation; GFI = 0.909, which was greater than 0.8, with ideal adaptation; IFI = 0.968, CFI = 0.968, NFI = 0.926, TLI = 0.963, all of which were greater than 0.9, and the adaptation was ideal. In summary, all the fit indices were in an acceptable range, indicating that the model fits the data well (see [Figure 2](#)). [Table 3](#) shows the estimated path coefficient of the hypothetical model and the hypothesis test results.

**Table 1** Convergence Validity

Variable	Item	Factor Loading	Average Variance Extracted	Composite Reliability
Being away	A111	0.816	0.691	0.930
	A112	0.773		
	A113	0.830		
	A121	0.829		
	A122	0.851		
	A123	0.883		
Fascination	B111	0.773	0.579	0.805
	B112	0.756		
	B113	0.754		
Extent	C111	0.773	0.660	0.853
	C112	0.866		
	C113	0.796		
Compatibility	D111	0.763	0.646	0.916
	D112	0.787		
	D121	0.862		
	D122	0.880		
	D123	0.827		
	D124	0.686		
Liminal experience	G111	0.831	0.674	0.892
	G112	0.787		
	G113	0.816		
	G114	0.849		
Restoration effect	H111	0.816	0.618	0.906
	H112	0.809		
	H121	0.756		
	H122	0.716		
	H131	0.824		
	H132	0.790		

### Mediating Effect Test

The bootstrap method was used to test the significance of mediation, the original data were randomly sampled 1000 times, and the 95% confidence intervals were calculated. The normalized effect values and confidence intervals are shown in Table 4.

As can be seen from Table 4, the mediating effect value of liminal experience in the positive prediction of restoration effect is 0.144 and the confidence interval does not contain 0, indicating that liminal experience has a mediating effect in the prediction of restoration effect. At the same time, the direct effect value is 0.156 and the confidence interval does not contain 0, which indicates the existence of a direct effect; thus, this mediating effect is partially mediated (Hypotheses H1a and H2a are supported). The mediating effect of liminal experience in the positive prediction of fascination for restoration effect is  $-0.041$  but the confidence interval contains 0, indicating no mediating effect of liminal experience in the positive prediction of fascination for restoration effect (Hypothesis H2b is rejected). The mediating effect value of liminal experience in the positive prediction of extent for restoration effect is 0.107 and the confidence interval does not contain 0, indicating that liminal experience has a mediating effect in the positive prediction of extent for restoration effect. At the same time, the direct effect value is 0.040 but the confidence interval contains 0, indicating the absence of a direct effect; thus, it has a complete mediating effect (Hypothesis H1d is rejected, and Hypothesis H2d is supported). The mediating effect value of liminal experience in the positive prediction of compatibility for restoration effect is 0.053 and the confidence interval does not contain 0, which indicates that liminal experience has a mediating effect in the



**Table 2** Discriminant Validity

	Being Away	Fascination	Extent	Compatibility	Liminal Experience	Restoration Effect
Being away	0.831					
Fascination	0.534**	0.761				
Extent	0.487**	0.369**	0.812			
Compatibility	0.511**	0.339**	0.394**	0.804		
Liminal experience	0.492**	0.229**	0.447**	0.379**	0.821	
Restoration effect	0.585**	0.452**	0.451**	0.522**	0.627**	0.786

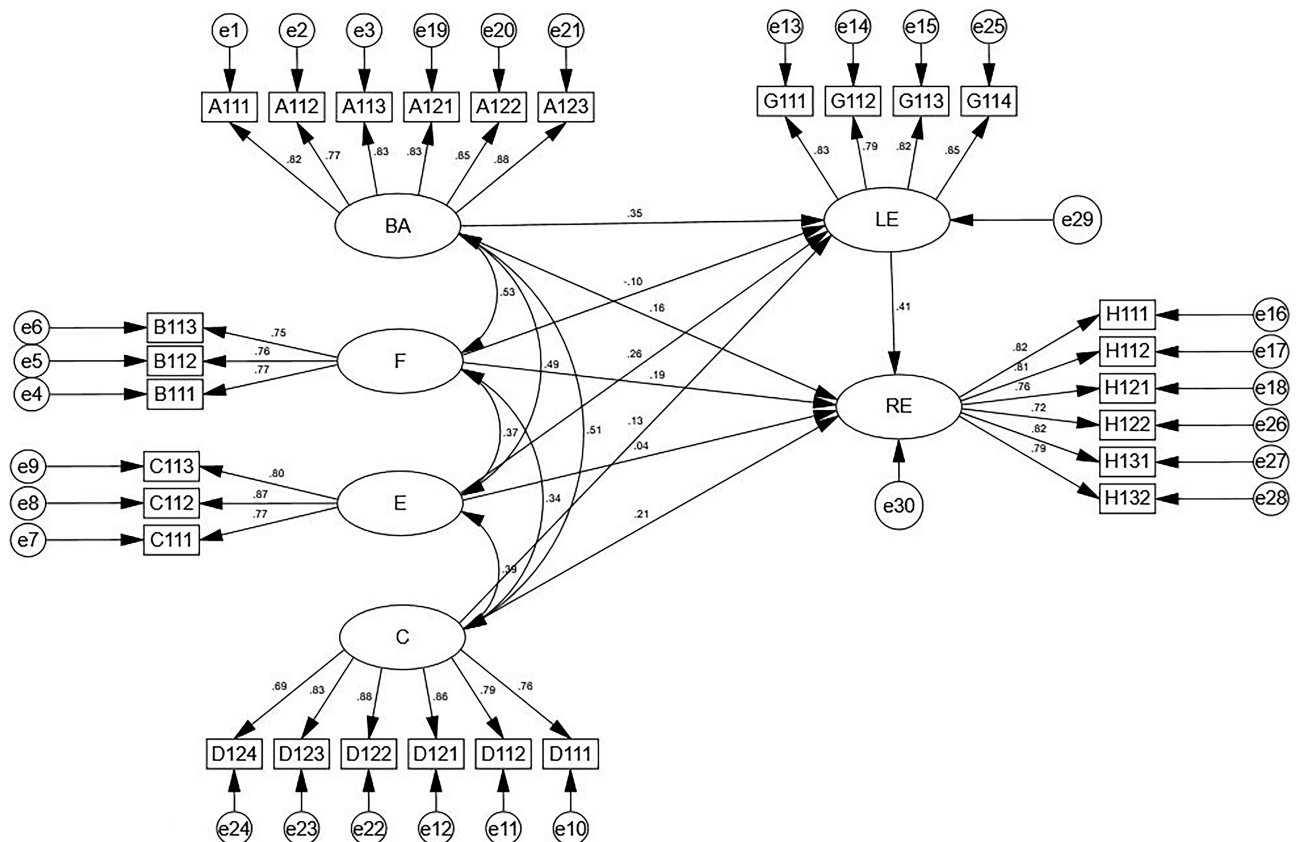
Notes: \*\*Represents  $p < 0.01$ , and the diagonal gives the square root of AVE.

positive prediction of compatibility for restoration effect. Meanwhile, the direct effect value is 0.207 and the confidence interval does not contain 0, indicating that a partial mediating effect exists (Hypotheses H1c and H2c are supported).

**Test of Moderating Effects**

In this study, multiple groups of analysis were used to test whether the visiting time had a moderating effect. By limiting various parameters, being away → restoration effect path was set to a, fascination → restoration effect path was set to b, extent → restoration effect path was set to c, compatibility → restoration effect path was set to d, being away → liminal experience path was set to e, fascination → liminal experience path was set to f, extent → liminal experience path was set to g, compatibility → liminal experience path was set to h, and the best adaptive path model was determined.

By comparing the unrestricted model with the models with additional parameter restrictions, this study selected the most restrictive Model 3 for the adjustment test. Its model fit indices were as follows:  $\chi^2 = 1552.619$ ,  $\chi^2/df = 1.455$ , RMSEA = 0.034, CFI = 0.936, IFI = 0.937, TLI = 0.932, and the model goodness of fit was relatively good.



**Figure 2** Path map of the restoration model for folk festival environment. **Abbreviations:** BA, Being away; F, Fascination; E, Extent; C, Compatibility; LE, Liminal experience; RE, Restoration effect.

**Table 3** Path Test

Path Relation	Standardized Estimate	t	p	Test Result
Being away → Liminal experience	0.352	5.068	***	Support
Fascination → Liminal experience	-0.100	-1.569	0.117	Refuse
Extent → Liminal experience	0.262	4.295	***	Support
Compatibility → Liminal experience	0.130	2.254	0.024	Support
Liminal experience → Restoration effect	0.410	7.623	***	Support
Being away → Restoration effect	0.156	2.612	0.009	Support
Fascination → Restoration effect	0.190	3.478	***	Support
Extent → Restoration effect	0.040	0.765	0.444	Refuse
Compatibility → Restoration effect	0.207	4.182	***	Support

Note: \*\*\*Represents  $p < 0.001$ .

**Table 4** Bootstrap Test Results of Mediating Effect

Path Relation	Effect Type	Estimate	Bias-Corrected 95% CI	
			Lower	Upper
Being away → Liminal experience → Restoration effect	Direct effect	0.156	0.040	0.319
	Indirect effect	0.144	0.075	0.239
Fascination → Liminal experience → Restoration effect	Direct effect	0.190	0.050	0.315
	Indirect effect	-0.041	-0.111	0.011
Extent → Liminal experience → Restoration effect	Direct effect	0.040	-0.103	0.192
	Indirect effect	0.107	0.051	0.181
Compatibility → Liminal experience → Restoration effect	Direct effect	0.207	0.082	0.332
	Indirect effect	0.053	0.002	0.123

**Table 5** Model Fitting Index

Model	Limiting Condition	$\chi^2$	df	$\chi^2/df$	RMSEA	CFI	IFI	TLI
Ideal value	-	-	-	< 3	< 0.08	> 0.9	> 0.9	> 0.9
Unlimited model	Same structure and form	1467.083	1005	1.460	0.034	0.939	0.94	0.932
Model 2	Same structure and form, and equal measurement coefficients	1504.877	1049	1.435	0.033	0.940	0.941	0.935
Model 3	Same structure and form, equal measurement coefficients, and equal structural coefficient	1552.619	1067	1.455	0.034	0.936	0.937	0.932

By observing the fit indices in Table 5, it can be found that the results of many indexes were different between the unrestricted model and Model 3. Calculation yields  $\Delta df = 62$  and  $\Delta \chi^2 = 85.536$  were obtained, and the  $\chi^2$  distribution table shows that  $p < 0.05$ , indicating that there was a significant difference in the influence of visiting time on each path, ie, there was a moderating effect.

The critical ratios for differences were conducted to compare whether the coefficients of each path had differences under different visiting times. The results are shown in Table 6 and Table 7. It can be seen that in the path of being away → liminal experience, the coefficient of the lantern fair period (0.081) was smaller than that of the Lantern Festival (0.438), and the  $t$ -value of the difference between them (2.376) was larger than 1.96, which indicated that there was a significant difference. In the path of being away → liminal experience, the coefficient of the Lantern fair period (0.081) was smaller than that of the lantern exhibition period (0.636), and the  $t$ -value of the difference between them (3.118) was larger than 1.96, which indicated that there was a significant difference. However, in the path of being away → liminal

**Table 6** Results of Hypothesis Test of Moderating Effect

Path Relation	Lantern Fair Period		Lantern Festival		Lantern Exhibition Period	
	Effect	t-value	Effect	t-value	Effect	t-value
Being away → Restoration effect	0.151	1.565	0.186	2.047*	0.283	2.799***
Fascination → Restoration effect	-0.194	-1.900	0.172	2.033*	0.069	0.688
Extent → Restoration effect	0.227	2.450*	0.312	3.238**	0.095	1.334
Compatibility → Restoration effect	0.478	5.055***	0.269	2.850**	0.276	3.054**
Being away → Liminal experience	0.081	0.666	0.438	3.878***	0.636	3.803***
Fascination → Liminal experience	-0.115	-0.999	-0.118	-1.178	-0.123	-0.966
Extent → Liminal experience	0.148	1.221	0.321	3.538***	0.176	1.330
Compatibility → Liminal experience	0.225	2.067*	0.063	0.630	0.063	0.669

Notes: \*\*\*Represents  $p < 0.001$ , \*\*Represents  $p < 0.01$ , and \*Represents  $p < 0.05$ .

**Table 7** Moderating Effect Test Results

	t-value		t-value		t-value
a1, a2	-0.639	a1, a3	1.197	a2, a3	0.705
b1, b2	0.540	b1, b3	1.260	b2, b3	-0.839
c1, c2	2.782**	c1, c3	1.759	c2, c3	-1.725
d1, d2	1.256	d1, d3	-0.630	d2, d3	1.561
e1, e2	2.376*	e1, e3	3.118***	e2, e3	-0.080
f1, f2	-0.152	f1, f3	-0.208	f2, f3	-0.877
g1, g2	1.465	g1, g3	0.334	g2, g3	0.051
h1, h2	-0.819	h1, h3	-0.737	h2, h3	0.705

Notes: 1 represents the lantern fair period, 2 represents the Lantern Festival, and 3 represents the lantern exhibition period; \*\*\*Represents  $p < 0.001$ , \*\*Represents  $p < 0.01$ , and \*Represents  $p < 0.05$ .

experience, there was no significant difference between the Lantern Festival and the lantern exhibition period ( $t = -0.080$ , less than 1.96). In the path of extent → restoration effect, the coefficient of the lantern fair period (0.227) was smaller than that of Lantern Festival (0.312), and the  $t$ -value of the difference between them (2.782) was larger than 1.96, which indicated that there was a significant difference. However, there was no significant difference in the path of extent → restoration effect between the lantern fair period and Lantern Festival ( $t = 1.759$ , less than 1.96), or between the Lantern Festival and lantern exhibition period ( $t = -1.725$ , less than 1.96). In addition, the values of  $t$  for other paths were all less than 1.96, indicating that there was no significant difference. The test of moderating effect supported H3a and H4d, while the other hypotheses related to moderating effects were rejected.

## Result Analysis and Discussion

Visitor experience was different during the lantern fair period, the Lantern Festival, and the lantern exhibition period. Overall, the strongest liminal experience and restoration effects were observed during the Lantern Festival, where the environment's being away (0.186\*), fascination (0.172\*), extent (0.312\*\*), and compatibility (0.269\*\*) all had significant restoration effects on visitors, with being away (0.438\*\*\*) and extent (0.321\*\*\*) also had a significant effect on the liminal experience. During the lantern fair period, extent (0.227\*) and compatibility (0.478\*\*\*) of the environment had significant restorative effects on visitors, where compatibility also had a significant effect on the liminal experience (0.225\*). During the lantern exhibition period, being away (0.283\*\*\*) and compatibility (0.276\*\*) had a significant effect on the restoration effect for visitors, where being away also had a significant effect on the liminal experience (0.636\*\*\*), with a much larger effect value than during the lantern fair period (0.081) and the Lantern Festival (0.438\*\*\*). In comparison, the overall liminal experience and restoration effects were slightly larger for the lantern

exhibition period than for the lantern fair period, reflecting that visiting a lantern exhibition in the context of daily work and life has greater value for visitors.

## Influences of Perception of Being Away and Compatibility in the Folk Festival Environment on the Restoration Effect

The analysis showed that being away and compatibility could not only positively predict restoration directly (Hypotheses H1a and H1c were proven), but also positively predict restoration through the mediation of liminal experience (Hypotheses H2a and H2c were proven). First of all, the being away measured in this study included two dimensions, physical being away and psychological being away, where physical being away reflects the external perception characteristics of the environment and psychological being away emphasizes the internal perception generated by the interactions between the subject and the environment.<sup>45</sup> The compatibility measured in this study also included two dimensions, in which the internal compatibility of the environment reflected the consistency of the environment, while the compatibility of the environment with people reflected the extent of interaction between people and the environment, and the consistent environment was more likely to attract people's participation.<sup>46</sup> Therefore, there was a mutually complementary symbiotic relationship between being away and compatibility, echoing the same mechanism of its positive prediction for restoration. Second, this result supported the promotion effect of being away and compatibility on restoration in folk festival environment, which showed that folk festival environment provided a feeling of withdrawal that was different from everyday life, as well as a distinctive and unified theme, and that people's dominant position as the creator and enjoyer of the festival had exerted a positive restoration effect on the festival audience. Finally, this result supported the experience model of events (including festivals) constructed by Getz, which regards this temporary experience of forgetting time and space as well as breaking the routine as a liminal experience, and confirmed that the audience of the festival immersed themselves in the festival environment and experienced relaxation and thus restoration.<sup>47</sup>

## Influences of Perception of Fascination in Folk Festival Environment on Restoration Effect

The results of the analysis showed that fascination could directly and positively predict restoration (Hypothesis H1b was supported), and there was no mediating effect of liminal experience (Hypothesis H2b was rejected). The festival environment is a kind of specially planned and carefully built environment, especially the Qinhuai Lantern Festival Event, whose main objects, Qinhuai Lantern, is known as "the best in the world". The whole Lantern Festival Event environment is dazzling and brilliant; it can effortlessly attract people's attention and thereby promote the restoration of directed attention. However, the perception of fascination in Qinhuai Lantern Festival Event had no significant impact on liminal experience and the effect was negative, which reflected that the brilliant lights could not only cause people's liminal experience, but even bring people back to reality. What is the reason for this? According to the author's investigation, since 1985, Qinhuai Lantern Festival Event has set up corresponding themes on the development of the country and society every year. For example, the theme of the 34th Qinhuai Lantern Festival Event in 2020 was "lighting Jinling and achieving a well-off society", and the theme of the 32nd Qinhuai Lantern Festival Event in 2018 was "lighting ancient Jinling and forging ahead in a new era". These themes have a strong sense of reality and are embodied in the design of lights. For example, in the main Lanterns of the 32nd Qinhuai Lantern Festival Event in 2018, high-speed rail, C919 aircraft, and other symbols reflecting the current real life and major national technological progress appeared. In addition, the production of modern lanterns also incorporated more advanced scientific and technological elements on the traditional basis. UGC show that most netizens admire the spirit of the times as well as the sense of science and technology embodied in modern lights, which they associate with the prosperity of the motherland and the progress of society. For example:

Jianye District launched the Youth Olympic Art Lantern Exhibition at the same time, and the brand-new modern lantern exhibition showed the modernity of the new city and was full of youthful flavor. The Qinhuai Lantern Festival Event at Confucius Temple, the Lantern Festival Event at Qinhuai River Source, and the Youth Olympic Art Lantern Exhibition

presented a great gift to people in Nanjing around the theme of celebrating the 70th anniversary of the motherland and creating a famous city. (Meituan user sampletea January 29, 2019)

The author speculates that it is precisely because of this atmosphere of the times that the audience of Qinhuai Lantern Festival Event was taken away from liminality. Therefore, although fascinating lanterns could effectively promote restoration, they could not make people experience liminality.

## Influences of Perception of Extent in Folk Festival Environment on Restoration Effect

The results showed that liminal experience completely mediated the positive predictive effect of perception of extent for restoration (Hypothesis H1d was rejected, Hypothesis H2d was supported). The perception of extent characteristic of the environment of Qinhuai Lantern Festival Event failed to predict restoration directly and positively, which is inconsistent with previous research results on social and cultural environments such as museums,<sup>7</sup> monasteries,<sup>8</sup> and cemeteries.<sup>11</sup> Therefore, the author used UGC to explore the reasons, and found that many netizens reported fatigue and a sense of loss when participate in the Lantern Festival Event. For example:

Tickets booked on Ctrip were easy to pick up at the scene. The lantern exhibition was wonderful. All kinds of lanterns were more colorful than before, and they were arranged along the lake, which pleased people's eyes. Disadvantages: at night, there were few signs in the park, which made people feel a little disoriented inside, and several exits were difficult to identify; second, tickets were more expensive, which might be due to bundle with the performance. (Ctrip user listanding March 18, 2019)

I went to the main venue on Sunday night. I thought there would be a lot of people at the main venue, but there were very few people actually. Besides, I was road-blind and had no sense of direction. When I was tired, I had a lot of trouble trying to find the exit. Finally, I saw people and asked for directions quickly. Fortunately, I reversed my wrong direction in time. Anyway, the lantern exhibition was very beautiful. When I was a child, there was a lantern exhibition only during the Chinese New Year. There were very festive themes. The lantern exhibition here had cultural connotations, and combined with the natural landscape, it felt novel and beautiful. (Qunar user Sa \* Long, 2019-05-10)

The comments of tourists reflected their satisfaction with the richness and fascination of the Lantern Festival Event environment, but the large scope of the venue, the tortuous design of the lantern viewing route, and the long walking and long time spent viewing lanterns resulted in physical fatigue. Furthermore, because the on-site indication system of the lantern exhibition was not perfect and the sight at night was not good, tourists became lost and even anxious, which ultimately affected the restoration effect. This finding supports Scopelliti et al,<sup>5</sup> suggesting that "hard fascination" environments with large spatial scale, strong stimulation, and strong participation, such as festivals, and "soft fascination" environments such as museums, monasteries, and cemeteries, have the opposite influences on restoration in the extent dimension.

However, the analysis results proved that extent could promote restoration through the mediation of liminal experience, and the author speculates that this might be the result of temporarily overcoming or neglecting physical fatigue caused by tourists' immersion in a pleasant liminal experience.

## Timeliness of Restoration of the Folk Festival Environment

The results of the moderating effect test showed that the visit time adjusted the positive predictive effect of being away for liminal experience (Hypothesis H3a was supported). Specifically, there was a significant difference between the lantern fair period and the Lantern Festival, and between the lantern exhibition period and the lantern fair period, but there was no significant difference between the Lantern Festival and the lantern exhibition period. The effect value of the lantern exhibition period (0.636) was greater than those of the Lantern Festival (0.438) and lantern fair period (0.081).

The lantern fair period of modern Qinhuai Lantern Festival Event usually starts on the 23rd day of the 12th lunar month and ends on the 18th day of the 1st lunar month, while the statutory holiday of the Spring Festival is from Chinese New Year's Eve or the 1st day to the 6th or 7th day of the 1st lunar month. When the lighting ceremony is held, people are busy summing up the work of the year and making various preparations for the upcoming Spring Festival, so it is difficult to experience the splendid lantern fair. When the Spring Festival holidays come, because the whole social life is in the larger liminality of the Spring Festival, the feeling of withdrawal brought by the environment of Qinhuai Lantern fair is not so

prominent; in the second half of the lantern fair, people who have just been restored and encouraged from the Spring Festival holiday are full of hope to devote themselves to the struggle of the new year, which also makes people reluctant to linger over the lantern fair, thus weakening tourists' perception of being away and liminal experience of the lantern fair environment. Therefore, we can see that in the lantern fair period, the influences of being away on liminal experience and restoration were not significant. The Lantern Festival is one of the most important traditional festivals in China, and the lantern fair is the most important festival custom of this festival. However, in China's modern time system, the Lantern Festival is not a statutory holiday. Therefore, on the night of the Lantern Festival, when people finish their day's work and walk into the festive environment of Qinhuai Lantern Festival Event, they will have a strong feeling of withdrawal and are well restored. However, because the Lantern Festival is close to the Spring Festival, the liminal experience may also be affected by "sensory adaptation",<sup>48</sup> and the sensitivity will decrease. Lantern exhibition period is the period when being away has the strongest effect on liminal experience. At this time, the statutory holiday of the Spring Festival has already ended, the traditional Spring Festival also has ended with the end of the Lantern Festival, and people have really returned to their daily lives. At this time, the light show environment has really become an unusual environment, which brings the people in it a sense of physical and psychological being away, thus forming a strong liminal experience and bringing effective restoration. The moderating effect of visiting time on being away → liminality experience fully reflects the special folk festival experience of modern common people under the dual time system of tradition and modernity.

The results of the moderating effect test also showed that visiting time moderated the positive predictive effect of extent for restoration (Hypothesis H4d was supported). On the whole, the perception of extent in the environment of Qinhuai Lantern Festival Event had no significant predictive effect for restoration, but in the lantern fair period and on the Lantern Festival, extent had a significant positive predictive effect for restoration, and the difference was significant. The effect value showed that the restoration effect of rich activities and global exhibition was better during the Lantern Festival (0.312) than in the lantern fair period (0.227).

In addition, the other paths whereby the environment of Qinhuai Lantern Festival Event might have an effect on restoration were not affected by the visiting time, which reflected the relatively stable restoration quality of the Lantern Festival Event environment.

## Limitations of This Study and Prospects

First of all, the research data concerned the feelings of the interviewees participating in folk festivals, and there may be deviations. To further improve the accuracy of the research, on the one hand, some interviewees can be selected to conduct follow-up surveys to explore the evolution of restorative experience. On the other hand, the measurement of EEG, EMG, blood volume, pulse, and other related physiological indicators can be used as an auxiliary means to record the restoration experience of interviewees more accurately. Second, as the first empirical study on the restoration of folk festival environment, the adaptability of its conclusions needs to be tested by more research and practice. Third, In terms of breadth, this study only considers the influences of liminal experience and timing on the restoration of folk festival environment. Based on the complexity of the formation of human experience, more variables can be introduced in the future to explain the restoration mechanism of folk festival environment more comprehensively. In depth, the discussion of existing variables should be deepened, for example, the role of internal dimensions of constructs such as being away, extent, and compatibility in the restoration mechanisms of the environment should be examined, to help environmental designers work more effectively.

## Conclusions and Suggestions

### Research Conclusions

In this study, the attention restoration theory, rites of passage theory, and social time theory were combined to construct the restoration model of the folk festival environment with liminal experience as the intermediary, and the moderating effect of timing on liminal experience and restoration effect was considered. Through the empirical test of the tourists of Qinhuai Lantern Festival Event, the following conclusions are drawn:

First of all, the folk festival environment is restorative, and its factors of being away, fascination, compatibility, and extent can directly or indirectly promote restoration;

Second, the folk festival environment plays a role in restoring the internal mechanism of “environmental restoration feature perception → liminal experience → restoration”. Of these, fascination can directly promote restoration, extent can indirectly promote restoration through liminal experience, and being away and compatibility can not only directly promote restoration, but also indirectly promote restoration through liminal experience; and finally, the restoration of the folk festival environment is moderated by social time within a certain range.

This study shows that the folk event environment has a good restoration function and reveals its restoration mechanism, that provides an explanation from environmental psychology for the creation of human festival culture and the development of cultural tourism.

## Theoretical Contributions

First of all, this study expands the horizon of restorative environment research from a quiet, natural, or humanistic social environment to a lively and gorgeous secular festival environment for the first time, which verifies the restoration of Qinhuai Lantern Festival Event environment and provides empirical evidence for the development of relevant theories of environmental psychology.

Second, anthropological studies have recognized that festivals have the social functions of relieving stress and regulating body and mind, but no quantitative method has been used to explain how festivals bring about restoration. This study has constructed a model for the restoration of the folk festival environment and clarified the specific path through which the folk festival environment acts on restoration, which can be used as an effective supplement to anthropological research on holidays.

Finally, this study examines the time boundary of festivals as a social and cultural time system, reveals the complexity of the social life experience of social and cultural groups in the interweaving of multiple time systems, and accumulates empirical evidence for time research in the field of sociology.

## Management Enlightenment

This study will provide reference for decision-making in the environmental management and marketing planning of tourism destinations and organizers of folk festivals. It was found that, as a special node time in social and cultural life, the folk festival environment is inherently distinctive, fascinating, rich in content, and strong in participation, which can make the festival audience recover physically and mentally. On the basis of maintaining and developing the above advantages, tourism destinations and organizers of folk festivals can focus on the following three aspects to further enhance the tourism competitiveness of the folk festival environment.

First of all, the empirical study shows that extent characteristics of the Qinhuai Lantern Festival Event environment are not significant direct predictors of restoration, combined with UGC we believe we should pay attention to the important role of the indication system in shaping spatial order, and further improve the indication system in the festival environment. On the one hand, a clearly identifiable environment can give people a sense of security; on the other hand, it can help people better perceive the environment and increase the depth and breadth of their inner experience,<sup>49</sup> enhance the effect of environmental restoration, and increase the competitiveness of festival tourism destinations.

Second, the empirical study shows that the fascination features of the Qinhuai Lantern Festival Event environment directly and significantly predicted restoration without the mediation of liminal experiences, showing the hard fascination environmental features of the Qinhuai Lantern Festival Event environment that powerfully capture human attention and reflecting the deficiencies of the hard fascination environment to promote reflective functioning. Therefore, we believe that measures should be taken to further improve the rest and leisure facilities in the festival environment and enhance the reception capacity of the facilities. On the one hand, these kinds of facilities can help to alleviate the physiological fatigue caused by the large environment and the excessive excitement and activity of tourists. On the other hand, to a certain extent, it also provides a space for tourists to reflect in the lively festival environment, which can make up for the deficiency of a “hard fascination” environment to promote reflection,<sup>50</sup> and better play the role of restoring the festival environment. At the same time, it also helps to increase the time tourists stay and increase tourism income.

Finally, most of the data used in this study were from the audience of folk festivals in the context of COVID-19 epidemic, and research on the moderating effect of the time of viewing lanterns also offers important enlightenment for current and future festival tourism management in the post-epidemic period. The results suggest that the event period should be extended from festivals to regular days as much as possible, and attention should be paid to creating a festival-like environment that can be enjoyed at any time during regular days. This can not only effectively alleviate the mass gathering of traditional festival crowds and reduce public health risks, but also help people to reduce daily stress and improve public health.

## Data Sharing Statement

The data used to support the findings of this study are available from the corresponding author upon request.

## Ethics Approval and Informed Consent

These studies involving human participants have been approved by the ethics committee at Jinling Institute of Technology, China. These studies were conducted in accordance with the Declaration of Helsinki. Informed consent was obtained from all individual participants in this study.

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## Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

## Disclosure

The authors declare that they have no competing interests.

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