

## Article

# How Outstanding Universal Value, Service Quality and Place Attachment Influences Tourist Intention Towards World Heritage Conservation: A Case Study of Mount Sanqingshan National Park, China

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**Abstract:** Since tourists are one of the important stakeholders in World Heritage Sites (WHSs), what factors influence them and how does the impact mechanism work on heritage conversation? In particular, World Natural Heritage Sites (WNHSs) are generally facing threats to their ecological and heritage protection by the influx of tourists. To this end, this study took the perspective of attractions with Outstanding Universal Value (OUV) and tourist perceptions of service quality, and used place attachment as a mediator variable. Based on the 565 questionnaires responses by Mount Sanqingshan National Park (MSNP) tourists, the structural equation modelling technical method was adapted to explore the influence and mechanisms of tourist heritage protection. The following conclusions were drawn: (1) the perception of an OUV attraction had a positive effect on place attachment and intention to protect heritage; however, place attachment did not have a mediating effect; (2) service quality had a positive effect on place attachment and intention to protect heritage, yet place attachment did not have a mediating effect; (3) service quality was more effective than the OUV attraction on intention to protect heritage, and affiliate attraction had a ‘core’ trend; and (4) tourists’ place attachment was not accepted as a positive assumption of their intention to protect heritage. Finally, we proposed measures and implications for enhancing the conservation and management of WNHSs, with a focus on building both the tourism industry and sustainable development of WHSs.

**Keywords:** China; Outstanding Universal Value (OUV); place attachment; service quality; sustainable development; world heritage conservation

## 1. Introduction

World Heritage Sites (WHSs) refer to the rare and irreplaceable wealth currently recognised by the UNESCO and the World Heritage Committee [1]. As of July 2018, the number of WHSs reached 1092, which are distributed in 167 countries globally. Outstanding Universal Value (OUV), an important part of the World Cultural and Natural Heritage Protection Convention, is a core value and nomination criteria for WHSs [1]. Conradin et al. pointed out that WHSs were places with notable conservation and iconic value and important for tourism and regional economic development [2]. Once an area is declared a WHS, it usually becomes a well-known tourist destination both domestically

and internationally, and this 'golden signboard' ushers in rapid tourism development [3]. While China is an important World Heritage country (with 53 WHSs, ranked first in the world alongside Italy), it is also a developing country. In accordance with the World Heritage Convention (WHC), in China, activities such as value display, and scientific, cultural and ecological improvements are carried out at WHSs. However, many WHSs also face challenges to their heritage protection caused by the rapidly expanding tourism industry; and the problems facing World Natural Heritage Sites (WNHSs) are particularly problematic [4]. Since nominated WHSs are a national 'tourist highlight' or 'must-visit' attractions, they are considered to provide a 'magnet for visitors' [5]. As a result, the number of tourists to WHSs had increased dramatically. After Mount Sanqingshan National Park (MSNP) was declared a WHS in 2008, tourist numbers have soared from 1.48 million in 2008 to 23.27 million in 2018, which has caused problems and conflicts between the conservation of its natural beauty and local economic development. WHSs in China are facing problems such as uncontrolled tourism capacity, over-exploitation of tourism facilities, over-commercialisation and detrimental impact, which undoubtedly poses protection and sustainable development challenges [6,7]. Subsequently, Caust and Vecco wondered; is being listed as a WHS a blessing or a burden [8]?

World Heritage refers to scarce areas that are long-term protected, non-renewable and irreplaceable, so heritage conservation is a core challenge of heritage sites and heritage tourism. Scholars have studied the relationship between heritage protection and development from the perspectives of government behaviour, management strategies and community participation [9–12]. Buckley believes that there is a complex relationship between tourism development and heritage conservation, pointing out that, while tourism companies may become advocates for WHS preservation, there is no evidence that most tourism clients are advocates [13]. However, as the main element of heritage tourism activities and an important stakeholder of heritage protection, tourists have direct feelings and impact on a site's ecological, psychological and facility capacity. Tourists are participants in ecotourism, low-carbon tourism, heritage tourism, and sustainable tourism, in particular, heritage tourism is seen as an awesome tourism experience, perhaps to stimulate tourists to protect the WHS actively. Since tourists are both the experiencers and beneficiaries of heritage conservation achievements, they are also participants in and contributors to how heritage protection is implemented, as well as supervisors of and witnesses to heritage protection. When they are the beneficiaries of the site's value, what is their perception of the OUV attraction and WHS's heritage imagery? How does service quality affect satisfaction and environmental behaviour when heritage travellers experience them? Do they have an emotional attachment to the tourist destination? What are travellers' specific initiatives and behaviours when they are participants and supervisors of heritage protection? How do these factors transform and ultimately change the attitudes and behaviours surrounding heritage protection? These questions are worthwhile to research.

Researchers have mainly emphasised the value of OUV from the perspective of the OUV attraction [14,15]. From the perspective of active brand marketing, an OUV attraction can attract tourists and generate public attention [16,17]. Destination attraction has a positive effect on place attachment and helps to promote heritage protection [18–20]. Factors of the WHSs, including the natural landscape, social and cultural significance, functional tourism and emotional attachment are helpful for tourists to generate their 'locality', which was conducive to destination protection and value display [21]. Tourists' place attachment, heritage attachment and destination attachment have a comprehensive impact on heritage protection [19,21–26]. Researchers have examined the service quality, perceived tourism value, environmental behaviour and heritage protection from the perspective of tourists [27–32]. The influence of tourist satisfaction and loyalty on heritage protection has also been studied [33,34]. In the tourism literature, perceived tourism value is often conceptualised individually to assess the characteristics of certain tourism products, which then determines whether the value of these products is worthy of consumption by tourists, or whether it affects their satisfaction, and generates environmental protection intentions [28,30,35,36]. Heritage conservation behaviour has also been researched from the perspectives of environmentally responsible behaviour, eco-tourism and sustainable

tourism [23,26,37,38]. Tourists' knowledge about heritage protection and related education can arouse people's sense of heritage protection and generate environmentally-responsible behaviour, which has positive significance for heritage protection [33,39–41]. Functional tourism experienced by tourists is the result of the interaction between tourists' motivation and their behaviour towards the attraction, service facilities and the management level of the tourist destination [19,42]. Service quality plays a positive role in satisfaction, place attachment and environmentally responsible behaviour, and place attachment also plays a mediating role [43–45]. These are mainly related to the theories of planned behaviour (TPB) [46–48], Value–Belief–Norm (VBN) [49,50], Stimulus–Organism–Response (S–O–R) [51,52], place attachment [19,24,53], perceived value [30,54], service quality [55–57], satisfaction [33,34,58], value experience perception [28,30,54], visitor experience and resource protection [59,60], and environmental behaviour theory [23,26]. From these different theoretical perspectives, it is important to explore the influences and related mechanisms of tourists on their environmental behaviours, heritage protection attitudes and behaviours, as well as research into tourism development, heritage protection and sustainable development [61,62].

Current research has rarely included the perspective of tourists by taking their perception of OUV core attraction and auxiliary attraction service quality as the antecedent variables and place attachment as a mediator to study the influencing factors of tourists' intention to protect World Heritage. This was the starting point and focus of this research. Based on this perspective, the conceptual framework of tourists' perception of heritage protection was constructed including the following dimensions—OUV attraction perception, service quality, place attachment, and intention to protect heritage—and using structural equation modelling (SEM) as the technical method. The WNHS MSNP was chosen as a case study area to explore the tourist heritage protection mechanism, in order to provide a theoretical basis for the protection and management of WHSs. In the following sections, the literature review, hypotheses and conceptual model are presented. Then, questionnaire development, data collection and analysis are discussed. Finally, the paper concludes with the results and some suggestions and implications are put forward.

## 2. Literature Review

### 2.1. Outstanding Universal Value

OUV refers to cultural and/or natural significance that is so exceptional as to transcend national boundaries and be of common importance for the present and future generations of all humanity [1]. WHS declarations aim to protect common property, and the OUV is the main basis for the site's nomination and includes ten evaluation criteria, with integrity or authenticity as well as adequate protection and management mechanisms, ensuring that the heritage is protected and can be seen as having OUV [1]. The World Natural Heritage Sites (WNHSs) refer to natural scenic spots or clearly-defined natural zones with OUV from the perspective of science, protection or natural beauty. OUV is the most direct manifestation of a heritage site's charm, and the core attraction for tourism development, but it is also the core work of heritage site protection [63]. Destination attraction is an important part of tourism development. Whether it is the core attraction as perceived from the perspective of one's emotional experience, or the auxiliary attraction as perceived from the functional service, OUV is undoubtedly a site's core status [15,64], which is how the destination meets an individual's needs or personally perceived benefits, including core and augmented attributes [65]. Core attributes refer to unique natural and human resources, such as OUV, and augmented attributes refer to functional aspects, such as good tourist facilities, caring services and efficient organisation management [66]. Using American WHNSs as a case study, Hazen measured tourists' perception dimension of OUV, indicating that this can help to promote heritage protection [17]. Baral et al. measured the perception dimension of tourists to OUV, including eminence, uniqueness, impact, legacy, value and allure [67]. Research has demonstrated that OUV attraction has an important influence on tourists' place attachment, experience value perception, environmentally responsible

behaviour and heritage conservation intention [18,19,21]. The core attraction of the destination and its ancillary attractions, such as tourist service facilities and local communities, have positive effects on destination attachment, tourism value experience, and tourists' intentions towards protecting tourist destination [68]. Reitsamer et al. showed that embodied cognition destination attractiveness could enhance destination attachment and perceived value of the tourism experience, changing tourist attitudes and thus improving tourist satisfaction [69]. OUV attraction has a positive effect on tourist motivation, such as improving the tourism experience and increasing relevant knowledge, which can stimulate and change the inner state of tourists [70]. Destination attraction can increase tourists' place attachment and promote environmentally responsible behaviour, thereby enhancing the tourism efficacy and tourist satisfaction [71]. As the core attraction of the WHSs, OUV attraction has an important influence on how tourists perceive value, satisfaction and place attachment, and on their heritage conservation intentions.

## 2.2. Service Quality

Improving service quality can increase tourists' travel experience and value perception, improve satisfaction, and stimulate tourists' environmental awareness and behaviour [34–36]. Service quality also has a positive effect on satisfaction, place attachment and environmentally responsible behaviour [43,44]. To consider quality as the subjective evaluation of the customer's comparison of service expectations and perceptions, which ultimately determines perceived quality and satisfaction level, Grönroos proposed a perceived service quality model (GM) based on the customer-led management decision-making concept [55]. In contrast, Zeithaml proposed a theory of customer value, arguing that customer value was a comprehensive evaluation of the product's efficacy based on the perception of pay and reward [72]. Fornell et al. developed an American customer satisfaction index (ACSI) based on performance measurement, to measure the quality of products or services for customer experience [58]. Brady proposed the Hierarchical Service Quality model (HSQM), including interaction, physical environment and result quality; the quality assessment of each sub-dimension is based on authenticity, resonance and empathy [56]. In the measurement technology of customer perceived quality, Parasuraman et al. proposed ten service quality decision factors and developed a five-dimensional SERVQUAL (service quality model) measurement tool with 22 measurement indicators, which is widely used to measure marketing and tourism service quality [57]. Based on the theory of SERVQUAL and HISTOQUAL (historic quality model) service quality assessment systems, and combined with the characteristics of heritage tourism, Zhang proposed HERITQUAL (heritage quality) as an evaluation model for assessing service quality in heritage tourism destinations, which consists of five dimensions: response, carrying capacity, hardware level, communication and community engagement [73].

Several researchers have applied these scales to measure service quality in the tourism industry. Tourists' evaluation of service quality should not only consider the result of the service but should also recognise the process of designing the service. The evolutionary characteristics of the tourism experience process—the cognitive-emotion-response process—indicate that the tourism experience is an emotional process. This emotional process is a key feature of the service, and the travel experience is a process of mental activity and emotional evolution [74]. Service quality, experiences and enduring involvement all impact tourists' behavioural intention [42]. Tourists' function experience is the result of the interaction between their motivation and behaviour, and the destination attractiveness, service facilities and their management level; and this is the most direct performance of the quality of the tourism experience [31]. Perceived tourism service quality and the tourism activity experience can improve tourism service quality to stimulate tourists' awareness of the environmental protection of scenic spots, thus prompting tourists to take environmental protection action [34]. Perceived tourism value is often conceptualised by individuals to assess whether the value of these products after tourism is worthy of consumption or if tourist satisfaction is affected [35]. Tourist satisfaction can enable tourists to identify with their destinations, thereby creating a willingness in them to

protect the environment. When tourists find value for money, they have positive emotions towards a tourist destination and effect behaviours that are beneficial to the tourist destination [28,30,36]. The tourist area's degree of accessibility, the effectiveness of the commentary system, and the degree of realisation of the psychological needs and emotional experience of the tourist zone are important factors that influence the tourist's place attachment to the tourist destination, which is more conducive to heritage protection [21]. Thus, service quality plays a positive role in satisfaction, place attachment and environmentally responsible behaviour, with place attachment playing a mediating role [43,44], and subsequently, service quality, experience quality, perceived value and place attachment can change the behavioural intentions of heritage tourists and promote heritage conservation [19,32].

### *2.3. Place Attachment*

Tourism is an important way for humans to perceive and understand the environment, and the environment, as an intersection of itself and the place, has important symbolic significance for tourists. Sense of place is the trait of the place itself; people's attachment to a place, as well as their experience, memory and development of intention regarding the place, is called place attachment [75]. Williams suggested that place attachment consists of place identity and place dependence, and that place dependence is a functional attachment between people and places, while place identity is an emotional attachment [76]. The concept of place is both physical and psychological; place is interpreted, narrative, perceived, understood and imagined [77]. Place attachment can be separated into dependence, affect, identity and social bonding of place, indicating that these dimensions have significantly affected both place satisfaction and environmental behaviour [78,79]. The purpose of studying the sense of place is to explore the significance and value of tourists' endowment to a tourist destination, and previous results have indicated that place attachment has a positive effect on the protection of resources and conservation of WHSs [21].

Using the Chinese classical garden WHS as an example, Su et al. showed that sense of place has a significant positive effect on tourists' attitude and behaviour towards heritage conservation [19]. Williams et al. believed that personal psychological attachment to the local area would encourage tourists to be more environmentally responsible, such as taking the initiative to pick up rubbish and respect animals [80]. Destination attachment is a key antecedent variable of tourists' environmental behaviour and intention to protect heritage, which can change the behaviour intention of tourists and produce positive heritage protection effects [24,25]. Place attachment has a positive impact on tourists' satisfaction and their cognitive, affective and conative loyalty [81]. Place attachment is an important basis for tourists' intentions to protect the environment and has a significant positive effect on tourist environmentally responsible behaviour and their appreciation of tourism destinations [26,71,82,83]. Williams et al. used a psychometric approach to measure the effectiveness of place attachment, with generalisable results indicating that the place attachment of tourists leads to a better understanding and perception of destination culture and heritage value, which can form positive psychological results and promote heritage conservation [84,85].

### *2.4. World Heritage Conservation*

Tourists' attitude and behaviour towards environmental protection play an important role in the heritage conservation and sustainable tourism development of WHSs. The environmentally responsible behaviour of tourists is the starting point for heritage protection. This refers to tourist behaviour that has the least negative impact on the ecological environment and that actively promotes the use of the resources of a tourism destination sustainably. This is known as pro-environmental behaviour, environmentally friendly behaviour and ecological behaviour [23,47,86]. Regarding the tourism activities in WHSs, tourism attraction, cognitive and emotional image, perceived value, recreational involvement, protection commitment and environmental orientation are important factors influencing tourists' environmentally responsible behaviour [36]. The core attraction of OUV and its ancillary attractions, such as tourist service facilities and local communities, have positive



effects on place attachment, perceived value, and the attitudes and behaviours of tourists towards destination protection [18,21,68]. Studies have shown that protection commitment, place attachment and recreational involvement have a positive impact on tourists' environmental responsibility [53,82,87]. Chubchuwong et al. studied destination attachment and property ownership in nature-based tourism, showing that this has a positive effect on behaviour intentions towards the environment [26]. Su et al. used World Heritage as an example to show that place attachment has a significant positive effect on the intention to protect heritage [19]. Through the interpretation and popularisation of the heritage site's OUV and other aspects, heritage education inspires the interests of most stakeholders to protect the natural and cultural world heritage better [41]. Stern proposed the Value–Belief–Norm theory, which broadens the research content of environmental behaviour, and this theory has been tested and applied in many studies [49]. Scholars have mainly explored the relationship and influencing factors of environmental behaviour and attitude towards intention to protect heritage from the perspective of attitude behaviour theory, among which the theory of planned behaviour (TPB) has been widely applied [46]. Based on TPB, scholars have studied tourists' environmental behaviours and intention to protect WHSs heritage, indicating that attitude had a significant effect on behavioural intention [48,88]. Some scholars have adopted the Stimulus–Organism–Response (S–O–R) framework, which is called the environmental stimuli–emotional states–behavioural response theory by many scholars. This framework shows that tourists are stimulated by the outside world and changes to their internal state, resulting in positive environmental behaviour [51,52].

Based on the above review and discussion, we proposed the following hypotheses and constructed a conceptual model:

**Hypotheses 1 (H1).** *An OUV attraction has a positive effect on place attachment.*

**Hypotheses 2 (H2).** *An OUV attraction has a positive effect on heritage conservation intentions.*

**Hypotheses 3 (H3).** *An OUV attraction is related to heritage conservation intentions indirectly, via place attachment.*

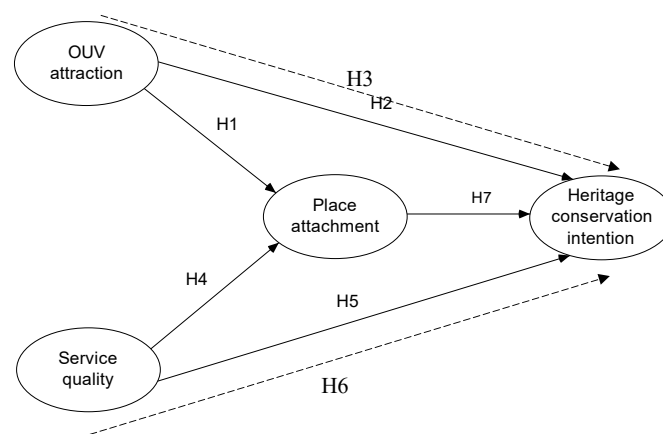
**Hypotheses 4 (H4).** *Service quality has a positive effect on place attachment.*

**Hypotheses 5 (H5).** *Service quality has a positive effect on heritage conservation intentions.*

**Hypotheses 6 (H6).** *Service quality is related to heritage conservation intentions indirectly, via place attachment.*

**Hypotheses 7 (H7).** *Place attachment has a positive effect on heritage conservation intentions.*

The proposed theoretical model is presented in Figure 1.



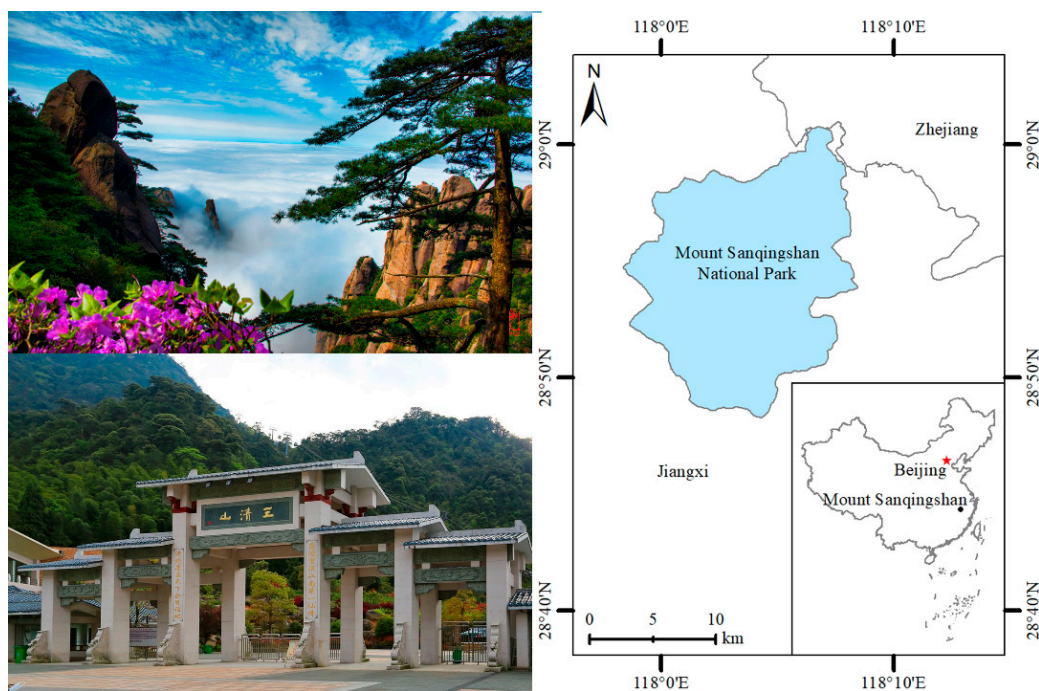
**Figure 1.** The proposed conceptual model. Note: —> directly affect; - - -> indirectly affect. OUV: Outstanding Universal Value.

### 3. Methodology

#### 3.1. Study Area

Mount Sanqingshan National Park is located in Jiangxi Province, PR China; and Yujing, Yuxu and Yuhua, three peaks named after the three supreme Taoism gods of Yuqing, Shangqing and Taiqing, respectively, sit at the top of the mountain (Figure 2). The park is 229.5 square kilometres, and the highest peak is 1819.9 m. MSNP was declared a WNHS by UNESCO in 2008 (Criteria vii); in 2011, it was declared a national AAAAA tour zone as the highest level of tourist attraction in China and was ranked as a World Geopark by UNESCO in 2012. Considering that the MSNP displays a unique array of forested, fantastically shaped granite pillars and peaks concentrated in a relatively small area, the World Heritage Committee of UNESCO, declared its OUV as extraordinary. It is a famous Taoist cultural resort in China, with more than 1600 years of history, and written on its gates are the words ‘清绝尘嚣天下无双福地，高凌云汉江南第一仙峰’ (‘the natural scenery and human history of MSNP are great’).

As one of the world’s most spectacular natural landscapes, MSNP attracts a large number of domestic and international tourists every year. In 2002, the number of tourists to MSNP was 576,100, and the tourism income was RMB 213 million; by 2018, this increased to 23.27 million and RMB 20.94 billion, respectively. However, this rapid growth of tourists has put pressure on the park, including ecological environmental impact, congestion, and heritage protection issues, etc. Therefore, MSNP is an ideal study area to research the OUV attraction, service quality, place attachment, and the WHS conservation intentions of tourists.



**Figure 2.** Mount Sanqingshan National Park (MSNP) geographical location and panorama.

#### 3.2. Survey Instrument

The questionnaire contained the tourist demographic characteristics and four dimensions, including 20 items of the conceptual model of heritage site protection, drawn mainly from the literature review and the project team’s pre-investigation of the case area in April and June 2013 (Table 2). The OUV attraction (5 items) was designed mainly using Criteria vii of the OUV, the MSNP official website and application materials for WHS listing, as well as attributes from the of MSNP. For example, the high-altitude walking trails, although not forming part of the OUV attraction, can better

display its charm and are an important way for tourists to perceive OUV [14,17,68,71]. Related literature that combined the international context with the local background were reviewed, paying attention to the OUV evaluation. Service quality (four items) was drawn mainly from the relevant literature and a preliminary pre-investigation [29,32,43,57,89,90]. Place attachment (four items) was obtained mainly from relevant literature [19,53,79,85,91]. Conservation intention (six items) was drawn mainly from relevant literature, heritage protection regulations, and the pre-investigation [19,46,47,53,82,92]. The ratings for each statement were based on a Likert scale ranging from (1) 'strongly disagrees' to (5) 'strongly agrees'.

### 3.3. Sampling Instructions

The questionnaire was distributed by 13 researchers, who had participated in the questionnaire design or distribution training, to domestic tourists at MSNP (since there are very few international tourists). The survey was conducted in August 2013, and later field investigation in May 2015. The questionnaires were distributed at the main entrances and exits of the MSNP Jinsha and Waishuang Cableways. To improve the quality of the questionnaire and the recovery rate, the tourists were selected after they visited the two major export outlets in a scenic area, and they were presented with souvenirs as a gift. Based on the convenient sampling method, the research team distributed 620 questionnaires and recovered 595 copies. After excluding questionnaires that were incomplete or not logical, we obtained 563 valid copies, with an effective rate of 90.8%. The research team interviewed stakeholders such as tourists, scenic area managers, tourism practitioners, and the local community on issues such as heritage conservation and tourism development in heritage sites, to gain a deeper understanding of protecting WHSs.

### 3.4. Data Analysis and Sample

Confirmatory factor analysis was used in this study by using the structural equation modelling (SEM), which involved the analysis of the measurement model, the assessment of its validity and reliability and the identification of the relationships among the latent constructs and test mediation effects. SPSS18.0 statistical software (SPSS Inc., Chicago, IL, USA) was used to process the sample data, and both confirmatory factor analysis and SEM techniques were conducted using AMOS 17.0. (SPSS Inc., Chicago, IL, USA). The demographic characteristics of the sample were as follows: the proportion of men and women was approximately equal. Young people under the age of 30 years accounted for 58.6%, and 30–50 years old accounted for 37.3%. Regarding occupational composition, 39.8% were students, which was related to summer student travel. The education level of the participants was mainly high school and junior college (43.4%), or they were undergraduates (32.4%). The average monthly income was mainly less than RMB 1500, accounting for 37.8%, which was in line with the high proportion of students, who had essentially no income; with 46.0% earning between RMB 1500 and RMB 5000. The participants were mostly travelling with tour groups (33.7%) or with family and friends (41.2%); and their tourism motivation was mainly based on natural tourism (71.2%), which was in line with the natural characteristics of the mountainous sightseeing destination chosen for this study.

## 4. Results

### 4.1. Reliability and Validity

The purpose of a reliability test is to assess the reliability, stability and consistency of the scale data, with greater reliability indicating a smaller standard error of measurement. SPSS18.0 software testing illustrated that the overall reliability of the scale was 0.937, using Cronbach's alpha; and the reliability coefficient of each dimension was more than the threshold value of 0.7. The Composite Reliability of each dimension was more than 0.8, indicating that the model reliability was good [93]. The purpose of the validity test was to investigate the validity of the scale's measurement index. And the Kaiser–Meyer–Olkin (KMO) value of the overall sample testing was 0.943, showing that the



questionnaire had good construct validity. Regarding content validity, the KMO value was more than the threshold value of 0.7, indicating that the designed measurement item could represent the content being measured. The average variance extracted (AVE) value was more than the threshold value of 0.5, indicating that the observed variables could measure the latent variables, and that the convergent validity of each construct was satisfied [94]. Furthermore, the variance inflation factor ( $VIF < 10$ ) scores of the linear regression of independent variables indicated that there was no multicollinearity in this study [95]. These findings demonstrated that the correlation coefficients were less than the square root of AVE (Table 1), which indicated that the discriminant validity was suitable [94]. In general, the testing results were acceptable, and the collected data was applicable to the measurement model (Table 2).

**Table 1.** The discriminant validity of the latent variables.

Variable	OA	SQ	PA	CI
OA	0.787			
SQ	0.613	0.775		
PA	0.718	0.721	0.768	
CI	0.588	0.603	0.585	0.735

Note: OA, OUV attraction; SQ, service quality; PA, place attachment; and CI, conservation intention. The main diagonal shows the square root of the average variance extracted (AVE); underneath the diagonal indicated the correlation matrix of latent variables.

**Table 2.** Construct dimension and analysis.

Constructs	Items and	Mean	S.D.	Standardised Loading	Cronbach's Alpha	AVE	CR
<b>OA</b>	OUV attraction				0.90		
OA1	The natural scenery and landscape of MSNP are fascinating.	4.39	0.79	0.81		0.62	0.89
OA2	The magnificent peaks and rocks of MSNP are amazing.	4.42	0.80	0.82			
OA3	The gorges and clouds of MSNP are intoxicating.	4.31	0.86	0.80			
OA4	The vegetation landscape and ecological environment of MSNP are comfortable.	4.36	0.81	0.80			
OA5	The high-altitude suspended walking trails in MSNP are awesome.	4.47	0.78	0.70			
<b>SQ</b>	Service quality				0.84		
SQ1	MSNP tourist facilities are fully functional.	3.88	1.10	0.83		0.60	0.85
SQ2	MSNP travel services are meticulous and thoughtful.	3.96	1.07	0.86			
SQ3	MSNP management regulations are reasonable.	3.99	0.96	0.85			
SQ4	MSNP tourism interpretation system is clear.	3.92	1.13	0.51			
<b>PA</b>	Place attachment				0.87		
PA1	I have a strong sense of identity with MSNP.	4.05	0.97	0.84		0.59	0.88
PA2	I am very attached to MSNP.	3.83	1.04	0.83			
PA3	My trip to MSNP is unforgettable.	4.19	0.89	0.77			
PA4	Visiting MSNP is an important tourist activity for me.	4.13	0.98	0.55			
PA5	MSNP is more satisfying than other scenic spots.	3.95	1.00	0.81			
<b>CI</b>	Heritage conservation intention				0.87		
CI1	I will abide by the management regulations of heritage protection.	4.28	0.85	0.76		0.54	0.88
CI2	I will cherish the ecological environment when I visit.	4.43	0.81	0.71			
CI3	I will actively participate in various heritage protection activities.	3.93	1.06	0.69			
CI4	I will pay for or donate to the protection of heritage sites.	3.82	1.13	0.65			
CI5	I will take legal action to stop the destruction of heritage sites.	4.18	0.92	0.79			
CI6	I will try to dissuade behaviour that is detrimental to heritage protection.	4.21	0.866	0.81			

Note: MSNP, Mount Sanqingshan National Park; OA, OUV attraction; SQ, service quality; PA, place attachment; and CI, conservation intention.

## 4.2. Descriptive Statistical Analysis

According to the mean score of the five-point Likert scale recommended by Tosun (a mean score between 1.0 and 2.4 is objective, between 2.5 and 3.4 is neutral and between 3.5 and 5.0 is approval) [96], the mean score (4.39) for the OUV attraction was high, showing that tourists recognised MSNP's OUV, which was the core driving force and attraction of their heritage tourism. The mean score (3.94) for service quality indicated that tourists agreed with the service quality of MSNP; however, it was not very high, which may be related to factors such as long queues for climbing and the crowding levels of scenic spots. The mean score (4.03) for place attachment was high, indicating that tourists had a cognitive and emotional attachment to the destination. The mean score (4.14) for heritage conservation attitude and the behavioural intention was relatively high, demonstrating that tourists were willing to participate in the environmental protection and heritage conservation of MSNP.

## 4.3. Measurement Model Analysis

To investigate the relationship between the variables in the measurement model, the structural model was tested and analysed. First, the multivariate normality distribution of samples was tested. The testing of the observed variables of skewness demonstrated the absolute value (0.599–1.848) was less than the threshold value (2.58) and the absolute value of kurtosis (0.297–4.274) was less than the threshold value (10); therefore, the sample data could be regarded as having a multivariate normality distribution. Second, the common method bias was tested. The Harman's single factor test was used for our exploratory factor analysis [97]. The first factor explained that 22.28% of the total variance, indicating that common method bias was not a serious issue and could be overlooked. Third, when testing the overall model fit indicators, Hair recommended testing whether there was a violation of the model parameters estimation, which can proceed from two aspects: whether there was a negative variance of the error, and whether the standardised parameter coefficient was greater than or equal to one [95]. The error variance in the model was 0.033–0.048, and there was no negative error variance; the standardised parameter coefficient was 0.514–0.839 and no more than one, indicating no violation of estimation; therefore, the model goodness fit was tested. Finally, we adapted the maximum likelihood method to estimate the parameters of the theoretical model. The relevant fitting parameters were found to be not ideal, and we needed to make further modifications to the theoretical model [98].

According to the measurement model of SEM, the latent variables can be correlated, and the relationship between the latent variables established. The OUV attraction and service quality correlation coefficient was 0.61 and reached significance at 0.001. The modified structural model fit indices were relatively ideal (chi-square degrees of freedom ratio = 3.27, GFI = 0.916, RMSEA = 0.063, IFI = 0.948, TLI = 0.938, CFI = 0.948, PGFI = 0.703, PNFI = 0.785 and PCFI = 0.803, (Table 3)) [99]. In addition to the revised model, the chi-square degrees of freedom were greater than the ideal value of 3, and the remaining indicators had reached the ideal value. The sample size was greater than 500 and the ratio of the chi-square degrees of freedom was less than 5, but not the usual 3 [98,100]. Given this, a chi-square degrees of freedom ratio of 3.27 was acceptable.

**Table 3.** Goodness-of-fit indices.

Model-Fit Index	Absolute Index				Comparative Index			Parsimony Index		
	CMIN/DF	GFI	AGFI	RMSEA	IFI	TLI	CFI	PGFI	PNFI	PCFI
Threshold value	2–5	>0.90	>0.90	<0.08	>0.90	>0.90	>0.90	>0.50	>0.50	>0.50
Theoretical model	4.82	0.885	0.854	0.082	0.910	0.896	0.910	0.696	0.772	0.790
Revised model	3.27	0.916	0.891	0.063	0.948	0.938	0.948	0.703	0.785	0.803

## 4.4. Mediating Effects Testing

In this study, place attachment was used as a mediator variable to test the mediating effect of the OUV attraction and service quality on the tourists' intention to conserve heritage. For the mediation effect testing, we adapted the Bootstrap method and the Mackinnon's PRODCLIN2 method for indirect

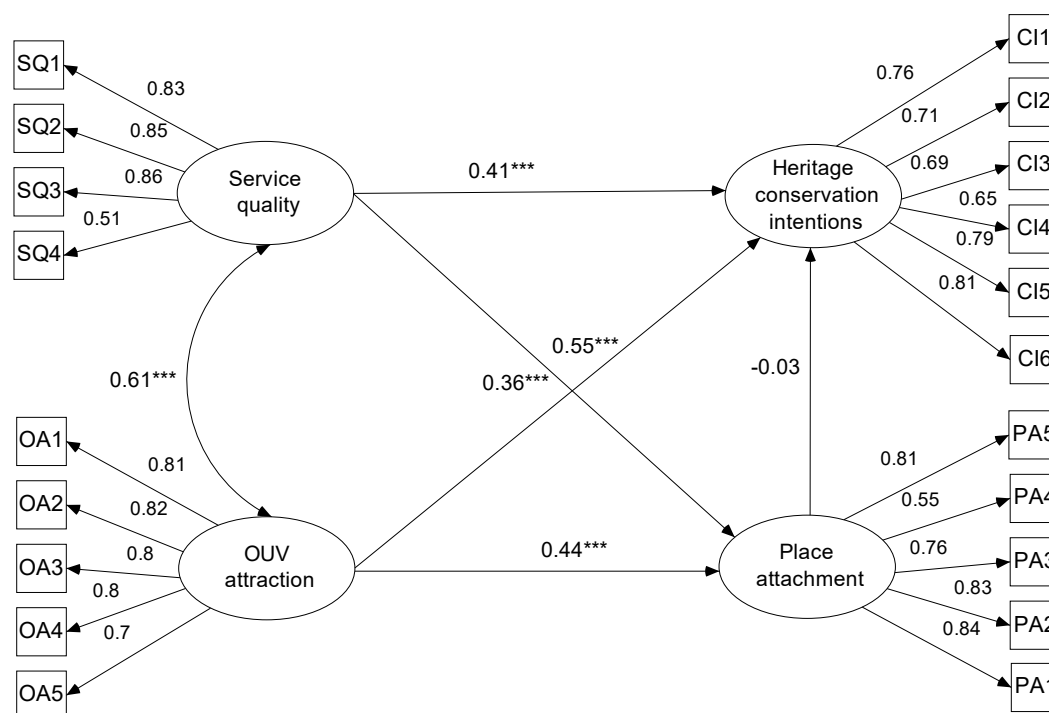
effect testing [101], using 2000 sampling tests. The results demonstrated that place attachment to the OUV attraction and intention to protect heritage, and place attachment to the service quality and intention to protect heritage of the bias-corrected 95% confidence interval and percentile 95% confidence interval values contained 0, the two-tailed significance test was not significant, and Mackinnon's PRODCLIN2 95% confidence interval contained 0, which showed that the mediation effect did not exist (Table 4).

**Table 4.** Mediation effects of service quality and OUV attraction perceptions on heritage conservation intention based on place attachment using Bootstrapping and Mackinnon's PRODCLIN2 techniques.

Variables	Point Estimate	Product of Coefficients		Bootstrapping						Mackinnon's PRODCLIN2 95% CI	
				Bias-Corrected 95% CI			Percentile 95% CI				
Total effect		S.E.	Z	Lower	Upper	Two-tailed significance	Lower	Upper	Two-tailed significance	Lower	Upper
Service quality	0.44	0.07	6.21	0.306	0.584	0.001	0.314	0.593	0.001		
OUV attraction	0.41	0.08	5.04	0.256	0.584	0.001	0.256	0.583	0.001		
Direct effect											
Service quality	0.46	0.13	3.40	0.179	0.721	0.001	0.177	0.72	0.001		
OUV attraction	0.43	0.13	3.33	0.198	0.708	0.001	0.194	0.699	0.001		
Indirect effect											
Service quality	−0.02	0.10	−0.19	−0.224	0.192	0.808	−0.218	0.198	0.873	−0.142	0.124
OUV attraction	−0.02	0.09	−0.19	−0.205	0.148	0.802	−0.195	0.154	0.873	−0.123	0.105

#### 4.5. Structural Model Analysis

The hypothesised causal relationships were tested, and the results of the evaluation are reported in Figure 3 and Table 5.



**Figure 3.** Structural model testing results. \*\*\* Significance at the 0.001 level.

**Table 5.** Summary of hypotheses testing outcomes.

	Hypotheses			SRW	C.R.	Outcomes
H1.	Place attachment	<- - -	OUV attraction	0.44 ***	9.98	Accepted
H2.	Heritage conservation intentions	<- - -	OUV attraction	0.36 ***	4.80	Accepted
H3.	OUV attraction is related to heritage conservation intentions indirectly via place attachment					Rejected
H4.	Place attachment	<- - -	Service quality	0.55 ***	9.44	Accepted
H5.	Heritage conservation intentions	<- - -	Service quality	0.41 ***	4.61	Accepted
H6.	Service quality is related to heritage conservation intentions indirectly via place attachment					Rejected
H7.	Heritage conservation intentions	<- - -	Place attachment	−0.03	−0.29	Rejected

\*\*\* Significance at the 0.001 level.

## 5. Discussion

### 5.1. Discussion of the Results

The results of the study hypotheses are illustrated in Figure 3 and Table 5. H1, H2, H4 and H5 were accepted; however, H3, H6 and H9 were not supported.

The perception of the OUV attraction had a positive effect on place attachment H1 ( $\beta = 0.44$ ) and heritage protection behaviour intention H2 ( $\beta = 0.36$ ), and were moderately effective (path coefficient 0.0–0.1 is a weak effect, 0.1–0.5 was a medium effect, and 0.5–1.0 was a strong effect [102]), which showed that the core OUV attraction of the WNHS had an important influence on tourists' experience value and emotional attachment. This was consistent with the relevant research conclusions [16,17,19,29,30]. Service quality had a positive effect on place attachment H4 ( $\beta = 0.55$ , strong effect) and heritage protection behaviour intention H5 ( $\beta = 0.41$ , medium effect), indicating that the service quality of the heritage site as perceived by tourists had an important impact on their value perception, emotional attachment, environmental protection behaviour intentions and other aspects, which was consistent with the conclusions of previous relevant research [28–31,45].

Tourists' perception of an OUV attraction and service quality had a significant positive correlation ( $\beta = 0.61$ ), further indicating the close relationship between the core and subsidiary attractions of the heritage site, and jointly improving the tourists' experience value, destination attachment and heritage protection behavioural intentions. Moreover, we found that the so-called 'affiliated attraction' of service quality (H4, H5) was stronger than the core attraction of OUV (H1, H2) to place attachment and heritage conservation intention, respectively, and that the phenomenon of 'core' appeared in the subsidiary attraction, which also indicated that service quality played an important role in tourists' travel experience and attitude changes.

In our research, the mediation effect testing (H3, H6) of place attachment as a mediator variable between the OUV attraction and service quality, and the positive assumption of place attachment to the tourists' heritage conservation behaviour intention (H7) were not supported, respectively. However, related relevant studies have shown that the place attachment of tourists had a significant positive effect on heritage conservation, environmental protection, and resource preservation [19,24,77,103]. Meanwhile, other relevant studies have demonstrated that the influence of place attachment on tourist behavioural intention is not always positive, and might be both positive and negative [104]. The research conclusions of Kyle et al. indicated that tourists' place attachment had a negative impact on the physical perception and social environment of the tourism destination [85]. The study described the relationship between the destination and the length of stay, finding that the connection between tourists and the destination was superficial, and their emotional connection was weak; the tourists' degree of cognition of the site and their preferences resulted in poor attachment to the

destination [105]. Therefore, the attachment to tourist heritage protection behaviour needs further research and exploration.

Regarding the OUV attraction, service quality, and place attachment of tourists in this study, after the outside world stimulated the tourists, they experienced internal emotional changes, which had an impact on their heritage protection behaviour intentions. A stimulus from the outside world caused a natural response to protect heritage [51], indicating what kind of attitude would produce the corresponding behaviour in TPB [46]; this may also be influenced by personal demographic characteristics, personal beliefs and values and social norms [48,49]. Research showed that environmental behaviour has a positive effect on place attachment, that satisfaction improves environmental protection intentions, and that environmental protection intentions are enhanced by local plots and destination attachments [106], indicating that both the antecedents and consequences can be transformed to some extent. For example, further active practices of heritage protection behaviour may, in turn, promote the tourists' perception of the heritage attraction.

### 5.2. Implications

From a theoretical viewpoint, this study took the core OUV attraction of WHS and affiliated attraction of service quality as the two variables with which tourists are most concerned and used place attachment as a mediator to study the protection of WHSs. It provided a new perspective and also promoted and improved the theoretical study of tourists' environmental behaviour. The effect of place attachment on tourists' heritage protection behaviour was not significant, and was contrary to most previous studies, indicating that there was a difference in the effect of place attachment theory on different subjects. Therefore, it cannot be said that place attachment always has a positive effect. This research framework may provide a new perspective to study the conservation intention of tourists towards WHSs.

From the perspective of heritage management and protection, the role of tourists in heritage protection should be given more attention, highlighting the role and status of the 'customer-oriented owner'. Compared with the core OUV attraction that people usually consider, the affiliated attraction of service quality may be assumed to be a 'core' trend in tourists' minds. Therefore, in order to better express the value of the OUV experience and to enhance the satisfaction of tourists, tourist operators must also manage the affiliated attraction services successfully. To better protect the value of WHSs, relevant modern technologies could be adopted (such as smart tourism, artificial intelligence, big data, and virtual reality) to perform their respective technological advantages before, during, and after tourism. More channels could be provided through conservation education, choice of tourism experience, and promotion of tourism value, as well as via expressed cognitive and attachment emotions. In addition, WHSs stakeholders need to improve their coordination, and consider, for example, the economic interests but not limit the maximum number of tourists; the ecological and social capacity of WHSs, especially the psychological capacity of tourists; and the social, economic and cultural influences of the indigenous peoples of the heritage sites. This will maximise the protection of heritage sites and support heritage tourism, indirectly or directly enhancing tourists' satisfaction and destination attachment, and promoting tourist's intention to conserve WHSs.

### 5.3. Limitations and Future Research Directions

While this paper obtained relevant research results, there were still some limitations and space for further improvement in the future. First, how to 'determine' the value of OUV as the core attraction, and further develop a measurement for tourists' perception of OUV, considering the characteristics of each WHS and the commonalities in their OUV should be considered. Second, more attention must be paid to the role of tourist satisfaction and perceived value in environmentally responsible and heritage protection behaviours. Third, further exploration could determine the influence of sense of place on tourists' intention to protect heritage, whether from the perspective of place attachment, destination attachment, or heritage attachment, and could more accurately measure the cognitive and emotional



changes of tourists. Finally, this study was based on Chinese cultural background and traditional philosophical thinking that have their own specific characteristics. For example, Taoist thinking is very influential in China, in that human beings should respect and conform to nature (人法地, 地法天, 天法道, 道法自然); the study area, MSNP, is a Taoist resort equally influenced by Taoist culture, and in particular, these philosophical thoughts. It is worth studying whether this has an impact on tourist heritage conservation and how much influence it has. It is possible to integrate the ideas of human and land harmony (天人合一) in traditional Chinese philosophy into studies on the intention to protect heritage and environmental behaviour, and compare the corresponding research conclusions with the results based on a Western cultural background; the conclusions of such a study may be more persuasive and universal.

## 6. Conclusions

Based on the WHNS's core OUV attraction and service quality perception, this paper used place attachment as a mediator variable and studied the influencing factors and relationship of the tourists' heritage protection behaviour intention. Studies have demonstrated that the OUV attraction and service quality had a positive effect on tourists' place attachment and intention to protect heritage. Moreover, quality service as an affiliate attraction had a 'core' trend. In this study, the hypothesis of place attachment on tourists' intention to protect heritage was not supported. Moreover, the mediation effect of place attachment between the perception of an OUV attraction and heritage protection, and service quality and heritage intention did not exist, indicating that the mechanism by which place attachment affected heritage conservation was complex and may involve both positive and negative results. The research framework of heritage site protection based on the perspective of tourists was proposed in this study, expanding the boundaries of research on heritage site protection, having a theoretical significance, and a guiding significance for heritage protection and management. It also provided a new perspective for the theoretical research and development practices of tourism and heritage development in WHSs and promoted the conservation and sustainable development of WHSs.

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