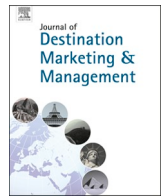




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Research paper

Understanding aesthetic experiences in nature-based tourism: The important role of tourists' literary associations

Qingfang Zhang^a, Honggang Xu^{a,b,*}^a School of Tourism Management, Sun Yat-sen University, 135 Xingangxi Road, Guangzhou, Gudong, 510275, PR China^b Key Laboratory of the Sustainable Development of Xinjiang's Historical and Cultural Tourism, Urumqi, Xinjiang, 830046, PR China

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ABSTRACT

In nature-based tourism, the aesthetic experience is the core element, and contributes to tourist loyalty, but there is still a surprising paucity of empirical research specifically related to aesthetic experiences. An 'aesthetic experience' is used in this paper to refer to a subjective process in which individuals are sensually stimulated by aesthetic qualities, thereby generating cognitive judgements and aesthetic-related emotions. Stimuli-Organism-Response (S-O-R) theory is adopted in this research in order to understand 'aesthetic experience' and its impact on tourist loyalty. However, an aesthetic quality perceived with the senses produces only physical stimulation but not necessarily an aesthetic experience. Whether sensory stimulation can produce an experience actually depends on a tourist's literary knowledge of a 'natural' site. Therefore, this study attempts to integrate literary association in natural aesthetic experiences and to investigate its effect on tourist loyalty. The quantitative results show that aesthetic quality can influence aesthetic emotion through aesthetic judgement, and that literary association can significantly and positively moderate such an effect. Further, aesthetic quality directly and indirectly affects loyalty, and aesthetic judgement and emotion play a mediating role moderated by literary association regarding the effect of aesthetic quality on tourist loyalty.

1. Introduction

The term 'aesthetics' was first used by Baumgarten in the early 18th century to denote 'the science of the sensory', that is, the cognition we obtain from processing our senses (Breiby, 2018; Dickie, 1997). Aesthetics is the area of philosophy in which we appreciate things when they affect our senses, especially when they affect us in a pleasing way (Carlson, 2005). However, the nature of aesthetics and aesthetic experience can now be seen as an aspect of psychology, sociology, anthropology, and other disciplines (Charters, 2006). Because of the dispute about the nature of aesthetic process in various disciplines, it is difficult to reach an agreement on the meaning of aesthetics (Charters, 2006). This study does not focus on the discrimination of concepts, which would be a complex topic. Instead, the simple definition of Blackburn (2005) that aesthetics is the study of the feelings and judgements arising from our appreciation of the objects considered beautiful and sublime will be used.

The aesthetic experience is an essential element of tourism (Hosany & Witham, 2009), and, in fact, tourism and aesthetics are closely connected historically and philosophically (Tribe, 2009). However, although studies have recognized the important value of aesthetics (Dans

& González, 2019; Yi, Xia, & Wei, 2008) or aesthetic experiences (Kirillova, Fu, Lehto, & Cai, 2014; Oh, Fiore, & Jeoung, 2007) in the tourism context, scholars have surprisingly yet to systematically investigate the aesthetic experience in tourism. Indeed, the existing literature tends to regard it as a dimension (Wang, Chen, Fan, & Lu, 2012) of consumer experience (entertainment, education, aesthetics and escape) (Pine & Gilmore, 1998), focusing on the role of aesthetic experience in the area of service marketing (Antón, Camarero, & Garrido, 2018; Strannegård & Strannegård, 2012). Furthermore, much of the attention has been targeted on qualitative research, with a lack of quantitative evidence. It is therefore recommended that more research on the tourism aesthetic experience should be undertaken (Tribe, 2009) from a quantitative perspective.

Nature-based tourism, due to its unique experiences, has been increasing worldwide (Moore, Rodger, & Taplin, 2015) as more and more people live in cities, cut off from the natural world (Macnaghten & Urry, 1998). As a form of tourism connecting human beings with nature (Hill, Curtin, & Gough, 2014), nature-based tourism deserves more attention, as nature provides rich possibilities for aesthetic experience (Hall, 2015). In nature-based tourism, aesthetic value is an important factor (Yi et al., 2008); however, natural aesthetic experiences were not paid

* Corresponding author. School of Tourism Management, Sun Yat-sen University, 135 Xingangxi Road, Guangzhou, Gudong, 510275, PR China.

E-mail addresses: zhangqf7@mail2.sysu.edu.cn (Q. Zhang), xuhongg@mail.sysu.edu.cn (H. Xu).

much attention until the 18th century, and despite the great development of people's appreciation of nature in the 19th and 20th centuries, the study of aesthetics still almost invariably ignored nature and focused on the artistic aesthetic experience (Carlson, 2005). Considering the differences between natural and artistic aesthetic experiences, it can therefore be suggested that the aesthetic experience in nature-based tourism is further explored (Tribe, 2009).

According to Leder, Belke, Oeberst, and Augustin (2004), the aesthetic experience is regarded as a subjective process in which individuals are sensually stimulated by an aesthetic quality in order to generate cognitive judgements and aesthetic emotions. This means that sensory stimulation is the first step in a natural aesthetic experience (Brady, 1998), and such sensory stimulation involves rational physical perceptions through one's different senses, including seeing, hearing, smelling, tasting, and touching (Hall, 2015). However, aesthetic perception, as a conceptualization or description of aesthetic quality, is a combination of the rational and the perceptual. An aesthetic quality perceived with the senses produces only physical stimulation, but not necessarily an aesthetic experience, and whether sensory stimulation can produce aesthetic judgements and emotions actually depends on tourists' subjective perceptual processing of the aesthetic quality of a natural landscape (Hall, 2015). This perceptual processing is based on the different value systems (Kirillova et al., 2014), aesthetic ideas, and preferences (Yi et al., 2008) of the individuals themselves, and is clearly influenced by culture (Bourassa, 1988). This means that aesthetic perception is also culturally constructed, not just physically and sensually stimulated.

Although tourists can sense beauty, ugliness, or other aesthetic qualities in nature without knowing much about the process, culture plays a key role in an aesthetic experience. Tourists' cognition and emotions toward a natural landscape involve their references and interpretations of non-aesthetic knowledge such as culture (Hall, 2015). However, among many kinds of cultural knowledge, Brady (1998) proposed that people's perceptions of nature are often guided by their acquisition of literary knowledge through such things as literature, folklore, paintings, and poetry. Literary knowledge works like a kind of re-education instrument, sublimating the aesthetic value of nature and enriching the aesthetic understanding of the viewers (Xu, Cui, Ballantyne, & Packer, 2013). Therefore, this study particularly emphasizes literary knowledge in natural aesthetics.

Aesthetic imagination is an important mechanism for literary knowledge to play its role, and literary association is an important factor in the context of nature-based tourism aesthetics (Heyd, 2001). The literary knowledge of nature can help us to develop an aesthetic understanding of natural beauty (Fudge, 2001) and even to create a special aesthetic experience pertaining to the meaning of nature itself and individuals' connections with it (Hall, 2015). Additionally, for nature-based tourism destinations, tourist loyalty is an important issue, and tourism-related aesthetic experiences may significantly contribute to loyalty (Kirillova & Lehto, 2015).

The research objectives of this paper are therefore as follows: (1) to demonstrate the specific process of aesthetic experience as stimulated by aesthetic qualities through sensory processing; (2) to further investigate how those elements in the natural aesthetic process can be conducive to tourist loyalty; and (3) to integrate literary association into general aesthetic experiences and emphasize the moderation role of literary association in this process. Based on Stimuli-Organism-Response (S-O-R) theory (Mehrabian & Russell, 1974), this study uses quantitative research method to explore these objectives. The results will contribute to our understanding of natural aesthetic experiences as well as to our understanding of aesthetic factors inducing tourist loyalty. It will ultimately be beneficial to nature-based tourism destinations.

2. Literature review and hypothesis

2.1. Aesthetic experience in nature-based tourism

The concept of 'aesthetic' was first proposed by Baumgarten in the early 18th century (Dickie, 1997), and then, under the influence of Hegel and Nietzsche, research on the topic turned its focus to the individual experience, emphasizing the subjectivity of experiences rather than objectivity in the process (Charters, 2006). In the 20th century, the subjective perspective was developed through various forms of attitude theory, which posited that the existence of beauty was based on subjective experience rather than any aesthetic attribute (Dickie, 1997).

Nature-based tourism is primarily considered to be the direct enjoyment of wilderness or a relatively undisturbed natural phenomenon, such as enjoying lakes, streams, mountains, etc, and engaging in outdoor activities (Pennington-Gray & Kerstetter, 2002). Nature is unique in that it is the external environment generally far from where we live, rather than the product of human intentions (Hall, 2015). Furthermore, nature may represent something sacred, and immersion in nature can provide a unique experience that is different from daily life (Vespestad & Lindberg, 2011). Therefore, a natural aesthetic experience has its own uniqueness.

A natural aesthetic experience works by people becoming involved in nature, thereby evoking special emotions (Hall, 2015). Becoming involved in nature implies people's perceptions of natural objects and how we conceptualize and describe them. This perceptual interpretation allows us to better understand how an object relates to other elements, such as cognition or emotion. The aesthetic quality of a natural landscape is not only due to its skylines, shapes, and colors, but more importantly, the harmony of its parts in forming a whole, where the concepts of unity, harmony, and diversity are integrated (Hall, 2015).

For the emotional element, Howarth (1995) is particularly good at describing how emotions correspond to natural settings and atmospheres, and how emotions can become part of nature. The emotions associated with nature open up the way nature presents itself to us, and we may learn about emotions that we may not have felt before and how we feel as being a part of nature ourselves (Hall, 2015). This is something we may not have in our relationships with non-natural environments, and especially human environments (Hall, 2015).

It is worth noting that natural aesthetics involves the interaction between man (viewers) and nature. Furthermore, natural aesthetic experience is formed by subjective and unidirectional construction of people regarding nature. Previous studies have shown that the particularity of a natural aesthetic experience lies in the 'indeterminacy' of aesthetic appreciation. Because man's aesthetic appreciation of nature is not 'framed', i.e. not set apart from the environment and not subject to any deliberate restriction (Hepburn, 1963). Thus, a natural experience is often elusive and difficult to control (Vespestad & Lindberg, 2011), and depends highly on tourists themselves (Breiby, 2014).

Hepburn (1966) contends that the framelessness of natural appreciation requires us to be creative and imaginative in an aesthetic experience. Some scholars have further noted that imagination or association is a beneficial factor in encouraging people to interpret objects from various perceptual perspectives, constructing people's aesthetic understanding of natural beauty (Fudge, 2001), and thus expanding and enriching their aesthetic experience (Brady, 1998). This kind of aesthetic appreciation extends people's focus beyond simple formal attributes to the profound expressive meanings behind nature, thus enriching nature's aesthetic value (Tribe, 2009).

In addition, nature itself, unlike works of art, does not involve a person's complex thoughts, emotions, expressions and creativity within the historical or cultural framework (Hall, 2015). Therefore, tourists are more likely to obtain natural aesthetic experience through simple sensory stimuli. Still, natural aesthetic is tourists' unilateral construction of nature, and tourists' perceptions of nature are affected by their existing cultural background, which is especially true in some countries where

knowledge of natural literature is common (Li, 2008; Sofield & Li, 1998). Therefore, in the study of natural aesthetic experience, literary association should be paid more attention.

2.2. Conceptual framework and hypothesis

2.2.1. The mediation of aesthetic judgement and emotion

Aesthetic quality is considered to be a major component in building a tourism destination image (Kirillova & Lehto, 2015) and a good destination image formed by the appreciation of aesthetic quality could promote tourist loyalty (Chi & Qu, 2008). Furthermore, it has been well established from a variety of studies in different service contexts such as hotels (Jani & Han, 2015), restaurants (Ryu & Jang, 2007), and web design (Hakseon, Lee, Lee, Joung, & Yuan, 2012) that aesthetic quality has a positive effect on customers' future intentions, including the willingness to recommend or revisit a destination. The relationship between the formal attributes of heritage sites and tourists' future intentions has also been confirmed (Bonn, Joseph-Mathews, Dai, Hayes, & Cave, 2007; Trinh & Ryan, 2016). Kirillova et al. (2014) showed that a destination's aesthetic quality was an important factor for overall tourist satisfaction, leading to choosing and/or revisiting a tourism destination, and Kirillova and Lehto (2015) also provided quantitative evidence for the causal relationship between aesthetic quality and satisfaction. Breiby (2018) further demonstrated that aesthetic quality had a positive effect on tourist loyalty through satisfaction. Therefore, the following hypothesis is put forward:

H1. Aesthetic quality positively affects loyalty.

Aesthetic perception is a conceptualization or description of aesthetic quality, and aesthetic appreciation is necessarily rationally stimulated. Stimulated by aesthetic quality through some external formal attributes, tourists can produce cognitive and emotional responses (Leder et al., 2004). Such perception enables us to experience the external world independent of our thoughts. That is to say, although a perception of a natural landscape, stimulated by aesthetic quality, may be not an aesthetic perception, the initial perception of an object's formal attributes can cause individuals to make an overall judgement on the beauty of the object (Lee, Chung, & Jung, 2015). There is a view that ugliness also has aesthetic value; however, beauty remains the primary starting point for judging whether an object is aesthetically pleasing (Townsend, 1997). Aesthetic appreciation is also necessarily perceptual. This means subjectively perceiving the external shape, color, timbre, volume, power, taste, and texture of an object with some non-aesthetic knowledge (Hall, 2015). Attributes we ascribe to natural objects, at least to a certain extent, constitute an obvious aesthetic judgement toward nature (Hall, 2015). Kirillova and Lehto (2015) also quantitatively verified the positive impact of the aesthetic quality of tourism destinations on tourists' aesthetic judgements.

The aesthetic experience also implies perceiving things that give us unique happiness or unhappiness (Hall, 2015). Except for their responses to an aesthetic judgement, tourists' appreciation of aesthetic quality produces positive or negative emotional responses (Kumar & Garg, 2010). When we focus on the external attributes of nature, we will accordingly be emotionally moved by nature (Hall, 2015). Emotion is the subjective projection of a human emotion onto natural landscape (Carroll, 2004). Attributions to the emotional properties of natural objects depend on their perceptual structures, for example, what they look like, what they sound like, and presumably what they smell like. In nature-based tourism, tourists often obtain a positive emotional response (Breiby & Slåtten, 2015) and benefit from all their senses (i.e. sight, hearing, taste, smell and touch) in order to experience aesthetic pleasure (Swaffield, McWilliam, & Dymond, 2013). Breiby and Slåtten's (2015) study also supported the positive influence of aesthetic quality on positive aesthetic emotions. Based on these findings, the following hypothesis is proposed:

H2. Aesthetic quality positively affects (a) aesthetic judgement and (b) aesthetic emotion.

S-O-R theory (Mehrabian & Russell, 1974), which explains consumer behavior from the perspective of environmental impact, argues that when a person is exposed to stimuli, he or she will produce an internal organism, further triggering the organism's response. Correspondingly, in natural aesthetic experience, aesthetic qualities are considered to be the physical stimuli (Stimuli) of natural landscape and aesthetic judgements are regarded as tourists' judgement of natural beauty (Organism), whereas aesthetic emotions are kind of emotional state aroused under the stimulus (Organism), and loyalty refers to a tourist's response to proximity to the natural landscape (Response). Thus, the relationships among aesthetic quality, aesthetic judgement, aesthetic emotion, and loyalty can be established through the S-O-R theory.

Specifically, formal attributes (e.g. colors, shapes, patterns and so on) act primarily as cognitive stimuli, providing an aesthetic context in which more detailed qualities can be perceived (Cupchik, Vartanian, Crawley, & Mikulis, 2009). As a result of cognitive processing, an aesthetic judgement is regarded as a judgement that assigns (positive or negative) aesthetic values to some objects. Cognitive assessments are of great significance in measuring service quality and satisfaction (Liljander & Strandvik, 1997), and correspondingly, judgement of beauty in natural activities can also affect tourist loyalty to a destination.

Aesthetic emotion is the result of emotional evaluation, which depends on the success of subjective processing. When we focus on aesthetic qualities of nature, we will accordingly be moved by nature. Such emotions could promote tourists' intrinsic motivations (Kreitler & Kreitler, 1972), encouraging them to revisit and to recommend a spot to others (Wang et al., 2012). Breiby and Slåtten (2015) also empirically investigated the premise that positive aesthetic emotions would cause tourists to choose similar destinations in the future and to suggest to others to do the same. This series of results are called tourist loyalty (Chi, 2010), which is of great importance for nature-based tourism destinations (Yi et al., 2008).

Although the S-O-R theory has been extensively studied, the relationship between the cognitive and emotional states of an 'Organism' has not been clarified in the context of aesthetic experience. In an aesthetic experience, aesthetic judgement is the subjective cognitive component in the process of the experience, while aesthetic emotion is the subjective emotional component (Leder et al., 2004). According to the aesthetic experience model by Leder et al. (2004), continuous cognitive success will give rise to a positive change in one's emotional state and guide the individual towards a state of pleasure or satisfaction. That is to say, a higher aesthetic evaluation helps to generate positive aesthetic emotions. In addition, a number of studies on cognition-emotion under different scenarios have identified a causal relationship between an individual's cognition and their emotional state.

In line with the previous findings, the following hypotheses are proposed:

H3. Aesthetic judgement (a) and aesthetic emotion (b) positively influence loyalty.

H4. Aesthetic judgement positively influences aesthetic emotion.

H5. Aesthetic judgement (a) and aesthetic emotion (b) mediate the effect of aesthetic quality on loyalty.

2.2.2. The moderator of literary association

It is impossible for any individual, by only using their senses, to interpret an aesthetic object and to reveal how the object could be correctly perceived. Such a perception is just a rational physical interpretation of nature, and simple perceptions usually lead to relatively simple judgements and emotions (Carlson, 2005). Aesthetic perception

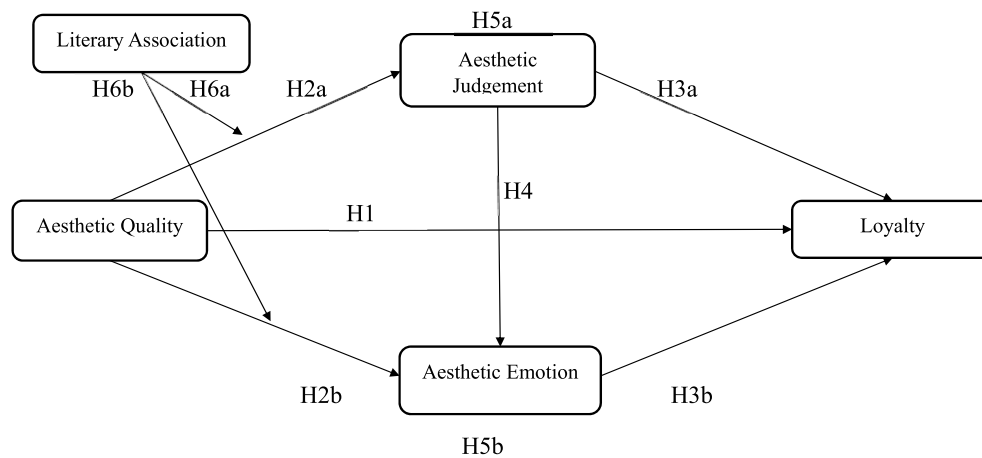


Fig. 1. Conceptual model.

also involves a subjective sentimental perception to extract as much information, knowledge and stories from the landscape as possible. The more a beholder is capable of doing this, the greater their emotional and expressive benefits can be (Heyd, 2001). Imagination itself can promote our ability to perceive the natural world, and in turn lead to the improvement of our aesthetic taste for that world (Heyd, 2001). This helps the viewer to initially discover aesthetic attributes, and through filling in missing details, imagination is also conducive to connecting all aspects of an aesthetic object, which can enrich and strengthen our interpretation and judgement of its beauty (Brady, 1998).

However, the notion of the imagination ‘on its own terms’ refers to something ‘appropriate or inappropriate’ (Tribe, 2009), and it has been noted that not all imaginative results are beneficial for us in coming to an appropriate aesthetic judgement (Brady, 1998). Some scholars have emphasized that proper aesthetic appreciation depends on a scientific understanding of nature which mainly comes from knowledge of natural sciences (Matthews, 2002). However, scientific knowledge is not the only means to interpret nature, and the uncertainty of nature can make it ineffective (Carroll, 2004). Natural scientific knowledge excludes common emotional responses to nature, i.e. “being moved by nature” (Carroll, 2004, p. 90). Compared with scientific knowledge, a deeper cultural connection with natural landscapes is very important for people’s emotional engagement in nature (Richardson, 2018). As well, natural aesthetic judgement has long been influenced by literature or pictorial art (Allen, 1997; Richardson, 2018).

Carlson (2005) further predicted that other forms of knowledge nets woven by human culture, including art, literature, folklore, religion, and myth, help us to perceive nature. Art, for example, can help us perceive nature and give full play to our imaginations in forming ‘appropriate’ aesthetic appreciations (Carlson, 2005). History, literature, and paintings related to natural landscapes can work as scientific knowledge to reshape people’s views of nature, and aesthetically, they might even be more interesting (Saito, 1984). Literature or art is more than just people’s reflection, as they also fuel the human ability to re-imagine natural aesthetics and relationships with the natural world (Brady, 2012; Richardson, 2018). Such re-imagining can provide experiences beyond the sense of place in the environment and can reinforce aesthetic judgements and emotions about nature (Brady, 2012).

Heyd (2001) specifically argued that diverse areas related to literature (paintings, poems, folklore, etc) may promote the play of imagination in different aspects. For example, landscape painting may be a resource rather than a distraction from landscape appreciation, as we tend to shuttle back and forth between art and nature (Stecker, 1997). If one is inspired by related paintings to visit a mountain landscape, we might feel inclined to examine a mountain through an aesthetic passion

for rugged rocks, for example, as the artists may have felt. Poetry can help viewers to enter a state of meditation. The stories contained in poetry can broaden one’s aesthetic vision and enable one to find an aesthetic connection with the poet spanning time and space, so that viewers can relate to the poet’s feelings (Heyd, 2001). Myths (Yengoyan, 1979) and folklore (Heyd, 2001) can also illustrate the details of a natural landscape, and through understanding these stories, the landscape details will become more salient so that tourists are drawn to interpret the natural landscape.

In terms of psychological interpretations in an aesthetic experience, the deeper the perceptual understanding of an aesthetic object overall, the greater the possibility of regarding an object as beautiful and generating a positive aesthetic emotion (Leder et al., 2004). Ultimately, tourists’ cognitive judgements of natural aesthetic qualities and their resulting emotions will affect their decisions on whether to visit or to recommend a tourist destination in the future (Breiby & Slåtten, 2015). Based on these points, the following hypotheses are proposed:

H6a. Literary association positively moderates the effect of aesthetic quality on aesthetic judgement.

H6b. Literary association positively moderates the effect of aesthetic quality on aesthetic emotion.

H7. Literary association positively moderates the mediated effect of (a) aesthetic judgement and (b) aesthetic emotion between aesthetic quality and aesthetic judgement.

In summary, the main conceptual model of this study is shown in Fig. 1:

3. Methodology

3.1. Description of the case

The research hypotheses would be tested at Mount Huangshan, located in Huangshan City in the southern province of Anhui, China.

Through the ages, Chinese have developed a mature nature-based form of tourism focusing on Shanshui (mountains and rivers) and yearning for the feeling of being surrounded by a natural landscape (Lin, 1965). From the days when Confucius proposed ‘yue shan le shui (love mountains and rivers)’ and Zhuangzi advocated ‘Peripateticism (free and unrestrained travel)’ up to modern times, natural landscapes have been important touchstones for literati, hermits, and tourists, and aesthetic experience has been found to be dominant in nature-based tourism (Xu et al., 2013).

Mount Huangshan is the only mountain location among the top ten scenic spots in China. It enjoys the reputation of the ‘loveliest mountain

of China' and plays an important role in the history of Chinese art and literature (<http://whc.unesco.org/en/list/547/>). In December 1990, Mount Huangshan was added by UNESCO to the list of world cultural and natural heritage sites. The interaction between man and nature is fully displayed in Mount Huangshan (<http://whc.unesco.org/en/list/547/>). The appreciation of natural beauty is one of the basic needs in Mount Huangshan and the basic driving forces for tourists to experience aesthetics (Zeng & Wang, 2017). Tourists could experience the beauty of Mount Huangshan, realize their own happiness, and thus generate positive emotions (Zeng & Wang, 2017). The popularity of Mount Huangshan attracts a large number of tourists. According to the 2018 annual report of Huangshan Tourism (short for Huangshan Tourism Development Co. Ltd, a company managing Mount Huangshan), Mount Huangshan received 3.38 million visitors in 2018.

Mount Huangshan has been highly valued through the ages, becoming a paradise for literary and artistic creation. The imposing scenery at Mount Huangshan has inspired many tourists, as well as hermits, poets, and painters who have praised the mountain's beautiful scenery in the form of paintings and poems, creating rich artistic and literary works of global significance. These works of art and literature are believed to play an important role in shaping tourists' aesthetic experiences at Mount Huangshan (Wang, 1998).

3.2. Measurement scales

In this study, aesthetic quality not only means the external formal attributes of a natural landscape, but also its orderly, unified, and harmonious whole formed by perception (Zuckert, 2006). According to studies by Kirillova et al. (2014) and Kirillova and Lehto (2015), novelty and balance are major dimensions influencing tourists' aesthetic judgement. The two dimensions are confirmed in the subsequent EFA.

The aesthetic quality scale is derived from Kirillova and Lehto (2015). Although it has been verified, the applicability of the scale still needs to be confirmed further, for it is used to measure the aesthetic quality of landscapes in both nature and city contexts. The initial scale includes nine dimensions and 21 items, but in order to reduce the measurement variables to a smaller set of composite components to obtain as much information as possible from fewer components (Brown, 2012; Hooper, 2012), we have modified the scale according to the detailed description of each dimension by Kirillova et al. (2014) and consideration of the specific situation of Mount Huangshan. The modification process is given in the following.

The original dimensions of condition and diversity are highly correlated with balance. The original dimension of uniqueness refers to the unique identifiable features of a landscape and is more suitable as being classified as novelty. Color and richness are not applicable to mountain landscapes, as mountains are characterized by dark colors and monotonous landscapes. The 'Modern-Historic and Young-Old' of the original time dimension is still ambiguous among tourists, while shape, roundness, and symmetry, as classical dimensions of artistic aesthetics, have not been recognized as needs for tourists' natural aesthetic appreciation. Finally, the aesthetic quality scale has been reduced to two dimensions, named balance and novelty, with six items.

Aesthetic judgement means judgement of beauty or ugliness (Yeh, Lin, Hsu, Kuo, & Chan, 2015) in the present study, and the aesthetic judgement scale is derived from Kirillova and Lehto (2015). It is measured by one item: 'I thought that Mount Huangshan has great beauty, without needing words.'

Aesthetic emotion is the emotional state in an aesthetic appreciation during an immersive experience: it is often very strong and positive (Kreitler & Kreitler, 1972). The scale, which is adopted from Leder et al. (2004) and Stamatopoulou (2004), mainly measures the positive emotions of tourists, including pleasure, relaxation, and affinity. In addition, as mentioned above, the unique emotions associated with nature open up the way nature presents itself to us, and we obtain emotions of how we feel as part of nature (Hall, 2015). Thus, two

additional items are added: 'Visiting Mount Huangshan makes me feel spiritual sublimation', and 'Visiting Mount Huangshan brings me into harmony with nature.'

Tourist loyalty, an important concept in tourism, is reflected in tourists' willingness to revisit and recommend a destination (Oppermann, 2000). The scale for loyalty is derived from Sun, Chi, and Xu (2013), and comprises four items.

Literary association means an association with landscape literature, and the literary association scale is mainly based on the existing literature (Wang, 1998; Xu, Ding, & Packer, 2008; Yu & Xu, 2016). According to Wang (1998), there are various forms of tourism literature, but actually, it is mainly the poems, travel notes, and legends that are complementary to a landscape and can be helpful for an aesthetic experience. Combined with the characteristics of Huangshan in previous studies (Cui, Liao, & Xu, 2017), the literary association scale comprises three items, namely landscape poetry, landscape paintings, and folk legends; however, the item 'folk legends' was deleted after the first CFA.

All the scales in this study are five-point Likert scales ranging from 'strongly disagreement = 1' to 'strongly agreement = 5'. The specific items of the scales are listed in Appendix B. Measurement items for each scale were first translated from English into Mandarin and then back-translated into English in order to confirm their content validity. This study controls for the effect of the demographic variables of respondents, such as age, gender, and education level, and the number of visits by tourists is also controlled for.

3.3. Data collection and descriptive analysis

A self-administrated sample questionnaire survey was conducted for this study. The research data were collected by a team of several trained students in July of 2018. Tourists at Mount Huangshan were engaged to complete the questionnaire. Since most tourists visiting Mount Huangshan choose to climb to the top and then go down by cableway, their appreciation of the landscape mainly happens on the way up. Therefore, in order to ensure that only those tourists who had completed or were about to finish their trips would participate in this study, the research area was concentrated in the rest areas of the two main peaks of Mount Huangshan, i.e. Lianhua Peak and Guangming Peak, and one cableway station named Cloud Valley. Some questionnaires were distributed at the foot of the mountains and at transfer stations. The tourists were also further screened through questions asked by students regarding whether they were about to go down the mountain and/or finish their travels.

A total of 450 questionnaires were distributed, with 444 being returned, representing a response rate of 98.7%. After eliminating invalid samples (e.g. those with too much missing data), 415 remained. Among those 415 participants, 58.1% were male, mainly aged 15 to 44 (89.2%), and most of them (74.0%) had a junior college degree or above. Moreover, 85.1% of the valid respondents were tourists visiting Mount Huangshan for the first time.

It is necessary to focus on the non-response issue when using the survey method to collect primary data, and therefore, an independent *t*-test was conducted to check for non-respondent error. Since the non-response rate was very low (1.3%) and the research object was tourists, it was difficult to conduct secondary data collection for the non-response samples. As a result, early (214 samples) and late (201 samples) respondents' demographic characteristics (gender, age, education, and occupation) were compared as an alternative method of evaluating non-response bias. The results showed that no significant differences between the early and late respondents existed, and therefore, the study sample was considered to have no non-respondent bias.

3.4. Data analysis

As previously mentioned, the survey involved 450 questionnaires, with 444 questionnaires returned. In order to make full use of the

samples and ensure the validity of the sample, questionnaires with more than 5% of the items unanswered (29) were deleted (Tabachnick & Fidell, 2007). The Expectation Maximization (EM) estimation in SPSS 23.0 was used to fill in the missing values, and eventually 415 valid questionnaires were used for the data analysis. Then, 100 questionnaires were used to pre-test in order to identify the construct of aesthetic quality with the EFA, and the remaining 315 samples were used to do the formal analysis for this study. For the formal analysis, after testing for measurement invariance and normality of data distribution, a CFA was conducted to evaluate the reliability and validity of the overall measurement model. Lastly, an SEM was conducted to verify the structural relationship between the constructs of aesthetic quality, aesthetic judgement, aesthetic emotion, loyalty, and literary association.

4. Results

4.1. EFA

A principal component exploratory factor analysis (EFA) with a varimax rotation using SPSS 23.0 was conducted on the pre-survey sample (n = 100) to calibrate the dimension of aesthetic quality, and revealed a two-factor solution using eigenvalues-greater-than-one as a guideline for factor extraction, which explained 71.895% of the total variance (see Table 1). The KMO was 0.796 higher than the threshold of 0.7 (Tabachnick & Fidell, 2007), and Bartlett's Test of Sphericity was also found to be significant, at $p < .000$. As Table 1 shows, these two factors explained 41.109% and 30.786% of their related variance in aesthetic quality, respectively. The first factor, labeled novelty, signifies the diversity, novelty, and uniqueness of landscapes that tourists can find an extraordinary experience. The second factor, balance, represents the extent to which the landscape is affected by humans. Compared with the initial scale, the item diversity was included into novelty rather than balance, as it reinforced the distinction between the human-influenced landscape and the natural environment.

4.2. Measurement invariance

Measurement invariance was tested to determine whether the measurement model was similarly understood among tourists with different levels of literary association (Sinkovics, Henseler, Ringle, & Sarstedt, 2016). Overall, literary association was measured with two items, each ranging from 'strongly disagreement = 1' to 'strongly agreement = 5', and so we parceled the items with the added scores. In order to get enough samples at each level, the samples were regrouped with parceled items using an added score: '1-6' (group1, N = 53), '7-8' (group2, N = 164), '9-10' (group3, N = 98). Table 2 shows the results of the measurement invariance testing.

First, a non-constrained model (configural invariance model) using CFA was assessed by fitting the CFA model to data of three groups of samples, and it showed an acceptable fit ($\chi^2/df = 2.29$, RMSEA = 0.064). Second, factor-loading equivalence across groups was established (full metric invariance model), and the results showed

Table 1
EFA results for aesthetic quality (n = 100).

Dimension/item	Loading	Eigenvalue	Variance explained
<i>Novelty</i>		2.467	41.109
NOV1 Diverse	0.850		
NOV2 Novelty	0.776		
NOV3 Unique	0.886		
<i>Balance</i>		1.847	30.786
BAL1 Harmony	0.774		
BAL2 Well-kept	0.621		
BAL3 Authentic	0.868		

Table 2
The results of the measurement invariance testing.

Measurement model	χ^2	df	RMSEA	$\Delta\chi^2/\Delta df$	p value
Model 1: Configural invariance	782.111	341	0.064		
Model 2: Full metric invariance	797.211	352	0.064	15.10/11	0.178
Model 3: Full indicator intercept	830.565	367	0.064	48.45/26	0.005
Model 4: Partial indicator intercept	811.403	362	0.063	29.29/21	0.107

that the full-metric invariance model was supported because the chi-square change between the configural invariance model and full-metric invariance model for all three groups was not significant ($p = 0.178$). Third, indicator intercept equivalence was assessed (full intercept invariance model), and the full intercept invariance model was not supported, as there were significant chi-square differences between the configural invariance and the full intercept invariance model ($p = 0.005$), and hence partial indicator intercept equivalence was recommended (Byrne, Shavelson, & Muthén, 1989). The chi-square differences were not significant ($p = 0.107$) after invariance constraints of five items (totally 26 items) were released, referring to Byrne et al. (1989). Overall, the configural invariance, full metric invariance, and partial indicator intercept models indicated that the measurement model was similarly understood among tourists with different levels of literary association.

4.3. Normality testing

Amos 22.0 was used to calculate the Mardia standardized coefficient, testing whether the data conformed to the multivariate normal distribution. The results showed the Mardia standardized coefficient (107.026) in this study was higher than 5, indicating that the data were multivariate and non-normally distributed (Bentler, 2010), and revealing that the χ^2 and standard error estimated by the ML (maximum likelihood) method were not accurate and needed to be corrected. Therefore, the MLM estimation (maximum likelihood parameter estimates with standard errors and a mean-adjusted χ^2 test) was used to perform CFA and SEM (Wang & Wang, 2012). The S-B χ^2 statistic (Satorra & Bentler, 1994) was obtained from the MLM estimation.

4.4. Reliability and validity

The MLM estimator of Mplus 7.0 was used to test the CFA. In the first test, the item LIT3 included in the literary association construct ('I related with folk customs and legends during my visit') was deleted due to the AVE and SFL being lower than the thresholds of 5 and 0.5 respectively. A new CFA was conducted to test the construct validity after LIT3 was deleted, and the model fit indices revealed that the overall measurements fit the data very well, with $\chi^2 = 244.395$, $df = 129$, RMSEA = 0.053, SRMR = 0.054, CFI = 0.953, and TLI = 0.944.

As shown in Table 3, the Cronbach's alpha (0.770-0.854) for the measures indicated an acceptable internal consistency across the items in the constructs, and the reliability was found to be good (Litwin, 1995). Moreover, the composite construct reliability (CR) were all greater than the threshold of 0.7, revealing a sufficient internal consistency of multiple indicators for each construct in the model (Hair, Black, Babin, Anderson, & Tatham, 1998).

Convergent validity and discriminant validity were then tested. The average variances extracted (AVE) of the constructs were found to exceed the threshold of 0.5, and the other standard factor loadings for the individual items were above 0.5 except for LOY1 with a loading of 0.482. Therefore, the convergent validity for the latent constructs was established. As shown in Table 4, the square root of AVE for the latent constructs exceeded each correlation coefficient, thus indicating that the discriminant validity of the measures for constructs in the overall model was supported (Fornell & Larcker, 1981).

Table 3
The overall measurement model (n = 315).

Variables/items	SFL	Cronbach's α	CR	AVE
Aesthetic quality		0.809	0.857	0.503
<i>Novelty</i>				
NOV1 Diverse	0.743			
NOV2 Novel	0.677			
NOV3 Unique	0.817			
<i>Balance</i>				
BAL1 Harmony	0.720			
BAL2 Well-kept	0.686			
BAL3 Authentic	0.593			
Aesthetic emotion		0.854	0.864	0.562
EMO1 Pleasure	0.834			
EMO2 Relax	0.743			
EMO3 Like	0.819			
EMO4 Spiritual sublimation	0.705			
EMO5 Harmony with nature	0.630			
Loyalty		0.833	0.876	0.650
LOY1 Revisit	0.482			
LOY2 Recommend to others	0.840			
LOY3 Recommend to friends and relatives	0.921			
LOY4 Encourage others to visit	0.904			
Literary association		0.770	0.773	0.630
LIT1 Associate with landscape poetry	0.757			
LIT2 Associate with landscape painting	0.829			

Note: SFL = Standardized factor loading; CR = Composite construct reliability; AVE = Average variance extracted.

4.5. Hypothesis testing

4.5.1. Path analysis

To test the research hypotheses, this study applied Mplus 7.0 to perform structural equation modeling with an MLM estimation. The hypothesized model fit indices showed that the structural equation model with control variables fitted the data very well, with $\chi^2 = 391.905$, $df = 157$, $RMSEA = 0.069$, $CFI = 0.915$, and $TLI = 0.901$. The standardized path coefficients are shown in Fig. 2. The results showed that the control variables of travel time ($\gamma = 0.013$, $p = 0.805$), gender ($\gamma = 0.065$, $p = 0.178$), age ($\gamma = -0.017$, $p = 0.667$), and education ($\gamma = -0.003$, $p = 0.934$) had no significant effect on tourist loyalty. Aesthetic quality ($\gamma = 0.334$, $p = 0.003$), aesthetic judgement ($\gamma = 0.165$, $p = 0.020$), and aesthetic emotion ($\gamma = 0.354$, $p = 0.000$) had a significant positive effect on loyalty, and thus H1, H3a, and H3b were supported. Aesthetic quality had a significant positive effect on aesthetic judgement ($\gamma = 0.631$, $p = 0.000$) and aesthetic emotion ($\gamma = 0.426$, $p = 0.000$), confirming H2a and H2b. Moreover, aesthetic judgement had a significant positive impact on aesthetic emotion ($\gamma = 0.423$, $p = 0.000$), supporting H4. The path coefficient is shown in Fig. 2.

4.5.2. The mediating effects

Considering the multivariate non-normally distributed research data, a bootstrapping estimation technique (bootstrap = 2000) on 315 samples with a 95% bias-corrected (BC) bootstrap confidence interval (CI) (Preacher & Hayes, 2008) was used to test the mediation roles of

Table 4
The correlations between constructs (n = 315).

	M	SD	1	2	3	4	5
1.Aesthetic quality	4.192	0.514	(0.709)				
2.Aesthetic judgement	4.335	0.610	0.513**	-			
3.Aesthetic emotion	4.204	0.567	0.567**	0.666**	(0.750)		
4.Loyalty	4.259	0.576	0.597**	0.621**	0.654**	(0.806)	
5.Literary association	4.283	0.616	0.408**	0.462**	0.408**	0.402**	(0.743)

Note: **p < 0.01; The elements in parentheses are the square roots of average variance extracted for each latent construct.

aesthetic judgement and emotion. The structural equation model fit indices met the required standard, with $\chi^2 = 253.101$, $df = 97$, $RMSEA = 0.071$, $SRMR = 0.053$, $CFI = 0.942$, and $TLI = 0.928$. As shown in Table 5, the bootstrapping results showed that the indirect effect of aesthetic quality \rightarrow aesthetic judgement \rightarrow loyalty was statistically significant ($\gamma = 0.101$, $CI = 0.031-0.172$, and $SE = 0.043$). The path coefficient of aesthetic quality \rightarrow aesthetic emotion \rightarrow loyalty was also statistically significant ($\gamma = 0.150$, $CI = 0.069-0.231$, and $SE = 0.049$). Furthermore, the chain mediating effect of aesthetic judgement and aesthetic emotion between aesthetic quality and loyalty (path: aesthetic quality \rightarrow aesthetic judgement \rightarrow aesthetic emotion \rightarrow loyalty) was also verified by significant indirect effects ($\gamma = 0.094$, $CI = 0.042-0.145$, and $SE = 0.031$). To sum up, the two indirect paths were statistically significant, and thus H5a and H5b were supported. Furthermore, considering that aesthetic quality had a direct positive influence on loyalty, the relationship between aesthetic quality and loyalty was partially mediated by aesthetic judgement and aesthetic emotion.

4.5.3. The moderating effects

This study used Mplus 7.0 with a bootstrapping method (bootstrap = 2000) on 315 samples, using a moderated-mediation model (see Table 6) to test the moderating effect of literary association. As shown in Table 6, there was a significant interaction effect between aesthetic quality and literary association on aesthetic judgement ($\gamma = 0.310$, $CI = 0.153-0.487$) and aesthetic emotion ($\gamma = 0.169$, $CI = 0.045-0.290$) respectively, supporting H6a and H6b.

To further test the mediation effect of aesthetic judgement/emotion moderated by literary association, according to the method proposed by Edwards and Lambert (2007), the bootstrapping method was adopted to analyze the indirect effect of aesthetic quality on loyalty when tourists' literary association levels were different. The results (see Table 7) showed that the indirect effects of different paths were all significant for both lower and higher levels of literary association. Moreover, the differences in the indirect effects of different paths were significant. Therefore, H7a and H7b were supported.

5. Conclusion and discussion

5.1. Conclusion

This study focuses on the aesthetic value of nature-based tourism and conducts an empirical study on the factors that influence tourist loyalty from the perspective of aesthetics. S-O-R theory is employed to investigate the effects of aesthetic quality of natural landscape on aesthetic judgment, aesthetic emotion and tourist loyalty. The impacts of literary association on aesthetic experience and tourist loyalty is also analyzed and tested.

The use of S-O-R theory in this study reflects the proposition that tourist loyalty is an objective behavioral response stimulated by the aesthetic quality of nature experienced through the medium of the senses. The emphasis on literary association posits that tourists' subjective interpretations through association with landscape literature plays an important role in their aesthetic experiences and loyalty. The results of this study are in line with the theoretical framework of S-O-R

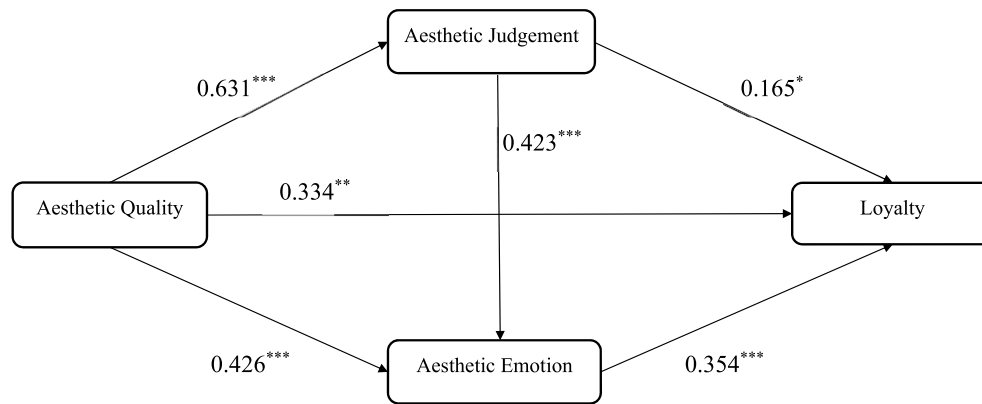


Fig. 2. Estimates of the structural model (n = 315). Note: ***p < 0.001, **p < 0.01, and *p < 0.05.

Table 5
Results of mediating effects (n = 315).

Path	Indirect effect	SE	95 per cent CI	
			LLCI	ULCI
AEQ-AEJ-LOY	0.101	0.043	0.031	0.172
AEQ-AEM-LOY	0.150	0.049	0.069	0.231
AEQ-AEJ-AEM-LOY	0.094	0.031	0.042	0.145

Notes: AEQ: aesthetic quality, AEJ: aesthetic quality, AEM: aesthetic emotion, LOY: loyalty.

Table 6
Results of moderating effects (n = 315).

Aesthetic quality × Literary association	Estimate (SE)	LLCI	ULCI
On aesthetic judgement	0.310 (0.102)	0.153	0.487
On aesthetic emotion	0.169 (0.076)	0.045	0.290

Table 7
Results of moderated-mediation effects (n = 315).

Moderator variable (literary association)	Conditional indirect effect		
	Estimate (SE)	LLCI	ULCI
Path 1: aesthetic quality → aesthetic judgement → loyalty			
Low	0.060 (0.027)	0.024	0.116
High	0.155 (0.037)	0.101	0.223
Difference	0.095 (0.039)	0.045	0.174
Path 2: aesthetic quality → aesthetic emotion → loyalty			
Low	0.067 (0.025)	0.033	0.114
High	0.135 (0.037)	0.080	0.201
Difference	0.068 (0.033)	0.015	0.123
Path 3: aesthetic quality → aesthetic judgement → aesthetic emotion → loyalty			
Low	0.034 (0.016)	0.012	0.063
High	0.087 (0.021)	0.057	0.125
Difference	0.054 (0.021)	0.027	0.098
Total indirect effect			
Low	0.161 (0.046)	0.088	0.241
High	0.378 (0.052)	0.293	0.465
Difference	0.217 (0.063)	0.121	0.328

Note: The division of a low or high level of literary association was based on the mean score of literary association, adding or subtracting one standard deviation.

and the subjectivity shift of existing aesthetic experience studies (Charters, 2006), as well as the studies on the role of aesthetic imagination in natural aesthetics (Fudge, 2001; Hepburn, 1966).

Tourist loyalty is an important issue in nature-based tourism destination management. Although there are many factors influencing tourist loyalty, the study on tourist loyalty from the perspective of natural aesthetics can still give us some insight into tourists' natural aesthetic experiences and tourists' attitudes towards destinations. This study shows that tourist loyalty is often positively related to the objective aesthetic quality of destination landscape and the subjective aesthetic experience of tourists.

Firstly, this study indicates that the objective aesthetic quality of landscape has a direct and positive impact on tourist loyalty. The outstanding physical properties of natural landscape can stimulate tourists' multiple senses (including sight, hearing, smell, taste and touch). Under the rational action of sensory stimuli, tourists often unconsciously form a positive attitude towards natural landscape, and thus they are willing to attach to nature-based tourism destinations.

Secondly, this study points out that tourists' aesthetic judgment and aesthetic emotion are important mediators in the effect of aesthetic quality on tourist loyalty. In other words, the aesthetic quality of landscape can not only directly affect tourist loyalty, but also indirectly produce tourist loyalty through activating tourist judgment of beauty and generating positive emotions. This is closely related to tourists' aesthetic experience, and the result is consistent with the framework of S-O-R theory.

It is worth noting, however, that both aesthetic judgments and emotions are objectified in the above mechanism of action, because people arrive at these judgments and feelings of pleasure as things that are evoked by the landscape (Moshagen & Thielsch, 2010; Reber, Schwarz, & Winkielman, 2004). This reflects that aesthetic judgments and emotions appear immediately upon one's first exposure to a landscape rather than needing many cognitive mechanisms to interpret. In other words, they reflect sudden physical, cognitive and emotional responses generated by sensory stimuli.

The investigation of the moderation role of literary association in the effect of aesthetic quality on aesthetic judgment (or aesthetic emotion) confirms that literary association can strengthen tourists' aesthetic experience. While appreciating natural beauty, tourists may associate with literature related to nature and devote themselves to the understanding of nature. Literary association will not only make things 'alive' or improve the 'entertainment factor', but also enrich the aesthetic value of nature. It could also promote tourists' aesthetic ability and insight, and thus make tourists have a higher evaluation of nature (Wang, 1998).

This means that the sensory stimulation of natural landscapes does not always lead to a deeper aesthetic experience. It is conditioned by tourists' perceptual discernment of natural landscape (Brady, 2003). When tourists fully understand nature perceptually, the sensory stimulation could fully play its role, and the positive impact of aesthetic quality on aesthetic judgment (or emotion) can be further strengthened. In this process, literary knowledge can play a function of cultural re-education to improve tourists' perceptual interpretation of nature and tourists could actively interpret the symbolic meaning of nature,

instead of passively associating some physical properties with the natural world (Charters, 2006).

Additionally, different from the viewpoint that aesthetic judgement and aesthetic emotion are generated simultaneously (Leder et al., 2004), this study further expands the understanding of aesthetic process by verifying the significant positive influence of aesthetic judgement on aesthetic emotion. It emphasizes the important role of emotional factors in natural aesthetic experience and indicates that positive aesthetic emotion occurs not only immediately after tourists' first sight (Moshagen & Thielsch, 2010; Reber et al., 2004), but also after a certain cognitive process (aesthetic judgment).

5.2. Theoretical contributions and practical implications

5.2.1. Theoretical contributions

The purpose of this study is to contribute to the academic literature on aesthetic experiences in tourism. In accordance with Tribe's (2009) suggestion regarding the necessity of research in this area, this study focuses on the process of aesthetic experiences in nature-based tourism, and further analyzes the after-effects of aesthetic experiences on tourist loyalty. Through empirical research, this study has verified that the environmental factors in a tourist destination can influence tourists' long-term attitudes and behaviors through cognition and emotion, thus enriching the existing literature on environmental psychology.

Additionally, facing the lack of a strong theoretical framework for existing studies on tourism aesthetic experience, S-O-R theory in environmental psychology is introduced to explore the important mechanism of environmental factors' influence on tourist loyalty from the perspective of aesthetics. It enhances the credibility of this study and identifies the aesthetic quality of landscape as an important environmental stimulus to induce tourist loyalty. It also validates the aesthetic experience process model of Leder et al. (2004) involving simple sensory stimuli.

Another contribution is the integration of literary association into the aesthetic experience process model. Literary association is regarded as an important factor to supplement tourists' perceptual interpretation and understanding of natural landscape. The verification of the moderating role of literary association indicates that tourists' natural aesthetic experience is not only a result of physical sensory stimulation, but also that of tourists' perceptual interpretation. This study indicates that cultural factors should be paid more attention to in studying natural aesthetic experience, for that cultural factors could promote tourists' understanding of nature.

By introducing the concept of literary association, this study highlights the interdependent relationship between landscape literature and nature-based tourism. This enriches our understanding of nature-related aesthetic experiences and emphasizes the important role of aesthetic imagination in the process of nature-based tourism. Tourists' literary association with nature can fill their cognitive gaps around nature and make their perceptions of natural landscapes clearer. Through this, it makes a corresponding contribution to the aesthetic experiences in the context of nature-based tourism.

5.2.2. Practical implications

The investigation of the direct and indirect effect of aesthetic quality on tourist loyalty indicates the role of physical aesthetic value in increasing market share and improving market competitiveness. Therefore, destination managers should protect landscape with good aesthetic quality from being damaged.

The verification of the complex moderated role of literary association in the indirect effect of aesthetic quality on tourist loyalty indicates the possibility of promoting tourist loyalty by improving tourists' literary association. As long as tourists can fully interpret and understand the natural landscape through literary association, they can still obtain a good aesthetic experience, and thus improving tourist loyalty.

Actually, tourists' literary association is usually related to their literary knowledge. Tourists' previous accumulation or on-site re-

acquisition of literary knowledge pertaining to nature may help to trigger their imagination during the tour. It is posited that destination managers should attach importance to the display, interpretation, and spread of knowledge regarding landscape literature. Destination managers should deliberately combine landscape literature with natural landscape in the early publicity process, so that tourists will be familiar with the literary knowledge related to destination before traveling.

It should be noted that in the process of on-site oral interpretations of natural landscapes, tour guides and staffs at tourist information centers should not only pay attention to interpretations of natural scientific knowledge, but also add cultural elements such as literature, poems, paintings, folk customs and legends. Additionally, these elements should also be integrated into existing interpretation tools such as exhibitions and brochures. In these ways, tourists can realize the natural aesthetics of the traditional culture, cultivate their aesthetic feelings, and finally, promote their loyalty and love for nature.

5.3. Research limitations and future research orientations

Aesthetic experience is a complex and systematic process, and there is no single linear relationship between various factors that affect tourists' aesthetic appreciation, but there are also some cyclic relationships. The structural equation model used in this study verifies the existence of linear relationships between several major aesthetic factors, and systematic qualitative research should be carried out in the future in order to obtain a richer understanding of aesthetic experiences in tourism.

This study has verified the existing research results regarding aesthetic experience (Cui et al., 2017; Li, 2008), but it is only a supplement and justification of this topic in the Chinese context. It does indicate the applicability of the research in the Chinese context; however, relevant knowledge in other cultural contexts is generally limited, which is a further justification that this type of research should be conducted in the future in other nations.

Some scholars have proposed that the influence of literary association on tourists' aesthetic experience may be different due to their educational levels (Cui et al., 2017), and that individuals with higher education tend to have more literary knowledge. That is to say that, with different education levels, the specific processes in tourists' aesthetic experiences may be different. Therefore, in future studies, domestic factors including tourists' education levels should be included in order to get a richer understanding of the aesthetic experiences of different groups of people.

Tourist satisfaction is often affected by aesthetic experience, which can be effectively controlled through taking the initiatives or other methods to care of the landscapes by destination managers. While weather is also an important factor influencing tourist satisfaction in nature-based tourism destinations, and further, it is beyond control of destination managers. However, combining these two key factors will provide an interesting topic for study in the future.

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CRedit authorship contribution statement

Qingfang Zhang: Conceptualization, Methodology, Validation, Formal analysis, Investigation, Data curation, Writing - original draft, Writing - review & editing. **Honggang Xu:** Conceptualization, Writing - original draft, Writing - review & editing, Supervision, Project administration, Funding acquisition.

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Appendix A. Guide language of questionnaire

Guide for measuring aesthetic quality

Translation

Please evaluate the aesthetic quality of Mount Huangshan after your travels. There is no right or wrong answer. You just need to evaluate each item according to your thoughts, and mark ‘√’ on the corresponding score (5 = ‘strongly agree’, 4 = ‘agree’, 3 = ‘neutral’, 2 = ‘disagree’, 1 = ‘strongly disagree’).

Guide for measuring aesthetic judgement

Translation

Please evaluate the beauty of Mount Huangshan after your travels, and mark ‘√’ on the corresponding score according to your feelings (5 = ‘strongly agree’, 4 = ‘agree’, 3 = ‘neutral’, 2 = ‘disagree’, 1 = ‘strongly disagree’).

Guide for measuring aesthetic emotion

Translation

Please evaluate your aesthetic emotion after visiting Mount Huangshan, and mark ‘√’ on the corresponding score according to your feelings (5 = ‘strongly agree’, 4 = ‘agree’, 3 = ‘neutral’, 2 = ‘disagree’, 1 = ‘strongly disagree’).

Guide language for measuring loyalty

Translation

The following refers to some of your future attitudes toward your travels at Mount Huangshan. Please check the corresponding score according to your thoughts (5 = ‘strongly agree’, 4 = ‘agree’, 3 = ‘neutral’, 2 = ‘disagree’, 1 = ‘strongly disagree’).

Guide language for measuring literary association

Translation

The following refers to some of your behaviors during your travels at Mount Huangshan. Please check the corresponding score according to your actual practices (5 = ‘strongly agree’, 4 = ‘agree’, 3 = ‘neutral’, 2 = ‘disagree’, 1 = ‘strongly disagree’).

Appendix B. Measurement scale

Variables/Dimensions	Items	
Aesthetic quality Novelty	NOV1 ^a	The scenery at Mount Huangshan is diverse.
	NOV2	The scenery at Mount Huangshan is novel.
	NOV3	The scenery at Mount Huangshan is unique.
	BAL1	The artificial facilities at the scenic spot are in harmony with the natural environment.
Balance	BAL2	The landscape and facilities at Mount Huangshan are well-kept.
	BAL3	The natural landscape at Mount Huangshan is authentic, not artificial.
	Aesthetic judgement	JUD1
Aesthetic Emotion	EMO1	Visiting Mount Huangshan gives me great pleasure.
	EMO2	Visiting Mount Huangshan makes me feel relaxed.
	EMO3	Mount Huangshan is one of my favorite tourist destinations.
	EMO4	Visiting Mount Huangshan makes me feel spiritual sublimation.
	EMO5	Visiting Mount Huangshan brings me into harmony with nature.
Loyalty	LOY1	I will visit Mount Huangshan again.
	LOY2	I will recommend Mount Huangshan to others.
	LOY3	I will recommend Mount Huangshan to my friends and relatives.
	LOY4	I will encourage others to visit Mount Huangshan.
Literary association	LIT1	I related with ancient landscape poems during my visit.
	LIT2	I related with landscape paintings during my visit.
	LIT3 ^a	I related with folk customs and legends during my visit.

^a Note: NOV1 was initially included in the sub-dimension of balance, according to Kirillova and Lehto (2015), and after the calculation of EFA, NOV1 was included in novelty instead; LIT3 was deleted after the first CFA.

Appendix C. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jdmm.2020.100429>.

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