International Journal of Tourism, Culture and Spirituality, 2025, 8(2) https://www.ijtcs.usc.ac.ir

Print ISSN: 2588-6134 Online ISSN: 2783-3844

International journal of
Tourism, Culture and Spirituality

http://doi.org/10.22133/ijtcs.2025.524988.1216

Responsible Behavior of Nature Tourism in Iran: Investigating the Role of Previous Experience, Connection with Nature and Mental Well-being

Azam Safarabadi*[1], Siamak Tareh [2], Fatemeh Shekari[3]

[1] Assistant Professor of Tourism and Hospitality Management, Shiraz University, Shiraz, Iran
[2] Master of Science in Tourism Marketing Management, Shiraz University, Shiraz, Iran
[3] Assistant Professor of Tourism and Hospitality Management, Shiraz University, Shiraz, Iran

Article Info

Received:
2025-05-20
Accepted:
2025-07-02

Keywords:
Nature tourism
Mental well-being
Connection with nature
Previous experience
Responsible behavior

Abstract

The rise of nature-based travel and ecotourism has brought both intentional and unintentional environmental harm, raising concerns about sustainable practices. This study examines how tourists' prior experiences with nature influence their mental well-being, connection to nature, and adoption of responsible environmental behaviors. Focusing on Iran, a country with rich natural and cultural resources, the research explores mechanisms to promote sustainable ecotourism development. Using a descriptive-survey methodology, data were collected from Iranian ecotourists via questionnaires and analyzed using SPSS and AMOS software. The findings reveal significant relationships: connection to nature positively impacts responsible environmental behavior, as does mental well-being. Prior ecotourism experiences significantly enhance both connection to nature and mental well-being. Mediation analysis shows that the frequency of ecotourism experiences indirectly influences responsible environmental behavior through mental well-being and connection to nature, with no direct significant effect. These results underscore the importance of fostering emotional and psychological ties to nature to encourage sustainable tourism practices. The study highlights the potential for ecotourism to contribute to environmental conservation by enhancing tourists' well-being and ecological awareness, offering valuable insights for sustainable planning in ecotourism destinations.

***Corresponding author**
E-mail: a.safarabadi@shirazu.ac.ir

How to Cite:
Safarabadi, A., Tareh, S., & Shekari, F. (2025). Responsible behavior of nature tourism in Iran: investigating the role of previous experience, connection with nature and mental well-being. *International Journal of Tourism, Culture and Spirituality*, *8*(2), 25-42.

Introduction

Field observations reveal that experienced ecotourists demonstrate more responsible environmental behavior and a deeper connection to nature compared to less experienced individuals. These findings highlight the importance of fostering responsible behavior to address the growing environmental challenges caused by human activities (Heshmati et al., 2022; Soleimani & Torki Harchegani, 2023). As ecotourism gains popularity, promoting environmental responsibility through education and targeted interventions has become essential. Key factors such as mental well-being, connection to nature, and prior experience play a significant role in shaping responsible behavior, contributing to sustainable conservation efforts (Shi et al., 2022; Cheng et al., 2022).

Despite the recognition of responsible ecotourism as a solution to mitigate environmental damage, the rise in irresponsible behavior among tourists, particularly in regions like Iran, has led to increased ecological degradation (Heshmati et al., 2022; Terlouw et al., 2022). Effective strategies are needed to address issues such as littering, habitat destruction, and pollution. Studies suggest that fostering a strong connection to nature and enhancing mental well-being can motivate tourists to adopt environmentally friendly practices (Chen et al., 2023; Kajiwara et al., 2022). For instance, direct engagement with natural environments, such as forest visits, has been shown to promote responsible behavior (Farkic et al., 2021; Liu et al., 2018).

Moreover, mental well-being, which encompasses life satisfaction and happiness, is closely linked to responsible environmental behavior. Ecotourism can enhance well-being while encouraging sustainable practices (Gilbert & Abdullah, 2004; Qiu et al., 2022).

Given that nature tourism helps to enhance mental well-being and create a deeper connection with nature, the aim of this study is to investigate the effect of these three variables (mental well-being, connection with nature, and prior experience) on improving environmentally responsible behavior. The increase in the number of irresponsible nature tourists in Iran has led to the destruction of vegetation, increased waste, noise and visual pollution, and animal abuse (Heshmati et al., 2022; Trelohan et al., 2022). Preventing further destruction and protecting nature for future generations is vital (Tajer & Demir, 2022; Cajiao et al., 2022), provided that an internal sense of motivation is created in tourists to take action and pursue these issues.

Theoretical background

Nature-based tourism is one of the fastest-growing sectors in the travel industry, necessitating a responsible approach to ensure sustainability. Achieving this requires collaborative efforts between governments and the private sector to establish and enforce precise regulations and policies (Kotler et al., 2021). Environmentally responsible behavior, often termed pro-environmental or eco-friendly

behavior, involves actions taken by tourists to minimize environmental harm, support conservation efforts, and prevent ecological damage during recreational activities (Lee et al., 2013). Recent research underscores the importance of such behavior in promoting the environmental sustainability of tourist destinations (Li & Wu, 2020). Tourism experiences encompass a wide range of elements, including behaviors, perceptions, emotions, and cognitions encountered by tourists at a destination (Liu et al. 2019). These experiences, which began to be studied in the 1970s, have evolved to focus on understanding tourists' thoughts and feelings, often through qualitative methods like diaries and interviews (Coelho et al., 2018). In nature-based tourism, experiences include enjoyment, interaction with pristine environments, comfort, and personal safety, all of which can influence attitudes and behaviors toward environmental responsibility (Lee & Jan, 2023).

A strong connection to nature, defined as an emotional and experiential bond with the natural environment, is closely linked to environmentally responsible behavior (Chen et al., 2023). Activities such as hiking or staying in natural areas can strengthen this connection, fostering a sense of belonging and reducing the likelihood of environmental harm (Aligholizadeh Firoozjaei et al., 2021). Additionally, mental well-being, which includes hedonic (positive emotions and life satisfaction) and eudaimonic (realization of human potential) dimensions, plays a critical role in promoting optimism and life satisfaction (Ryan & Deci, 2001; Gao et al., 2018). Nature-based tourism can enhance mental well-being, leading to more positive emotions and a greater commitment to environmental conservation (Rahmani et al., 2018). In conclusion, nature-based tourism experiences, connection to nature, and mental well-being are pivotal in fostering environmentally responsible behavior among tourists. These factors not only support environmental sustainability but also enhance the overall quality of tourists' experiences, contributing to a more sustainable tourism industry.

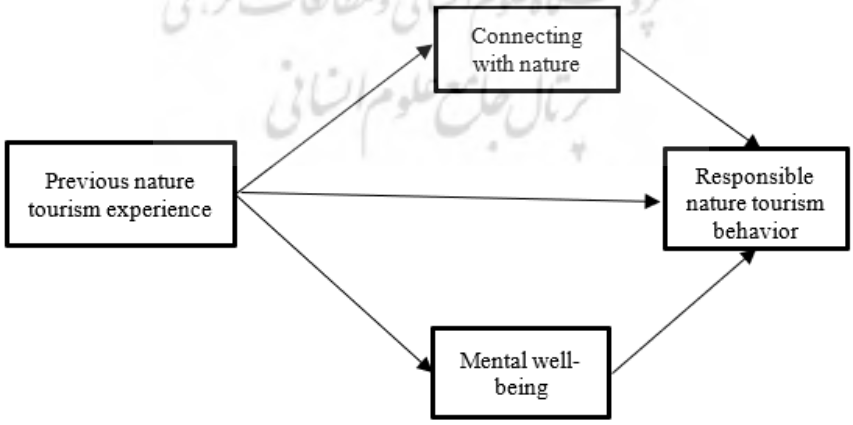

Figure 1. Research model

Practical background

Various studies have explored the factors influencing tourists' behavior and their relationship with the environment. Aminizadeh (2021) found that tourists' cognitive mental well-being significantly enhances their enjoyment of destinations, while affective well-being had no notable impact. This suggests that tourists' perceptions and thoughts about a destination are critical in shaping enjoyable experiences. Conversely, Soleimani et al. (2023) highlighted the detrimental effects of irresponsible tourism on rural environments, emphasizing the need for education and awareness to reduce environmental damage.

Fathi et al. (2019b) identified the driving variables in the development of spiritual tourism in a study using futures research methods. Maleki et al. (2019) used foresight techniques to analyze religious tourism in a study. In another study, Fathi et al. (2019a) prioritized spiritual tourism development strategies by using multi-criteria decision-making methods.

In wellness tourism, Ohe et al. (2017) demonstrated that forest therapy induces physiological and psychological relaxation for three to five days, underscoring the role of natural environments in improving mental and physical well-being. Similarly, Liu et al. (2018) revealed that perceiving nature as a living entity, such as referring to the Earth as "Mother," strengthens the human-nature connection and promotes pro-environmental behavior. Farkic et al. (2021) emphasized the importance of mindful tourism, such as forest bathing, in addressing modern challenges and fostering social action toward nature conservation. Kularatne et al. (2021) used choice modeling to show that tourism experiences can heighten tourists' environmental awareness and influence their actions. Qiu et al. (2022) found that restorative destination environments enhance both hedonic and eudaimonic well-being, with eudaimonic well-being further encouraging environmentally responsible behavior. Lastly, Chen et al. (2023) demonstrated that rural tourism experiences, connection to nature, and environmental awareness significantly influence green consumption choices, suggesting that positive experiences can motivate sustainable behaviors. In conclusion, these studies collectively highlight the importance of mental well-being, connection to nature, tourism experiences, and environmental awareness in fostering responsible tourist behavior. Responsible nature-based tourism not only supports environmental conservation but also enhances tourists' mental and social well-being, offering a sustainable path for the tourism industry.

Research Method

This study is an applied research in terms of purpose and a descriptive-analytical one in terms of methodology. Data collection was conducted through a combination of field and library research methods. The study population consists of Iranian nature walkers. Based on the Cochran formula, the initial sample size was calculated as 384 people, which was increased to 410 people to increase accuracy. Simple random sampling method was used in this study. The data collection tool was a researcher-made

questionnaire, consisting Nisbet et al. 2009 of 20 main items based on a 5-point Likert scale (from very high to very low). The independent variable of the research is: nature tourism experience with 1 question (Wells & Lekies, 2006), the dependent variables include: mental well-being with 9 questions (Qiu et al., 2022), connection with nature with 6 questions (Perrin & Benassi , 2009), and responsible behavior with 4 questions (), and 6 questions are designed to collect demographic information of individuals consisting of age, gender, education level, destination, type of trip, and vehicle (Table 1). Cronbach's alpha method was used to measure the reliability of the questionnaire. Cronbach's alpha coefficient was more than 0.7 for all variables and the reliability of the questionnaire was confirmed (Table 2). After collecting the information, the desired data were analyzed using SPSS software and Amos structural equations.

Table 1. Research items

Dimensions	Items	Source
Hedonic mental well-being	Hiking makes me feel comfortable.	Qiu et al., 2022
	Hiking is fun for me.	
	I enjoy hiking.	
	Hiking makes me feel good.	
	Hiking makes me feel calm.	
Happiness-oriented mental well-being	Nature tourism gives me a sense of success and prosperity.	Qiu et al., 2022
	Nature tourism makes me think.	
	Nature tourism has a lot of meaning and significance for my life.	
	Nature tourism makes me have a positive attitude towards myself.	
Responsible behavior of nature lovers	To avoid damaging the natural environment, I strictly follow the rules of each place when hiking.	Nisbet et al. 2009
	If I notice that others are damaging the natural environment while hiking, I try to convince	
	I convince my fellow travelers not to damage the natural environment while hiking.	
	I want to protect the natural environment while hiking.	
Connecting with nature	I see myself as part of the larger cycle of life (i.e., like other living things such as animals and plants and natural phenomena such as air, soil, rivers, etc., I am also part of the cyclical process of life on planet Earth).	Perrin & Benassi , 2009
	I feel that I belong to the Earth as much as the Earth belongs to me.	
	I have a deep understanding of how my activities affect nature.	
	I often feel that I am part of the web of life (a web of life represents the interdependencies within an ecosystem. All living things in an ecosystem need other living things and non-living things such as lakes, soil, and air to survive).	
	I feel that the "life force" is shared by all inhabitants of the Earth (human and non-human).	
	Just as a tree is part of a forest, I feel part of a larger natural world.	
Previous nature tourism experience	How often do you go to natural places (such as mountains, the sea, forests, beaches, plains, or deserts) for recreation and activities such as traveling and camping, hiking, walking, and exploring, etc., during the year?	Perrin & Benassi , 2009

Table 2. Calculated alpha value

Research variables	Items	Cronbach's alpha value
Hedonistic mental well-being	5	0.917
Blissistic mental well-being	4	0.886
Connection with nature	6	0.819
Responsible nature-oriented behavior	4	0.779

Analysis of findings

- Research Measurement Model

- Checking the Prerequisite of Data Normality

The prerequisite of data normality was assessed using AMOS software. Based on the results obtained from structural equation modeling (SEM), the skewness should fall between -3 and 3, and the kurtosis should range between -10 and 10 (Pahlevan Sharif & Sharifnia, 2022).

Table 4. Data normality test

Variable	min	max	skew	c.r.	kurtosis	c.r.
EXP1	1.000	5.000	-.076	-.625	-.032	-.133
HWB5	1.000	5.000	-1.945	-16.080	4.619	19.090
HWB1	1.000	5.000	-1.318	-10.899	1.416	5.854
EWB1	1.000	5.000	-.925	-7.644	.255	1.054
EWB2	1.000	5.000	-1.173	-9.700	.983	4.064
EWB3	1.000	5.000	-.983	-8.125	.177	.731
Solidarity	Solidarity	Solidarity	Solidarity	Solidarity	Solidarity	Solidarity
HWB2	1.000	5.000	-1.425	-11.779	2.491	10.296
HWB3	1.000	6.000	-2.113	-17.469	6.157	25.448
HWB4	1.000	6.000	-2.015	-16.656	5.668	23.428
Peb5	1.000	5.000	-1.588	-13.127	2.572	10.630
Peb4	1.000	5.000	-1.614	-13.340	2.878	11.897
Peb3	1.000	5.000	-1.121	-9.266	.851	3.518
Peb2	1.000	5.000	-1.692	-13.985	3.330	13.765
CN11	1.000	5.000	-1.102	-9.107	.795	3.287
CN10	1.000	5.000	-1.103	-9.117	.825	3.410
CN9	1.000	5.000	-1.096	-9.060	1.093	4.516

Variable	min	max	skew	c.r.	kurtosis	c.r.
CN8	1.000	5.000	-.823	-6.802	.194	.802
CN7	1.000	5.000	-1.163	-9.617	.885	3.659
CN5	1.000	5.000	-1.301	-10.755	1.527	6.311
Multivariate					173.419	59.186

The precondition of normality of the data is confirmed according to the above table.

- Second-order factor analysis

Confirmatory Factor Analysis (CFA) is employed to compare the proposed model with the model that exists in the real world. Essentially, CFA seeks to assess the goodness of fit of the model, confirming that the proposed model aligns with the population under study (Pahlevan Sharif, S., & Sharifnia, 2022). In this research, mental well-being was examined through its two dimensions: eudaimonic well-being and hedonic well-being. In the second-order factor analysis, while confirming the overall validity of the criteria, the results are presented as follows:

For hedonic well-being, the construct reliability is 0.819, the extracted variance is 0.691, the maximum shared variance is 0.426, and the highest R(H) value is 0.925. For eudaimonic well-being, the construct reliability is 0.887, the extracted variance is 0.664, the maximum shared variance is 0.426, and the highest R(H) value is 0.893. The factor loadings are significant and exceed 0.7, and the fit indices, including composite reliability and validity, are also confirmed (see Figure 2 and Tables 5 and 6).

Table 5. Validity result of second-order factor analysis

Indicator One	Second indicator	Solidarity
Mental Well-Being	Hedonistic well-being	0.832
	Bliss-oriented well-being	0.815

Table 6. Goodness of Fit Indexes, Composite Reliability and Validity

Happiness-oriented well-being	Hedonic well-being	Maximum value of R(H)	Maximum Shared Variance (MSV)	Variance Extracted (AVE)	Structural Reliability (CR)	Variable
	0.832	0.925	0.426	0.691	0.918	Hedonic Well-Being
0.815	0.653	0.893	0.426	0.664	0.887	Eccentric Well-Being

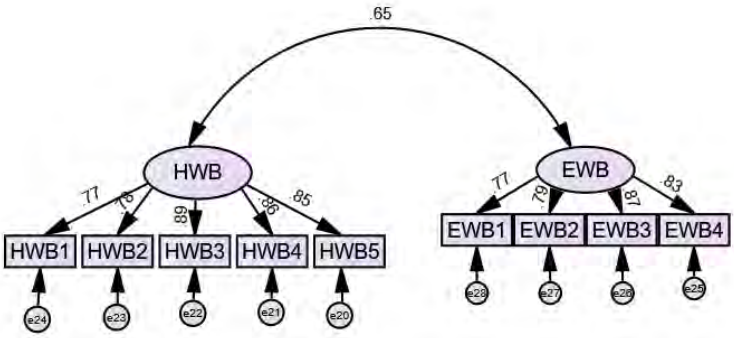

Figure 2. Second-order factor analysis of the mental well-being variable

- First-order confirmatory factor analysis

In Figure 3, the standardized factor loadings between the components and subcomponents of responsible behavior among nature tourists are presented in the first-order factor analysis. The factor loadings for all latent variables range between 0.712 and 0.828, all exceeding the threshold of 0.4, indicating sufficient validity (see Tables 7 and 8, and Figure 3)

Table 7. Reliability and validity of research variables

Mental well-being	Responsible environmental behavior	Connecting with nature	Maximum R(H) value	Maximum Shared Variance (MSV)	Extracted variance (AVE)	Structural reliability CR	
		0.712	0.863	0.427	0.507	0.860	Connecting with nature
	0.720	0.471	0.831	0.222	0.518	0.809	Responsible environmental behavior
0.828	0.471	0.654	0.906	0.427	0.686	0.810	Mental well-being

Table 8. Result of discriminant validity of factor analysis

Index	Solidarity clause	Solidarity clause
Connecting with nature	6 items	0.710
Responsible environmental behavior	4 items	0.713
Hedonic well-being	5 items	0.830
Happiness-oriented well-being	4 items	0.830

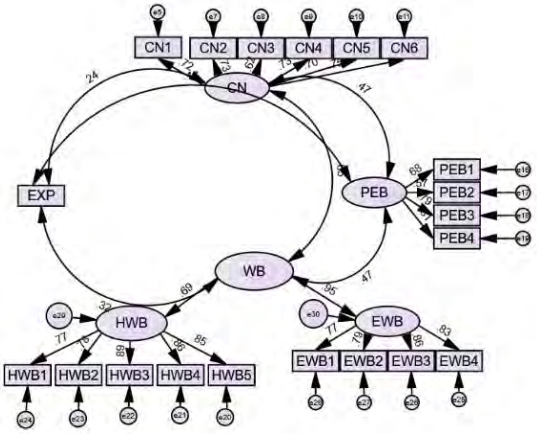

Figure 3. First-order confirmatory factor analysis

Measurement model fit indices

- Absolute fit indices

The model analysis was conducted using the indices proposed by Kline and Sohn. Among these, the χ2 (chi-square) statistic is the most widely used and serves as the foundation for other fit indices. A χ2 value closer to zero indicates a better model fit. However, since the chi-square value is influenced by sample size and the number of relationships in the model, it tends to increase, making it unreliable as a standalone measure. Therefore, additional fit indices are used alongside χ2 to evaluate the model's fit. One such index, introduced to address the limitations of χ2, is the χ2/df (. i-square to degrees of freedom) ratio. A value of χ2/df smaller than 3 indicates a good model fit, and values up to 5 are considered acceptable. In Table 9, the structural analysis and fit indices reveal a CMIN (chi-square) value of 436. Additionally, the relative chi-square (CMIN/DF), calculated by dividing the chi-square by the degrees of freedom, is 2.64 in the modified model, demonstrating an acceptable fit for the model.

Table 9. Summary of model fitting results for Chi-square index (CMIN) and relative Chi-square

Model	NPAR	CMIN	DF	P	CMIN/DF
Mediation effect	65	436.277	165	000	2.644
Saturated model	230	0.000	0		
Independence model	40	4543.375	190	0.000	23.912

- Adaptive fitness indices

The evaluation of incremental fit indices is the second step in assessing the acceptability of the model, following the assessment of absolute fit indices. The results of the analysis for incremental fit indices are presented in the tables below. These indices range between 0 and 1, with values greater than 0.9

generally interpreted as acceptable in most sources. Accordingly, it can be concluded that the Incremental Fit Index (IFI), Tucker-Lewis Index (TLI), and Comparative Fit Index (CFI) all exceed 0.9, confirming the satisfactory incremental fit of the constructs (see Table 10).

Table 10. Summary of Model Fitting Results for Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Mediation effect 0.904	0.889	0.938	0.928		0.938
Saturated model	1.000		1.000		1.000
Independence model	0.000	0.000	0.000	0.000	0.000

- Parsimonious fitness indices

The table below displays the RMSEA values. For a good fit, the RMSEA value should be less than 0.07. The observed values in the model are below this standard threshold, indicating a satisfactory fit of the constructs (see Table 11).

Table 11. Summary of model fitting results for parsimonious indices (RMSEA)

Model	RMSEA	LO 90	HI 90	PCLOSE
Mediation effect	0.063	0.056	0.071	0.001
Independence model	0.237	0.231	0.243	0.000

According to the results presented in Table 12, all fit indices are within the acceptable range, indicating that the constructs and tested models demonstrate a satisfactory fit with the collected data. This confirms the validity of the factor structure of the questionnaire (see Figure 4 and Table 12).

Table 12. Structural model fit indices

Fit indices	The resulting value of the model	Acceptable amount	Source
Relative chi-square (CMIN/DF)	2.644	3<	Haier et al., 2009
Root mean square error of approximation (RMSEA)	0.063	0.08<	Myers et al., 2005
Goodness of fit index (GFI)	0.938	0.9<	Hatcher, 1994
Incremental fit index (IFI)	0.938	0.9>	Myers et al., 2005
True fit index (TLI)	0.928	0.9>	Myers et al., 2005

The path coefficient for the impact of prior nature tourism experience on responsible behavior among nature tourists was estimated at 1. Given that the p-value is less than 0.05, this value is statistically significant at the 0.05 error level.

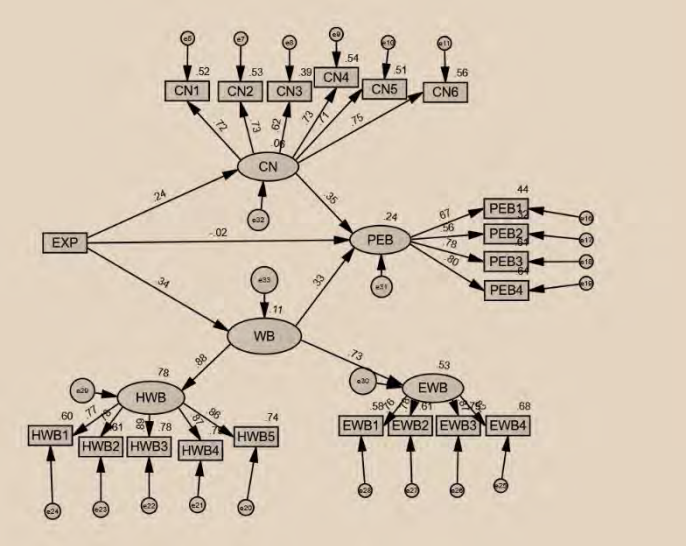

Figure 4. Structural model of research

The path coefficient for the impact of connection to nature on responsible behavior among nature tourists was estimated at 0.347. Since the p-value is less than 0.05, this value is statistically significant at the 0.05 error level. In line with the findings of Chen et al. (2023), the relationship between enhancing the sense of connection to nature among our study population and the improvement of their environmentally responsible behavior is evident, with this variable having the most significant effect among all variables.

The path coefficient for the impact of mental well-being on responsible behavior among nature tourists was estimated at 0.327. Given that the p-value is less than 0.05, this value is statistically significant at the 0.05 error level. Therefore, it can be concluded that nature tourists in this study exhibit more responsible behavior toward nature as their level of mental well-being increases, confirming the third hypothesis.

The path coefficient for the impact of prior nature tourism experience on connection to nature was estimated at 0.238. Since the p-value is less than 0.05, this value is statistically significant at the 0.05 error level. Thus, consistent with the findings of Aligholizadehfiroozjaei et al. (2021), as well as Masoumi Dehghi and Parandak (2021), this study emphasizes the positive and significant impact of the frequency of experience on fostering a sense of connection to nature among nature tourists.

The path coefficient for the impact of the frequency of nature tourism experience on mental well-being was estimated at 0.336. Given that the p-value is less than 0.05, this value is statistically significant at the 0.05 error level. Similar to the study by Zins and Ponocny (2022), this research confirms a direct relationship between prior tourism experiences and the mental well-being of tourists (nature tourists). Specifically, as the frequency of nature tourism experiences increases, the level of mental well-being among nature tourists also improves.

Table 13. Results of the relationships between variables

Direct path	Standard regression coefficient	P-value	Result
The effect of previous ecotourism experience on the responsible behavior of ecotourism tourists	1.000	0.006	Confirm
The effect of connection with nature on the responsible behavior of ecotourism tourists	0.347	0.000	Confirm
The effect of mental well-being on the responsible behavior of ecotourism tourists	0.327	0.000	Confirm
The effect of previous ecotourism experience on connection with nature	0.238	0.000	Confirm
The effect of previous ecotourism experience on the mental well-being of ecotourism tourists	0.336	0.000	Confirm

Conclusion

This study examines the factors affecting the responsible behavior of nature tourists. Due to its diverse climate, diverse natural areas, and rich culture, Iran has witnessed an increasing number of nature tourists in recent years, which has had devastating environmental effects. Therefore, preserving natural heritage for future generations and environmental protection are essential and inevitable.

In this study, the variables of connection with nature, subjective well-being, and previous experience of nature tourism were selected. The main difference of this work is the investigation of new dimensions of factors affecting the improvement of responsible behavior of nature tourists.

According to the results obtained; high previous experience in nature tourism alone cannot lead to the improvement of responsible behavior and is justified considering the existence of other variables in the research. Therefore, it cannot be said that every experience leads to the improvement of behavior in nature tourism unless other mediators are used.

Also, the higher the factor of connection with nature in an individual, the more responsible behavior he shows towards nature. In other words, if nature tourism feels connected to nature and considers itself a part of nature, their responsible environmental behavior improves. In line with the confirmation of the research results (Chen et al., 2023), the relationship between improving the sense of connection of nature tourism in our statistical population with nature and improving their responsible environmental behavior is evident and has the greatest effect among the variables.

Increasing subjective well-being improves the responsible environmental behavior of nature tourists, and there is a direct relationship between these two variables, and improving subjective well-being in both forms of happiness-oriented or hedonic well-being is effective in the responsible environmentally friendly behavior of tourists.

It can be said that the nature tourists in this study, by increasing the level of subjective well-being, exhibit more responsible behavior towards nature.

Increasing the experience of nature tourism increases the feeling of connection with nature, and this indirectly establishes a direct relationship with improving responsible environmental behavior. This result can be used to strengthen the connection of a person with nature and provide reasons for protecting the environment. The findings are consistent with the results of research (Aligholizadehfirouzjani et al., 2021; Masoumi Dehghi & Parandak, 2021). And the positive and significant effect of the frequency of experience on the feeling of connection with nature is emphasized.

Increasing the frequency of nature tourism experience is directly related to improving the subjective well-being of tourists, and this relationship indirectly leads to the responsible behavior of nature tourists, and as a result, contributes to the growth of responsible travel and the education of responsible individuals. The results of this study are in line with (Zins & Ponocny 2022) and there is a direct relationship between previous experience of various types of tourism and the subjective well-being of tourists. So that with increasing the frequency of nature tourism experience, the level of subjective well-being of the nature tourist increases.

Therefore, considering the mediator measurement in AMOS software, full mediation of this relationship was achieved with the variables of connection with nature and subjective well-being, which indicates the importance of these variables. Therefore, it can be said that these two variables are mediators that cause the relationship between the frequency of experience and environmentally responsible behavior.

In this study, the bootstrapping method, which is one of the analytical methods of mediators, was used. This method helps to analyze the relationships between these variables more accurately and comprehensively and allows for a more accurate estimation of the effect of the mediating variable. Therefore, the effect of previous experience of ecotourism on the responsible behavior of the ecotourism is positive and significant in the form of full mediation. The effect of previous experience of ecotourism on the responsible behavior of the ecotourism is also positive and significant in the indirect way. The effect of previous experience of ecotourism on the responsible behavior of the ecotourism is insignificant in the direct way.

Exp ⟶ peb (significant and positive full effect)

exp ⟶ peb (significant and positive indirect effect)

exp ⟶ peb (non-significant direct effect)

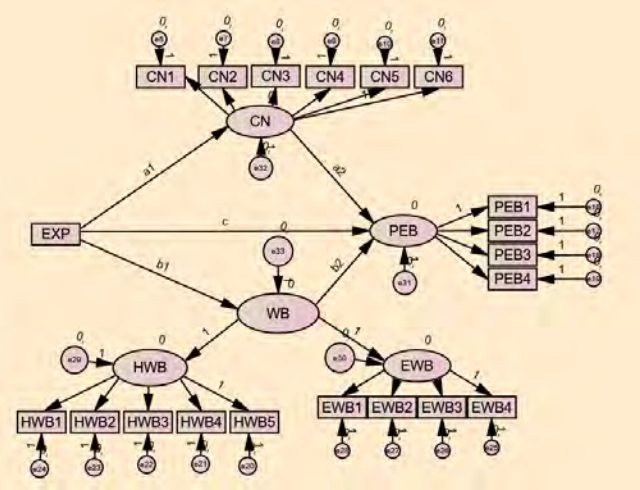

Figure 5. Mediation model

Managerial Implications

There is a significant correlation between the frequency of nature-based experiences and the development of responsible behavior among nature tourists. This finding can be utilized to design effective programs for inexperienced nature tourists, such as students and young individuals. By implementing controlled and educational interventions during their initial encounters with nature, a strong connection between these tourists and the natural environment can be fostered, leading to the cultivation and reinforcement of responsible behavior.

A positive relationship exists between the frequency of nature experiences and the enhancement of mental well-being, which in turn promotes responsible behavior. Therefore, when initial nature experiences are carefully managed (e.g., by assigning trained guides to vulnerable ecotourism destinations), a gradual improvement in mental well-being and, consequently, responsible behavior among nature tourists can be achieved over time

Establishing educational nature tourism camps at primary, secondary, and university levels can play a pivotal role in fostering environmental awareness and responsible behavior among students. These programs should be designed to provide hands-on experiences and practical knowledge about sustainable tourism practices.

Empowering non-governmental organizations (NGOs) and community groups to expand nature-based activities and promote responsible behavior in natural settings is essential. This can be achieved through capacity-building initiatives for nature guides, selecting experienced individuals, creating targeted content and campaigns in communication media, establishing thematic parks, and founding nature schools to further environmental education and awareness.

Suggestions

- Organizing nature tourism training camps at primary, secondary and university levels.
- Providing guidance to NGOs and grassroots groups in expanding nature tourism activities and responsible behavior in nature.
- Strengthening the capacity of nature tourism guides and selecting experienced individuals.
- Creating a sense of connection with nature from an early age by adding courses such as bird watching, familiarity with plants, ecotourism and the environment.
- Producing content and advertising in communication media.
- Creating theme parks.
- Establishing nature schools.

Research limitations

- Due to the selection of the nature-watching community of the whole of Iran, it was not possible to distribute the questionnaire in person.
- Lack of a similar domestic research sample to compare and analyze the results.

References

Aligholizadeh Firoozjaei, N., Ramezanzadeh Lasboyee, M., Esmaeeli, M (2021). Environmental behaviors of tourists in the desert destinations (Case Study: rural areas of Khourand Biabanak Township. *Journal of Rural Research*, *6*(2), 253-274. https://doi.org/10.22059/jrur.2015.54907

Aminizadeh, A. (2021). The effect of tourists' mental well-being on the enjoyment of the tourist destination. Case study: Tourism in East Azerbaijan Province. *The 5th International Congress on Agricultural Development, Natural Resources, Environment and Tourism of Iran*. https://civilica.com/doc/1276164/

Cajiao, D., Leung, Y. F., Larson, L. R., Tejedo, P., & Benayas, J. (2022). Tourists' motivations, learning, and trip satisfaction facilitate pro-environmental outcomes of the Antarctic tourist experience. *Journal of Outdoor Recreation and Tourism*, *37*, 100454. https://doi.org/10.1016/j.jort.2021.100454

Chen, J., Huang, Y., Wu, E. Q., Ip, R., & Wang, K. (2023). How does rural tourism experience affect green consumption in terms of memorable rural-based tourism experiences, connectedness to nature and environmental awareness?. *Journal of Hospitality and Tourism Management*, *54*, 166-177. https://doi.org/10.1016/j.jhtm.2022.12.006

Coelho, M., Gosling, M., & Almeida, A. S. (2018). Tourism experiences: Core processes of memorable trips. *Journal of Hospitality and Tourism Management*, *37*, 11-22. https://doi.org/10.1016/j.jhtm.2018.08.004

Farkic, J., Isailovic, G., & Taylor, S. (2021). Forest bathing as a mindful tourism practice. *Annals of Tourism Research Empirical Insights*, *2*(2). https://doi.org/10.1016/j.annale.2021.100028

Fathi, M. R., Maleki, M. H., Boroomand, M., & Koksal, C. D. (2019a). Strategic Planning of Tourism with an emphasis on Spirituality Based on New Integration of Multi-Criteria Decision-Making Techniques. *International journal of Tourism, Culture & Spirituality*, *4*(1), 93-123. https://doi.org/doi: 10.22133/ijts.2019.95834

Fathi, M. R., Maleki, M. H., Koksal, C. D., Yuzbaşıoğlu, N., & Ahmadi, V. (2019b). Future Study of Spiritual Tourism based on Cross Impact Matrix and Soft Systems Methodology. *International journal of Tourism, Culture & Spirituality*, *3*(2), 19-41. https://doi.org/doi: 10.22133/ijts.2019.172098.1026

Gao, M., Havitz, M. E., & Potwarka, L. R. (2018). Exploring the Influence of Family Holiday Travel on the Mental Well-being of Chinese Adolescents. *Journal of China Tourism Research*, *16*(1), 45-61. https://doi.org/DOI:10.1080/19388160.2018.1513883

Gilbert, D., & Abdullah, J. (2004). Holidaytaking and the Sense of Well-Being. *Annals of Tourism Research*, *31*(1), 103-121. https://doi.org/10.1016/j.annals.2003.06.001

Haier, R. J., Karama, S., Leyba, L., & Jung, R. E. (2009). MRI assessment of cortical thickness and functional activity changes in adolescent girls following three months of practice on a visual-spatial task. *BMC research notes*, 2, 1-7. https://doi.org/10.1186/1756-0500-2-174

Hatcher, R. (1994). Market relationships and the management of teachers. *British journal of sociology of education*, *15*(1), 41-61. https://doi.org/10.1080/0142569940150103

Heshmati, M., Gheitury, M., & Shadfar, S. (2022). Factors affecting possibility of ecotourism development and sustaining natural resources using SWOT approach in west Iran. *International Journal of Geoheritage and Parks*, *10*(2), 173-183. https://doi.org/10.1016/j.ijgeop.2022.03.004

Kotler, P., Bowen, J. T., Makens, J., & Baloglu, S. (2021). *Marketing for Hospitality and Tourism*, Global Edition, 8th edition.

Kularatne, T., Wilson, C., Lee, B., & Hoang, V. N. (2021). Tourists' before and after experience valuations: A unique choice experiment with policy implications for the nature-based tourism industry. *Economic Analysis and Policy*, *69*, 529-543. https://doi.org/10.1016/j.eap.2021.01.002

Lee, T. H., & Jan, F. H. (2023). How do smart tourism experiences affect visitors' environmentally responsible behavior? Influence analysis of nature-based tourists in Taiwan. *Journal of Hospitality and Tourism Management*, *55*, 1-10. https://doi.org/10.1016/j.jhtm.2023.02.016

Lee, T. H., Jan, F. H., & Yang, C. C. (2013). Conceptualizing and measuring environmentally responsible behaviors from the perspective of community-based tourists. *Tourism Management*, *36*, 454-468. https://doi.org/10.1016/j.tourman.2012.09.012

Li, Q., & Wu, M. (2020). Tourists' pro-environmental behaviour in travel destinations: benchmarking the power of social interaction and individual attitude. *Journal of Sustainable Tourism*, *28*(9), 1371-1389. https://doi.org/DOI:10.1080/09669582.2020.1737091

Liu, J., Kiesewetter, G., Klimont, Z., Cofala, J., Heyes, C., Schöpp, W., Zhu, T., Cao, G., Gomez Sanabria, A., Sander, R., Guo, F., Zhang, Q., Nguyen, B., Bertok, I., Rafaj, P., & Amann, M. (2018). Mitigation pathways of air pollution from residential emissions in the Beijing-Tianjin-Hebei region in China. *Environment International*, *125*, 236-244. https://doi.org/10.1016/j.envint.2018.09.059

Maleki, M. H., Khasehi Varnamkhasti, V., Fathi, M. R., & Saffarinia, M. (2019). Future Studies of Religious Tourism of Qom Province based on Scenario Planning Approach. *Journal of Tourism and Development*, *8*(3), 184-205. https://doi.org/doi: 10.22034/jtd.2019.173426.1660

Masoumi Dehghi, M., & Parandak, S. (20182021). Investigating the environmental behavior of nature tourists (case study: Golestan Mountain, Khansar). *9th International Conference on Modern Management, Accounting, Economics and Banking Strategies with a Business Growth Approach*. https://civilica.com/doc/1241467/

Myers, A. D., Brunner, R. J., Nichol, R. C., Richards, G. T., Schneider, D. P., & Bahcall, N. A. (2007). Clustering analyses of 300,000 photometrically classified quasars. I. Luminosity and redshift evolution in quasar bias. *The Astrophysical Journal*, *658*(1), 85. https://iopscience.iop.org/article/10.1086/511519/meta

Wells, N. M., & Lekies, K. S. (2006). Nature and the life course: Pathways from childhood nature experiences to adult environmentalism. *Children, youth and environments*, *16*(1), 1-24.

Nisbet, E. K., Zelenski, J. M., & Murphy, S. A. (2009). The nature relatedness scale: Linking individuals' connection with nature to environmental concern and behavior. *Environment and behavior*, *41*(5), 715-740. https://doi.org/10.1177/0013916508318748

Ohe, Y., Ikei, H., Song, C., & Miyazaki, Y. (2017). Evaluating the relaxation effects of emerging forest-therapy tourism: A multidisciplinary approach. Tourism Management, *62*, 322-334. https://doi.org/10.1016/j.tourman.2017.04.010

Pahlevan Sharif, S., & Sharifnia, H. (14012022). *Factor analysis and structural equation modeling*., Tehran: Jame-e-Negar.

Perrin, J. L., & Benassi, V. A. (2009). The connectedness to nature scale: A measure of emotional connection to nature? *Journal of Environmental Psychology*, *29*(4), 434–440. https://doi.org/10.1016/j.jenvp.2009.03.003

Qiu, H., Wang, G., Ren, L., Zhang, J., & Wang, J. (2022). The impact of restorative destination environments on tourists' well-being and environmentally responsible behavior: A Reasonable Person Model. *Tourism Management Perspectives*, *44*, 101028.

https://doi.org/10.1016/j.tmp.2022.101028

Rahmani, K., Gnoth, J., & Mather, D. (2018). Hedonic and eudaimonic well-being: A psycholinguistic view. *Tourism Management*, *69*, 155-166. https://doi.org/10.1016/j.tourman.2018.06.008

Ryan, R. M., & Deci, E. L. (2001). On Happiness and Human Potentials: A Review of Research on Hedonic and Eudaimonic Well-Being. Annual Review of Psychology, *52*(1), 141-166. **https://doi.org/10.1146/annurev.psych.52.1.141**

Soleimani, H., & Turki Harchegani, M. (1402). The effects of irresponsible tourism on the environment of rural areas from the perspective of residents (case study, Saman city, Hoore village, Markadeh village). *17th National Conference on Geography and Environment*. https://civilica.com/doc/1671015/

Tajer, E., & Demir, S. (2022). Ecotourism strategy of UNESCO city in Iran: Applying a new quantitative method integrated with BWM. *Journal of Cleaner Production*, *376*, 134284. https://doi.org/DOI:10.1016/j.jclepro.2022.134284

Zins, A. H., & Ponocny, I. (2022). On the importance of leisure travel for psychosocial wellbeing. *Annals of Tourism Research*, *93*, 103378. . https://doi.org/10.1016/j.annals.2022.103378

COPYRIGHTS
©2023 by the authors. Published by University of Science and Culture. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution 4.0 International (CC BY 4.0) https://creativecommons.org/licenses/by/4.0/