

A Literature Review of the Academic Study of Tourists' Environmentally Responsible Behavior in China

Yijun Quan

Shenzhen Campus, Jinan University, Shenzhen, China

Abstract: Training tourists with environmentally responsible behavior is helpful to protect the environment of the tourist destination and is an important way to realize the sustainable development of the tourist destination. Therefore, it is necessary to study and understand the influencing factors and driving mechanism of tourists' environmentally responsible behavior, so as to form strategies for promoting environmentally responsible behavior and therefore provide scientific basis for management decision-making. This paper reviews the relevant research of Chinese scholars on tourists' environmental responsibility behavior, analyzes the characteristics of the literature, summarizes the research hotspots, and draws a research prospect based on the review and analysis, in order to provide reference for relevant research.

Keywords: Tourists' environmentally responsible behavior; pro-environmental behavior; connotative definition influence mechanism.

1. Introduction

Taking the road of green ecology is the development direction and mission of the current tourism industry [1]. The green and ecological development of tourism, in addition to policy guidance and government, enterprise management and construction play an important role. And tourists are also an important part of it. Tourists' behavior is related to the ecological environment of the tourist destination, so it is also related to the sustainable development of tourism. The environmentally responsible behavior of tourists refers to the behavior of tourists based on their inner consciousness, which is directly related to the environment, reduces the negative impact of themselves and others on the environment, and even promotes the sustainable development of the environment. Training tourists with environmentally responsible behavior will help protect the environment of tourist destinations and significantly reduce the transaction cost of ecological environment conservation in tourist destinations [2], which is an important way to achieve sustainable development of tourist destinations. Therefore, it is necessary to study and understand the influencing factors and driving mechanism of tourists' environmentally responsible behavior, based on which form strategies for promoting environmentally responsible behavior, so as to provide scientific basis for management decision-making.

Environmentally responsible behavior was first proposed by Borden and Schettino in 1979 [2]. After 44 years of development, the study of environmentally responsible behavior of foreign tourists has formed a system and is relatively mature, while in China, it started relatively late but developed rapidly. In recent years, it has become a hot spot in the field of tourism research and attracted the attention of many researchers. This paper reviews the relevant Chinese research on domestic tourists' environmentally responsible behavior, analyzes the characteristics of the literature, summarizes the research hotspots, and draws a research prospect based on the review and analysis, in order to provide reference for relevant research.

2. Concept definition

2.1. Environmentally responsible behavior definition

In the academic world, the definition of environmentally responsible behavior is generally similar, which can be comprehensively expressed as the behavior that is based on personal consciousness and values and is directly related to the environment, reduces the negative impact of oneself and others on the environment, and even promotes the sustainable development of the environment. Environmentally responsible behavior is generally interchangeable with pro-environment behavior, environment-friendly behavior, sustainable tourism behavior, and ecological behavior in research [3]. Among them, the two descriptions of environmentally responsible behavior and pro-environmental behavior have a long research history, a high degree of recognition and a high frequency of use [4], so the literature research in this paper mainly focuses on the study of environmental responsible behavior and pro-environmental behavior.

2.2. Measurement and classification of tourist environmentally responsible behavior

There are many ways to measure and classify environmental responsibility. For example, it can be divided from the dimensions of behaviorism, the degree of public and private fields involved and the perspective of cost input. In the research field of tourists' environmentally responsible behavior, through reading the highly concerned literature on tourists' environmentally responsible behavior, the following measurement methods are sorted out:

(1) Ramkissoon's low effort pro-environment behavior and high effort pro-environment behavior are two dimensions. Among them, low-effort pro-environment behavior refers to the behavior that does not require tourists to pay a lot of time, money and effort, such as low-carbon travel, no littering and so on. High-effort pro-environmental behaviors require tourists to make more efforts, including donations, ecological initiatives and persuading others. [3] [5]

(2) Environmental maintenance behavior and environmental promotion behavior [6]. This classification is based on the views of Ramkissoon et al., Lee et al., and Lee Qiucheng et al. Among them, environmental maintenance behavior refers to the behavior of tourists in the process of wetland tourism to reduce the negative impact on the environment of the scenic spot, which belongs to the shallow level of environmental protection behavior, including no litter, no damage to vegetation and so on. The "wetland environment promotion behavior" refers to the "extra efforts" made by tourists to promote the environmental protection of the scenic spot, which has the color of high-level environmental activism, including participating in volunteer services, environmental protection public welfare activities, and donations.

(3) N.J. Smith-Sebasto and D 'Costa divided environmentally responsible behavior into six dimensions: educational behavior, civic behavior, financial behavior, physical behavior, legal behavior, and persuasion behavior. [2]

(4) Halpenny's pro-environment behavior measurement scale of tourists in scenic spots. [7] [8] [9] This measurement scale is used more frequently in this field.

(5) Zhao Zongjin's integrated scale for the study of Chinese tourists, which is integrated by Smith-Sebasto and Halbeni's scale of tourists' environmentally responsible behavior. [10] [11]

(6) Vaske and Korbin divided environmentally responsible behavior into general behavior and special behavior [12].

3. Literature Feature Analysis

3.1. Research methods and data sources

The literature research adopts the method of literature econometric analysis and qualitative literature analysis. The bibliometric analysis uses the visualization function of CNKI platform to analyze the selected literatures.

In order to objectively and accurately select research samples related to tourists' environmentally responsible behaviors, the data source used in this paper is the China National Knowledge Network platform. On November 16, 2023, with the keywords " environmentally responsible behaviors & tourism" and "pro-environmental behavior & tourism" as the search, a total of 264 results were obtained, including 114 graduate papers and 148 journal papers, and the search object also included conferences. In order to unify the research background and reduce the interference of other factors, literature samples focusing on the study of tourists' environmentally responsible behavior were further selected, and literature reviews and periodical recommendations were deleted, as well as literatures on the environmentally responsible behavior of residents, farmers and employees were deleted, and a total of 199 relevant literatures were finally obtained.

3.2. Main features of literature

3.2.1. Number of published papers

Index analysis

Number of references	Total reference number	Total arguments	Total downloads	Number of references in each article	The total number of citations	Number of downloads per article	Download the citation ratio
199	6036	2878	221050	30.33	14.46	1110.8	0.01

General trend analysis

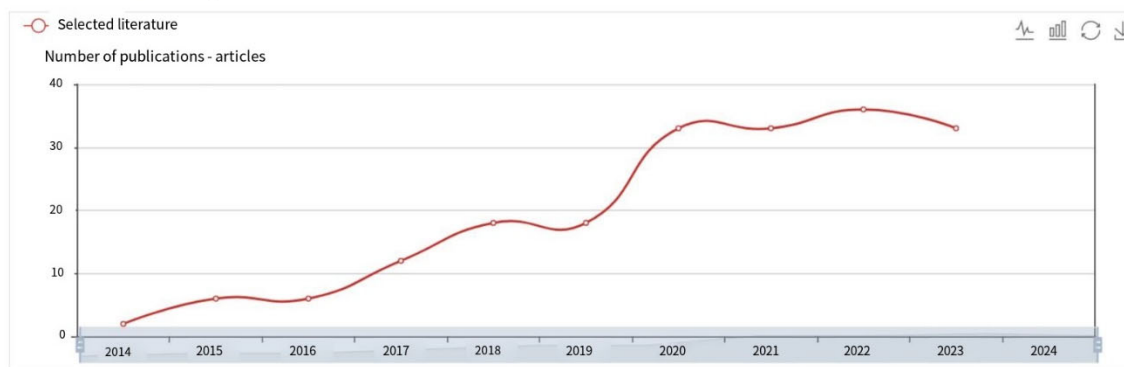


Figure 1. Literature index and number of publications

Through the study of the annual number of articles published on the theme and its trend, the change of its attention and the overall development trend can be obtained. In the sample database selected in this study, the literature index and annual publication volume of the study on tourists' environmentally responsible behavior are shown in Figure 1. From 2014 to 2023, the number of published papers showed an overall upward trend, among which the number increased steadily from 2014 to 2019, the number increased rapidly from 2019 to 2020, the number fluctuated steadily from 2020 to 2023, and the number of published papers reached a high level in 2022. It can be seen that the current research on tourists' environmentally responsible behavior has reached a stable development stage, and the heat is high.

3.2.2. High-profile literature

Since the downloads of literature can reflect readers' attention to a certain literature topic, this paper sorted the 199 literatures in the sample according to the download data provided by CNKI, and selected the top 10 as literatures with high attention. As shown in Table 1, the literatures ranked top 10 according to the download statistics as of November 16, 2023. From the summary of the titles, keywords and contents of the literatures, it can be seen that the research on tourists' environmentally responsible behavior has received great attention in three aspects: influencing factors, driving factors and mechanisms of environmentally responsible behavior, and the interaction between tourists' perception factors and environmentally responsible behavior.

Table 1. High-profile literature

Serial number	topic	author	journal	year	keyword	Downloads
1	Tourist Destination Image, Place Attachment and Tourists' Environmentally Responsible Behavior: A Case of Zhejiang Tourist Resorts	FAN Jun; QIU Hongliang; WU Xuefei	Tourism Tribune	2014	tourist destination image; place attachment; tourists' environmentally responsible behavior; tourist resort;	11579
2	Influence Mechanism of Nostalgia on Historical and Cultural Blocks Tourists' Environmentally Responsible Behavior: Intermediary Role of Perceived Value and Place Attachment	JIANG Jinbo; SUN Shaoxiong	Human Geography	2021	nostalgia; perceived value; place attachment; tourists' environmentally responsible behavior; historical and cultural blocks;	6924
3	Does Tourist-Environment Fit Affect Environmentally Responsible Behavior? Using Memorable Tourism Experience and Place Attachment as Intervening Variables	CAI Libin; ZHU Xiaotong	Tourism Tribune	2021	tourist-environment fit; memorable tourism experience; place attachment; environmentally responsible behavior;	6320
4	Tourists' Environmentally Responsible Behavior Intentions Based on Embodied Perceptions: The Arousal of Awe and Anticipated Self-conscious Emotions	NIU Jingqi; Liu Jingyan	Tourism Tribune	2022	evaluation of embodied perception; awe; anticipated self-conscious emotion; environmentally responsible behavior intentions;	6106
5	Tourists' Awe and Environmentally Responsible Behavior: The Mediating Role of Place Attachment	QI Xiaoxiao; ZHAO Liang; Hu Yingchun	Tourism Tribune	2018	awe; environmentally responsible behavior; place attachment; mechanism; Mount Qian;	5900
6	Place Attachment and Pro-Environmental Behaviors of Bird-Watching Tourists: Taking Natural Empathy and Perception of Environmental Education as Mediating Variables	LI Wenming; YIN Chengqiang; TANG Wenyue; LI Xiangming; YANG Dongxu; ZHANG Yuling	Economic Geography	2019	place-attachment; pro-environment behavior; natural empathy; perception of environmental education; Bird watching tourism; Poyang Lake National Wetland Park;	5373
7	Development of the Academic Study of Tourists' Environmentally Responsible Behavior: A Literature Review	QIU Hongliang; FAN Jun; ZHAO Lei	Tourism Tribune	2018	tourists' environmentally responsible behavior; connotative definition; structural dimensions; formation mechanism;	4994
8	The Role of People-Land and Interpersonal Interactions in Predicting Tourists' Intention to Adopt ERB	LI Qiucheng	Zhejiang University	2015	eco-tourism; environmentally responsible behavior; social capital; theory of planned behavior, norm-activation model	4606
9	The Pro-environment Motivating Effects of Place Attachment Dimensions under the Moderation of Mass Tourism Value Orientation	QU Ying; LYU Xingyang; SHEN Xuerui	Tourism Tribune	2020	mass tourism value orientation; extrinsic motivation; place attachment; pro-environmental behavior desire;	4018
10	Study on Relationship among Tourist Perceived Value, Satisfaction and Environmental Responsibility Behavior in Forest Park	LIU Qiaohui; WANG Xiaoping; LIU Jinglan	Ecological Economy	2022	perceived value; satisfaction; environmentally responsible behavior, forest park;	3820

4. Research Hotspot Evolution and Analysis

4.1. Hot spot evolution

After studying the literature research topics in different

years and combining with the changes in the number of papers published each year, this paper divides the research on tourists' environmentally responsible behavior into the following stages:

(1) 2014-2018

At this stage, many scholars have conducted

comprehensive and basic research on tourists' environmentally responsible behavior. How Xuehuan et al. [13] sorted out the results of the research on the environmentally responsible behavior of foreign tourists and introduced the elements of Chinese traditional culture into the research. Qiu Hongliang et al. [14] reviewed the literature on domestic and foreign tourists' environmentally responsible behavior from three aspects: connotation definition and comparison, structure and measurement, and formation mechanism model. The literature has attracted great attention.

At the same time, scholars also focus on the influential factors and driving mechanism of tourists' environmentally responsible behavior. Many scholars, such as Hong Xueting et al. [15], have studied the relationship between tourists' environmental attitude, tourism experience and environmentally responsible behavior. Fan Jun [12] et al. built a model of the relationship between tourist destination image, place attachment and tourists' environmentally responsible behavior, and studied the influence and realization mechanism of the three. Qi Xiaoxiao [16] et al. took place attachment as the mediating variable to study the influence of awe emotion, an emotional factor, on environmentally responsible behavior. At this stage, there are few studies on the inclusion of emotional factors into the consideration of tourists' environmentally responsible behavior, so this document has strong innovative significance at this stage.

(2) 2019-2020

The more significant feature of this stage of research is the increase of literature on rural tourism or agricultural heritage tourism and tourism in ecologically sensitive or ecologically fragile areas. For example, Kong Yidan et al. [17] built a mechanism model of tourists' environmentally responsible behavior from the perspective of rural sexual awareness. Su Yingying et al. [18] studied the relationship between tourists' environmentally responsible behavior and traditional dietary preference in rice-fish symbiotic system tourism in Qingtian, Zhejiang, an important agricultural cultural heritage. Zhu Xuetong et al. [19] constructed and verified the relationship model between rural tourists' perceived value, place attachment and environmentally responsible behavior, so as to analyze the driving factors and influencing paths of tourists' environmentally responsible behavior. In terms of tourism in ecologically sensitive or ecologically fragile areas, the tourism destinations studied include wetlands, forests, grasslands and Sanjiangyuan national parks. For example, Wu Ruoyun et al. [20] took visitors in Sanjiangyuan National Park as research objects and discussed the relationship among local knowledge needs, place attachment and environmentally responsible behaviors. Wang Yafang [21] took Xilamuren Grassland tourism area as a case study to study the influencing factors of tourists' environmentally responsible behavior from the perspectives of both subject and object.

At this stage, the forming factors, driving mechanism and influencing factors of tourists' environmentally responsible behavior are still the focus of scholars' research, among which, perceived value, place attachment, tourist involvement and tourist destination image are the factors concerned by many researches.

(3) 2021-2023

The characteristics of the literature at this stage are that the literature related to perceived value has a higher attention, and the number of literatures on environmental education (including environmental education perception, environmental knowledge, etc.) has increased. For example,

Jiang Jinbo et al. [22], starting from nostalgia and taking perceived value and place attachment as mediating variables, constructed an influence mechanism of environmentally responsible behavior of tourists in historical and cultural blocks. Liu Qiaohui et al. [23] analyzed the relationship between perceived value, satisfaction degree and environmentally responsible behavior of forest park tourists by constructing a theoretical model of perceived value and environmentally responsible behavior. In terms of environmental education, Luo Peicong et al. [24] explored the formation mechanism of tourists' environmentally responsible behavior by taking tourists' perception of environmental education as antecedent variable, natural empathy as intermediary variable, tourists' environmentally responsible behavior as outcome variable, and interpersonal trust as moderating variable. Li Wenming et al. [25] took environmental knowledge as the moderating variable to explore the direct impact and driving mechanism of tourists' environmental concern and place attachment on tourists' environmentally responsible behavior in historical and cultural blocks.

4.2. Hot spot analysis -- Driving factors of tourists' environmentally responsible behavior

The research on the driving factors of environmentally responsible behavior is the key content in the existing research. By understanding the drivers, identify the behaviors that need to be encouraged and changed, and develop appropriate management strategies to promote environmentally responsible behavior among visitors. Based on the research results of Chen Gezhi [26] and Li Qiucheng [2], the research of domestic scholars on the driving factors of tourists' environmentally responsible behavior can be divided into four categories, which are tourist demographic characteristics, social psychological factors, emotional factors, tourist perception and experience.

4.2.1. Visitor demographics

The demographic characteristics of tourists include gender, age, income, educational background, travel mode and so on. Previous studies have found that the gender, age, income and educational background of tourists are related to the degree of ecological concern and environmental knowledge, which leads to differences in environmentally responsible behaviors. Jia Yanju and Lin Derong [27] found that age has a direct impact on tourists' environmentally responsible behavior. The older the tourists are, the better their environmentally responsible behavior will be. Education level influences environmentally responsible behavior through the mediating variable of place attachment. According to Liu Rufe [28], there are significant differences in gender characteristics of environmentally responsible behaviors, and women show higher characteristics of environmental friendliness. Education and occupation are related to environmentally responsible behavior to some extent; There was no correlation between demographic factors such as age, income, residence and marital status and environmentally responsible behavior. There is no consistent conclusion on the relationship between demographic characteristics and environmentally responsible behavior, which may be due to the differences in the measurement scales, schemes and scenarios of environmentally responsible behavior [2].

4.2.2. Social psychological factor

The study of social psychological factors includes behavior attitude, values and so on.

(1) Behavior attitude

In the relevant literature on driving factors of environmentally responsible behavior, the positive impact of environmental behavior attitudes on individuals' willingness to implement environmentally responsible behavior has also been confirmed by a large number of empirical studies [2]. The theory of planned behavior and the new ecological paradigm are the source of the definition and measurement of environmental attitudes. According to the theory of planned behavior, environmental attitude is an important factor affecting environmental behavior intention. The new ecological paradigm has been widely used to measure environmental attitude and environmental concern. Based on the theory of planned behavior, Zhang Qiongrui and Wang Zhongjun [29] drew the conclusion that environmental attitude and environmental behavior intention, as key intermediary variables, directly or indirectly affect environmentally responsible behavior. The research of Zhang Yuangang and Yu Runzhe [30] also verified that environmental attitude has a significant positive impact on environmentally responsible behavior. The more positive the tourists' attitude towards the environment, the more inclined they are to act environmentally responsibly [29] [30]. At the same time, many scholars have drawn different or even opposite conclusions. For example, Wang Kai et al. [31] found that tourists' attitude has no obvious influence on their environmentally responsible behavior tendency.

(2) value

In the study of values, "value-belief-norm theory" (VBN) proposed by Stern et al. is a classic theory to study values and environmental behavior. According to Stern's theory, values can be divided into egoistic values, altruistic values and ecological values. Huang Tao et al. [32] concluded that ecological values and altruistic values indirectly drive environmentally responsible behaviors through environmental attitudes, while egoistic values do not drive environmentally responsible behaviors, based on the hierarchy relationship of value-attitudinal behaviors. It is worth noting that the two are different in driving environmentally responsible behaviors. Ecological values are driven by individuals' respect for the environment itself, while altruistic values are driven by individuals' respect for others' enjoyment of the ecological environment [2]

4.2.3. Emotional factor

With the deepening of research, the impact of emotional factors on environmentally responsible behavior has attracted increasing attention. In recent years, many scholars have found that emotional factors are more conducive to people's understanding of the formation mechanism of environmentally responsible behavior than cognitive factors [33]. Among them, place attachment has attracted the attention of many scholars. Scholars generally divide place attachment into place dependence and place identity. The former refers to tourists' functional attachment to a specific destination and awareness of the uniqueness of the environment, while the latter refers to tourists' self-identification of a specific destination through a series of conscious and unconscious thoughts, beliefs, preferences, feelings, values, goals and behavioral tendencies. Wu Ruoyun et al. [20] found that place attachment has a significant positive impact on self-restraint behavior, which verified

Halpenny et al.'s view that place attachment has a significant positive relationship with environmentally responsible behavior. Fan Jun et al. study that place attachment is a more important factor driving tourists' environmentally responsible behavior, among which place dependence has a greater impact on tourists' environmentally responsible behavior than place identity [12].

Place attachment often plays a role as an intermediary variable in the model of driving factors. For example, some subdivided destination intentions use place attachment as an intermediary variable to affect environmentally responsible behaviors [12], tourist-environment fit acts on environmentally responsible behaviors through place attachment [34], and awe emotion partially acts on environmentally responsible behaviors through place attachment [16]. At the same time, some studies have found that after environmentally responsible behaviors are divided into different dimensions, the impact of place attachment on subdivided environmentally responsible behaviors is different [36].

In the study of individual emotions, some positive emotions are believed to promote environmentally responsible behaviors. Qi Xiaoxiao et al. [16] found that in the context of religious mountain tourism in China, awe can lead to place attachment, which has a significant direct impact on environmentally responsible behavior. Zhang Yuangang et al. [35] found that nostalgia of tourists in ancient villages has a significant positive impact on environmentally responsible behavior, while Jiang Jinbo and Sun Shaoxiong's research on tourists in historical and cultural blocks [22] produced quite different results: Nostalgia does not have a direct and significant positive impact on environmentally responsible behaviors, which may be due to the fact that nostalgia in different situations may be accompanied by negative emotions [22].

4.2.4. Visitor perception and experience

Through literature review, it is found that tourist perception and experience have always been the focus of research on driving factors of environmentally responsible behavior.

(1) Tourist destination image

Tourist destination image is a classic theme among them. According to the definition of [12], tourist destination image refers to tourists' perception and emotional evaluation of various attributes of tourist resort. It is concluded that tourism destination image influences environmentally responsible behavior through its internal function and the mediating function of place attachment.

(2) satisfaction

Satisfaction is also an important factor affecting environmentally responsible behavior. Studies by many scholars at home and abroad have shown that high tourist satisfaction is closely related to tourists' immediate or future positive environmental protection behaviors, and this view has been confirmed in different tourism scenarios. [23] [36]. Liu Qiaohui et al. [23] concluded that satisfaction has a significant positive impact on environmentally responsible behavior in the study of forest park tourism, and Chen Hu et al. [36] showed that satisfaction with tourist imagery in historical districts has a positive impact on tourists' environmentally responsible behavior.

(3) Tourist perceived value

Tourists' perceived value is also a topic of concern to many scholars. At present, many studies have verified that tourists' perceived value has a positive impact on tourism satisfaction

and environmental responsibility [23]. Liu Qiaohui et al. [23] divided tourists' perceived value into five dimensions in the context of forest park tourism, and found that most elements of environmentally responsible behavior had a significant positive impact. But other studies have come to a different conclusion. Jiang Jinbo and Sun Shaoxiong [22] found that tourists' perceived value had no direct impact on environmentally responsible behavior in the tourism scenario of ancient villages. The difference in results may be due to the difference in tourism scenarios. Studies that reach the conclusion that perceived value has a positive impact on environmentally responsible behavior often focus on ecotourism scenarios, and different dimensions of perceived value have different impacts on environmentally responsible behavior [22].

(4) Environmental education perception

In recent years, more and more scholars have studied the issue of environmental education in the aspect of environmentally responsible behavior, and the perception of environmental education has also received more attention. Luo Peicong et al. [24], based on the stimulus - organism - response (SOR) theory, believe that tourists perceive environmental education through audio-visual perception, and then process this stimulus to obtain natural empathy emotions. Finally, such emotions may cause tourists to react and take relevant behaviors. This study shows that tourists' perception of environmental education has a significant positive impact on natural empathy and environmentally responsible behavior. At the same time, Sun Shaoxiong [37] divided tourists' perception of environmental education into two dimensions: systematic perception of environmental education and action perception of environmental education, and found that both of them had a positive impact on environmentally responsible behaviors, but the impact paths were different.

(5) Tourism involvement

Tourism involvement is also a factor that has received more attention in the research of tourism perception and experience. Many scholars have confirmed the impact of tourism involvement on tourists' behavioral intention of environmental responsibility [38]. In the context of ecotourism, Wang Hua and Li LAN [38] came to the conclusion that eco-tourism involvement has a significant and positive impact on the intention of birdwatching tourists to act environmentally friendly. Wu Zhicai et al. [39] divided tourism involvement into attraction, centrality and self-expression in the scenario of greenway leisure tourism. However, the study found that all dimensions of tourism involvement did not have a direct impact on environmentally responsible behavior. The reason for the difference in results may lie in the different travel scenarios [39].

5. Summary and Research Prospect

5.1. Summary

The concepts of environmental responsible behavior, pro-environmental behavior and environment-friendly behavior can be used interchangeably in research. At present, there are a variety of measurement and classification methods, but the academic community has not reached a consensus. Researchers generally choose different measurement and classification methods according to their own research tourism scenarios and angles.

The research on the environmentally responsible behavior

of domestic tourists has shown an overall upward trend since 2014, and is currently in the climax stage of development, which roughly goes through three stages. From 2014 to 2018, there are more comprehensive and basic studies, and from 2019 to 2020, there are more literatures on rural tourism or agricultural heritage tourism and tourism in ecologically sensitive or ecologically fragile areas. The forming factors, driving mechanisms and influencing factors of tourists' environmentally responsible behaviors are still the focus of scholars' research. From 2020 to 2023, the literature related to perceived value has a higher concern, and the number of literatures on environmental education (including environmental education perception, environmental knowledge, etc.) has increased.

The research on the driving factors of environmentally responsible behavior has always been the focus of existing research. The research methods of researchers are relatively similar, most of them are based on specific tourism scenarios or tourism groups, and the relationship model between various elements is built, so as to obtain the driving mode of environmentally responsible behavior. The innovation of research often lies in new tourism scenarios or tourism groups, and exploring the relationship model between different elements. The factors that researchers often pay attention to include tourist demographic characteristics, social psychological factors, emotional factors, tourist perception and experience. Scholars still have not reached a consensus on the relationship between some of these elements and environmentally responsible behavior and how to drive environmentally responsible behavior. The reasons may lie in the difference of tourism scenarios and research scales.

5.2. Research prospect

Tourists are an important factor in tourism development. To take the road of sustainable tourism development, more tourists need to practice environmental responsibility. Research on the driving factors of tourists' environmentally responsible behavior is conducive to the formation of strategies to promote environmentally responsible behavior, so as to guide realistic management and decision-making.

Due to the late start of the research on domestic tourists' environmentally responsible behavior, more perfect and abundant research is needed to support the management, decision-making and planning design under the current situation of diversified tourist attractions, complex tourist scenarios and diversified tourist types in China. Based on the existing analysis in this paper, the following research prospects are obtained:

(1) The measurement scale should be localized, adapt to the Chinese context, and introduce Chinese perspective and Chinese ideology and culture

Based on the analysis of existing literature, it is found that most scholars refer to the scales and relational derivation theories of foreign studies, or delete the dimensions of the scales of foreign studies according to the Chinese context, no matter the scales of environmentally responsible behavior, the scales of various driving factors, or the assumptions in the construction of models. Due to the differences in cultural and social environment, Chinese tourists have different ways of thinking, ways of behavior and travel scenes from foreign countries, and the factors related to environmentally responsible behaviors are bound to be different. Therefore, measurement standards adapted to the Chinese context should be studied, and Chinese people's ideology, culture and ways

of behavior should be introduced for thinking.

(2) The driving factors are sorted out from the perspective of tourism scenario

Through literature review, it is found that in the research on the driving mechanism of environmentally responsible behavior, under different tourism scenarios, the results obtained by the same factors may be quite different or even opposite. At present, there are no or few researchers to sort out the driving factors of environmentally responsible behavior from the perspective of tourism scenarios. Through sorting out the relationship between tourism scenarios and driving factors of environmentally responsible behavior, explore the reasons behind them, so as to provide reference and new perspectives for future research.

(3) The dynamic analysis of space-time dimension is carried out

The current research on environmentally responsible behavior lacks dynamic analysis from time and space dimensions, and tourists' environmentally responsible behavior is not a static process, especially the environmentally responsible behavior driven by tourism perception and experience, whose duration and degree of survival over time are worthy of in-depth study. At the same time, due to the heterogeneity within the tourist destination, tourists' perception, attitude and behavior will also be different, so their environmentally responsible behavior may also change. Therefore, the dynamic analysis of tourists' environmentally responsible behavior should be carried out in time and space to get a more comprehensive understanding.

(4) Conduct research on the effectiveness of management strategies

Most of the current studies focus on the influence mechanism behind the environmentally responsible behavior in a specific tourist destination and a specific situation, and there is a lack of confirmation whether the management strategy derived from the studies can effectively improve the environmentally responsible behavior of tourists. Perfecting this research will enhance its practical guiding significance.

(5) Take more external factors into account for research

At present, most scholars study from the perspective of individuals, and less focus on the influence of external factors. In the future, the interaction between the government, laws and policies, local residents and other tourists should be taken into consideration [40] to broaden the research on possible external influencing factors.

References

- [1] Wang Yang, Wang Wei, Wei Biao, et al. Practice the Concept of Liangshan and Build a Beautiful China [N]. China Tourism News, 2023-07-20(001).DOI:10.28109/n.cnki.ncllyb.2023.001671
- [2] Li Qiucheng. The Role of People-Land and Interpersonal Interactions in Predicting Tourists' Intention to Adopt ERB [D]. Zhejiang University, 2015.
- [3] He Yunmeng, Xuifeifei. The driving mechanism of tourists' pro-environmental behavior in natura protected areas: A case study of Yuzui Wetland Park in Nanjing [J]. Journal of Natural Resources, 2023,38(04):1010-1024.
- [4] Li Zhifei, Li Tianjiao. A Study of Environmental Responsible Behaviors of Tourists: A Comparative Analysis Based on Domestic and Foreign Studies [J]. Tourism Research, 2023,38(04):1010-1024.
- [5] Zhan Qian, Yang Dongxun, Li Siyi, et al. The Moderating Effect of Place Attachment on Visitors' Pro-Environmental Behaviors in Forest-Tourism [J]. Journal of Central South University of Forestry & Technology, 2020,40(08):164-172.DOI:10.14067/j.cnki.1673-923x.2020.08.020
- [6] Chen Yan, An Lijie, Chen Hong, et al. Declaration of "International Wetland City" and Wetland Environmentally Friendly Behavior: an Empirical Study Based on Huai'an [J]. Journal of Nanjing Normal University (Natural Science Edition), 2022,45(01):96-103.
- [7] Li Wenming, Ao Qiong, Yin Chengqiang, et al. Driving Factors and Influencing Mechanism of Tourists' Pro-Environmental Behavior in Shaoshan Red Tourism Area [J]. Economic Geography, 2020,40(11):233-240.DOI:10.15957/j.cnki.jjdl.2020.11.026
- [8] LI Wenming, Yin Chengqiang, Tang Wenyue, et al. Place Attachment and Pro-Environmental Behaviors of Bird-Watching Tourists: Taking Natural Empathy and Perception of Environmental Education as Mediating Variables [J]. Economic Geography, 2019,39(01):215-224.DOI:10.15957/j.cnki.jjdl.2019.01.026
- [9] Yin Chengqiang, LI Wenming, Zhu Anqi, et al. Impact of Tourists' Perception of Environment Education on Pro-environmental Behavior in Tianyan Scenic Spot: Taking Tourist Expertise as Mediator [J]. Areal Research and Development, 2019,38(06):97-102+110.
- [10] Zhan Anmin, Li Yongwen. Impact of Recreation Involvement on Tourist Pro-environmental Behaviors Taking Place Attachment as a meditative variable [J]. Journal of Central South University of Forestry & Technology (Social Sciences), 2016,10(01):70-78.DOI:10.14067/j.cnki.1673-9272.2016.01.013
- [11] Cheng Wenqian, Wang Zhaofeng, Chen Qinchang. Tourism Environment Fit, Local Attachment and Tourists' Environmental Behavior: A Case Study of Wulingyuan World Heritage Site [J]. Resources and Environment in the Yangtze Basin, 2021,30(08):1879-1889.
- [12] Fan Jun, Qiu Hongliang, Wu Xuefei. Tourist Destination Image, Place Attachment and Tourists' Environmentally Responsible Behavior: A Case of Zhejiang Tourist Resorts [J]. Tourism Tribune, 2014,29(01):55-66.
- [13] He Xuehaun, Hu Dongbin, Su Lujun. Research Progress and the Enlightenment of Tourist Environmentally Responsible Behavior (TERB) Based on Outbound Literature [J]. Tourism Tribune, 2017,32(09):57-69.
- [14] Qiu Hongliang, Fan Jun, Zhao Lei. Development of the Academic Study of Tourists' Environmentally Responsible Behavior: A Literature Review [J]. Tourism Tribune, 2018,33(11):122-138.
- [15] Hong Xueting, Zhang Hongmei, Zhang Yechen. Influence of Tourism Experience on Environmental Attitude and Behavior: A Longitudinal Tracking Study [J]. Journal of Natural Resources, 2018,33(09):1642-1656.
- [16] Qi Xiaoxiao, Zhao Liang, Hu Yingchun. Tourists' Awe and Environmentally Responsible Behavior: The Mediating Role of Place Attachment [J]. Tourism Tribune, 2018,33(11):110-121.
- [17] Kong Yidan, Huang Zixuan, Tao Zhuomin, et al. Study on the Influence Mechanism of Tourists' Environmentally Responsible Behavior Based on Perception of Rurality—A Case Study of Jiangning District of Nanjing City [J]. Journal of Nanjing Normal University (Natural Science Edition), 2019,42(01):124-131.
- [18] Su Yingying, Wang Ying, Sun Yehong, et al. Relationship Between Tourists' Environmental Responsibility Behavior and Food Preference in Agricultural Heritage Sites: A Case Study of Qingtian Rice-Fish Culture System [J]. Chinese Journal of

- Eco-Agriculture, 2020,28(09):1414-1424.DOI:10.13930/j.cnki.cjea.200044
- [19] Zhu Xuetong, Zhang Beibei, Liu Rui, et al. Study on Environmental Responsibility of Rural Tourists from the Perspective of Ecological Civilization [J]. Chinese Journal of Agricultural Resources and Regional Planning, 2020, 41(02): 305-312.
- [20] Wu Ruoyun, Ma Baojian, Zhang Yujun. Research on The Relationship among Local Knowledge Demand, Place Attachment and Environmental Responsibility Behaviors: Take Three-Rivers-Source National Park as an Example [J]. Journal of Central South University of Forestry & Technology (Social Sciences), 2019,13(03):23-29.DOI:10.14067/j.cnki.1673-9272.2019.03.005
- [21] Wang Yafang. A Study on the Tourists' Environmental Responsibility Behavior in the Ecotones: A Case Study of Xilamuren Grassland Tourism Area [D]. Inner Mongolia University, 2020.DOI:10.27224/d.cnki.gnmdu.2020.000614
- [22] Jiang Jinbo, Sun Shaoxiong. Influence Mechanism of Nostalgia on Historical and Cultural blocks Tourists' environmentally Responsible behavior: Intermediary Role of Perceived Value and Place Attachment [J]. Human Geography, 2021,36(05):83-91. DOI:10.13959/j.issn.1003-2398.2021.05.011
- [23] Liu Qiaohui, Wang Xiaoping, Liu Jinglan. Study on Relationship among Tourist Perceived Value, Satisfaction and Environmental Responsibility Behavior in Forest Park [J]. Ecological Economy, 2022,38(02):137-141.
- [24] Luo Peicong, Zhao Xuexiang, Tang Yixuan, et al. The Impact of Environmental Education Perception on Tourists' Environmental Responsibility Behavior: Based on SOR Theory Perspective [J]. Journal of Chongqing Technology and Business University (Social Science Edition), 2023, 40(04): 117-126.
- [25] Li Wenming, Pei Luxia, Zhu Anqi, et al. Research on Driving Mechanism of Tourists' Environmentally Responsible Behavior in Historical and Cultural Blocks with Environmental Knowledge as Moderating Variable [J]. Areal Research and Development, 2021, 40(05): 113-118+137.
- [26] Chen Gezhi. Factors Driving Tourists' Environmentally Responsible Behavior: Review and Prospects [J]. Journal of Hubei University of Arts and Science, 2022,43(02):67-73.
- [27] Jia Yanju, Lin Derong. Influence Factors and Effects of Tourists' Environmentally Responsible Behaviors Based on Place Theory [J]. China Population, Resources and Environment, 2015,25(07):161-169.
- [28] Liu Rufe. Selective Marketing for Sustainable Development of Tourism based on the Analysis of Environmental Behavior--A Case Study of Jiuzhaigou [J]. Human Geography, 2010, 25(06): 114-119.DOI:10.13959/j.issn.1003-2398.2010.06.020
- [29] Zhang Qiongri, Wang Zhongjun. Study On the Driving Factors of Tourists' Environmentally Responsible Behavior Based on The Theory of Planned Behavior-A Case Study of Beijing Bajia Country Park [J]. Journal Of Arid Land Resources And Environment, 2018,32(03):203-208.DOI:10.13448/j.cnki.jalre.2018.097
- [30] Zhang Yuangang, Yu Runzhe. Meta-Analysis of the Influencing Factors of Tourists' Environmental Responsibility Behavior [J]. Human Geography, 2020,35(05):141-149.DOI:10.13959/j.issn.1003-2398.2020.05.017
- [31] Wang Kai, Li Zhimiao, Xiao Yan. Tourists' Pro-Environmental Behavior in Urban Mountainous Scenic Spot: A Case Study of the Yuelu Mountain[J]. Tropical Geography, 2016, 36 (2): 237-244. DOI:10.13284/j.cnki.rddl.002824
- [32] Huang Tao, Liu Jinglan, Tng Ning, et al. The Influence of Values And Scenic— Spot's Policy on Tourists' Environmentally Responsible Behavior: an Extended Theory of Planned Behavior Model [J]. Journal of Arid Land Resources and Environment, 2018, 32 (10): 88-94.DOI:10.13448/j.cnki.jalre.2018.305
- [33] Wang Jianming, Wu Longchang. The Categories, Dimensions and Mechanisms of Emotions in the Studies of Pro-environmental Behavior [J]. Advances in Psychological Science, 2015,23(12):2153-2166.
- [34] Cai Libin, Zhu Xiaotong. Does Tourist-Environment Fit Affect Environmentally Responsible Behavior? Using Memorable Tourism Experience and Place Attachment as Intervening Variables [J]. Tourism Tribune, 2021,36(07):119-131.DOI:10.19765/j.cnki.1002-5006.2021.07.014
- [35] Zhang Yuangang, Cheng Jingjing, Zhu Guoxing, Et Al. Research on the Influential Mechanism of Nostalgia, Leisure Involvement Place Attachment and Environmentally Responsible Behavior [J]. Journal of Arid Land Resources and Environment, 2019, 33(05): 190-196.DOI:10.13448/j.cnki.jalre.2019.159
- [36] Chen Hu, Mei Qing, Wang Yingchao, et al. A Research on the Driving Power About Environmentally Responsible Behavior from the Destination Image of Historic Blocks: Satisfaction as Mediator Variable [J]. China Population, Resources and Environment, 2017,27(12):106-116.
- [37] Sun Shaoxiong. Impact of Tourists' Perception of Environmental Education on Environmental Responsibility Behavior --Using Awe and Connectedness to Nature as Mediating Variables [D]. South China University of Technology, 2022. DOI:10.27151/d.cnki.gnlu.2022.003518
- [38] Wang Hua, Li lan. On the Impact of Eco-tourism Involvement and In-group Norm on Environment-friendly Tourist Behaviors: A Case Study of Bird-watching [J]. Tourists Tourism Science, 2018, 32(01): 86-95.DOI:10.16323/j.cnki.lykx.2018.01.007
- [39] Wu Zhicai, Wang Bowen, Liu Jiaman. Relationship between Recreational Greenway Involvement and Residents' Loyalty and Environmental-Responsibility Behavior: A Case Study of Zengcheng Greenway, Guangzhou [J]. Tropical Geography, 2023,43(05):959-970.DOI:10.13284/j.cnki.rddl.003603
- [40] Chen Gezhi. Factors Driving Tourists' Environmentally Responsible Behavior: Review and Prospects [J]. Journal of Hubei University of Arts and Science, 2022,43(02):67-73.