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NATURE CONNECTEDNESS AS A PREDICTOR OF ECOTOURISM INTENTION: EMPIRICAL EVIDENCE FROM A RAMSAR WETLAND IN VIETNAM

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Abstract: Framed within the context of nature-positive tourism development at Ramsar sites, this study applies the Connectedness to Nature Framework to examine the role of emotional connectedness to nature in shaping ecotourism interest and ecotourism intention at the U Minh Thuong Ramsar Site, Vietnam. Using a convenience sampling technique, data were collected from 306 domestic tourists. The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM), and the results indicate that connectedness to nature positively predicts both ecotourism interest and ecotourism intention, while ecotourism interest also exerts a significant positive effect on ecotourism intention. Furthermore, the analysis reveals a significant indirect effect of connectedness to nature on ecotourism intention through ecotourism interest, confirming partial mediation. These findings extend the Connectedness to Nature Framework to a tropical Ramsar context, demonstrating that emotional attachment to nature enhances ecological interest, which subsequently translates into stronger ecotourism intentions. From a managerial perspective, interpretive and immersive nature-based experiences can strengthen visitors' connectedness to nature, thereby increasing both interest and intention toward ecotourism. This insight supports destination management strategies that integrate conservation objectives with market development goals, contributing to the advancement of sustainable and nature-positive tourism in Vietnam's wetland ecosystems.

Keywords: nature connectedness, ecotourism interest, ecotourism intention, Ramsar wetland, connectedness to nature theory, Vietnam

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INTRODUCTION

Tourism is widely recognized as one of the world's largest industries, contributing significantly to sustainability (Sadiq et al., 2022). However, under the growing pressure of biodiversity loss and a "disconnection from nature experiences" (Sadiq et al., 2022), the shift toward sustainable nature-based tourism practices has become a global priority in both policy and market domains (Imbsen et al., 2024; World Economic Forum, 2025). This transformation can be achieved through a balance between tourism management and resource protection—a relationship referred to as ecotourism (Lo & Janta, 2020). Ecotourism represents a distinctive form of alternative tourism associated with environmentally and culturally sensitive areas (Lu et al., 2016). In particular, ecotourism promotes sustainable and responsible travel practices that both conserve natural environments and enhance their ecological integrity (Ali et al., 2025). In the context of national parks, ecotourism offers a wide range of opportunities for visitors to engage in recreational activities while simultaneously contributing to the preservation of nature (Carvache-Franco et al., 2020). Therefore, eco-tourism development should not be viewed merely as the utilization of natural resources for tourism purposes, but rather as an integrated management approach that seeks to balance resource use, conservation priorities, and long-term environmental protection (Tri & Nguyen, 2024). Within this context, Ramsar sites, or wetlands of international importance, are increasingly viewed as both conservation "hotspots" and critical spaces for designing responsible nature-based experiences (Imbsen et al., 2024). Recent evidence from tropical Ramsar wetlands suggests that climate-induced freshwater scarcity and ecosystem degradation are increasingly undermining biodiversity stability and conservation capacity, particularly in peatland systems such as U Minh Thuong National Park (Viet et al., 2026).

To explain why people choose, prefer, and intend to travel to natural areas such as Ramsar wetlands, scholars have increasingly emphasized Connectedness to Nature (NC)—the extent to which individuals feel emotionally bonded with, belong to, and perceive themselves as part of nature (Restall & Conrad, 2015). The Connectedness to Nature Scaledeveloped by Mayer and Frantz (2004) has become a seminal instrument for measuring the affective dimension of human–nature relationships and has demonstrated strong predictive validity for pro-environmental behavior. Recent studies continue to confirm its reliability and validity across different cultural and sample contexts, strengthening its methodological foundation for quantitative tourism research (Lovati et al., 2023). Moreover, systematic reviews of "nature-

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connectedness" in tourism and hospitality indicate that, despite rapid growth, the field still lacks consistent theoretical testing in specific destination contexts, particularly within emerging economies (Mihiretu et al., 2025).

From a behavioral perspective, cumulative evidence shows that NC is positively correlated with tourists' pro-environmental behavioral intentions, which may serve as a bridge toward understanding ecotourism-related intentions (Cao et al., 2022). Recent ecotourism research further suggests that affective and aesthetic–spiritual experiences in nature can activate internalized norms and psychological commitment, thereby strengthening intention formation through emotionally grounded pathways closely aligned with connectedness to nature (Balaskas et al., 2025). For example, in China's national parks, visitors' NC significantly predicts pro-environmental intentions, amplified by place attachment and the perceived value of cultural ecosystem services (Zhang et al., 2023). At the micro-experiential level, emotions of awe toward nature can elevate state-level NC and, in turn, strengthen responsible behavioral intentions, suggesting that nature-based interventions can effectively regulate NC and its behavioral outcomes (Xu & Hu, 2023). Furthermore, environmental education and interpretation programs have been found to enhance NC and individual well-being by increasing opportunities for direct contact and learning in nature - insights that carry practical implications for designing ecotourism products (Salazar et al., 2020).

Nevertheless, the direct relationship among NC, ecotourism interest, and ecotourism intention toward a specific Ramsar destination remains empirically underexplored within a rigorous quantitative framework (Khanra et al., 2021). Previous studies on ecotourism intention have primarily focused on individual traits (e.g., personality, attitudes) or destination attributes, rarely integrating NC as a core psychological antecedent in predicting travel intention (Rafiq et al., 2022).

In Vietnam, while several studies have examined destination attractiveness, satisfaction, perceived risk, and revisit intention within national parks, there has been no systematic assessment of NC as a determinant of ecotourism interest and intention (An et al., 2024). This research gap is noteworthy since recent reviews identify NC as the "root" of environmental culture, yet empirical connections between NC and destination-choice variables remain fragmented and largely concentrated in Global North contexts (Khuc et al., 2024). At U Minh Thuong Ramsar Site, a unique peat swamp forest ecosystem in the Mekong Delta, the relationship between visitors' NC, their ecotourism interest, and intention to visit has not been systematically verified, despite the site's exceptional conservation and educational potential (Ramsar Sites Information Service, 2015). Existing studies on NC and tourism behavior often stop at pro-environmental intentions (e.g., willingness to follow rules or contribute to conservation) rather than examining destination-choice intentions - a crucial factor for managing ecotourism destinations (Cao et al., 2022; Zhang et al., 2023). Moreover, few studies have conceptualized ecotourism interest as an attitudinal or attentional construct mediating the link between NC and ecotourism intention, even though theoretical reasoning suggests that NC may cultivate a stable interest before transforming into concrete behavioral intentions (Khanra et al., 2021). Emerging empirical evidence from Southeast Asia indicates that environmentally grounded identities and emotional enjoyment of nature operate as critical antecedents of ecotourism visit intention, functioning as attitudinal and attentional mechanisms rather than immediate behavioral drivers (Septiarini & Adialita, 2025).

This study employs the Connectedness to Nature Framework (Mayer & Frantz, 2004), which conceptualizes NC as a trait-like psychological characteristic reflecting an individual's sense of belonging to and self-identification with nature. According to this framework, individuals with higher NC tend to evaluate nature-based experiences more positively, derive greater meaning and restoration, and exhibit higher likelihoods of participating in nature-based tourism activities (C.C. Chang et al., 2024; Samus et al., 2024). Systematic evidence confirms that NC serves as a strong predictor of various environmental behaviors, implying that it may also influence ecotourism intentions and conservation support (Guazzini et al., 2025). Following the post-pandemic rise in nature-seeking travel motivations, NC has emerged as a critical psychological construct explaining intentions to visit natural destinations, including wetlands, rural landscapes, and peri-urban ecotourism sites (Li et al., 2025). Post-pandemic research further demonstrates that heightened climate change awareness and value reorientation have intensified tourists' intentions to engage in ecotourism, positioning nature-based destinations as psychologically meaningful spaces for responsible travel choices (Kavak & Can, 2025).

Accordingly, this study proposes and empirically tests a quantitative model linking NC → Ecotourism Interest (EI) → Ecotourism Intention (TI) within a Ramsar wetland in Vietnam's Mekong Delta, contributing three novel insights. First, it positions NC as a psychological antecedent of ecotourism interest—a construct capturing tourists' curiosity, enthusiasm, and willingness to engage with nature-based activities—thereby examining its indirect path toward TI (Cao et al., 2022; Mayer & Frantz, 2004; Rafiq et al., 2022). Second, by investigating a tropical peat swamp Ramsar site, the study provides empirical evidence from the Global South, helping to balance the geographical bias in current NC literature (Mihiretu et al., 2025). Third, it offers managerial implications, suggesting that if NC indeed enhances EI and TI, interpretive, educational, and immersive experience designs that foster emotional connection to nature can serve as effective levers for Ramsar-based sustainable tourism development (Salazar et al., 2020). A quantitative research design was employed, using validated scales for NC, ecotourism interest, and ecotourism intention, all adapted to the Ramsar wetland context of U Minh Thuong. The use of structural equation modeling to test hypothesized relationships (NC → EI → TI) aligns with contemporary practices in ecotourism research focused on cognitive–affective–behavioral mechanisms (Khanra et al., 2021).

While earlier models often relied on the Theory of Planned Behavior to predict park visitation, the NC framework offers an additional explanatory lens based on "self–nature identity," enhancing predictive power in high-conservation contexts such as Ramsar wetlands (Mayer & Frantz, 2004; Seong et al., 2021). This study aims to bridge the gap between human–nature connectedness and concrete tourism decision-making within a tropical Ramsar ecosystem of exceptional conservation value. By situating U Minh Thuong National Park as an empirical focus, it provides new evidence for destination management that integrates conservation goals with sustainable visitor engagement, thereby contributing a Vietnamese perspective to the global discourse on nature-positive tourism and the restoration of the human–nature relationship (Imbsen et al., 2024).

LITTERATURE REVIEW

Connectedness to Nature Theory

Mayer & Frantz (2004) defined NC as an affective, self-reflective experience and a feeling that humans are part of nature—an inherent "sense of belonging to nature" rather than being detached observers. Along with the development of the Connectedness to Nature Scale, their work demonstrated a positive correlation between NC and ecological values, environmental cognition, and pro-environmental behaviors (Mayer & Frantz, 2004; Navarro et al., 2017; Pasca et al., 2017). Mayer & Frantz (2004) conceptualized NC as a trait-like psychological disposition, rather than a transient state, meaning that it shapes how individuals perceive, evaluate, and act toward the natural environment. Recent behavioral-stage research further suggests that connectedness to nature, while relatively stable, is not entirely fixed; rather, it systematically increases as individuals progress from pre-intentional to action and maintenance stages of nature-related behavior, indicating a dynamic trait–state interplay (Zheng & Ueda, 2025). Theoretically, the NC framework adopts an "overlap self–nature" perspective—emphasizing the psychological overlap between the self and nature—thus extending theories of empathy and human–other identification into the human–nature domain.

Over the past two decades, the Connectedness to Nature Scale and the NC construct have been extensively applied in environmental psychology and behavioral studies. Numerous empirical findings indicate that NC positively influences Pro-Environmental Behaviors such as energy saving, recycling, and resource conservation (Guazzini et al., 2025), as well as enhances psychological well-being, life satisfaction, and mental restoration through nature contact (Zeng et al., 2025). Population-level evidence further indicates that nature connectedness interacts with nature exposure to shape both well-being and environmentalism, suggesting that NC not only exerts direct effects but also moderates how experiential contact with nature translates into psychological and behavioral outcomes (Alcock et al., 2025). However, some scholars have questioned whether the Connectedness to Nature Scale truly measures affective connection to nature or rather nature identity cognition. For instance, Perrin & Benassi (2009) argued that several items in the Connectedness to Nature Scale reflect cognitive rather than purely emotional components, suggesting that Connectedness to Nature Scale scores may sometimes represent reflective evaluations rather than spontaneous feelings. Subsequent analyses (e.g., Beery & Wolf-Watz (2014)) further examined the internal structure, convergent, and discriminant validity of the scale across cultural contexts, leading to localized adaptations and refinements. Addressing these longstanding measurement debates, recent work has advanced multidimensional conceptualizations of nature connectedness. For instance, the DEEP Connection to Nature Scale distinguishes cognitive identity, emotional connection, experiential engagement, and presence within nature, demonstrating stronger predictive validity for pro-environmental behavior than traditional unidimensional measures (Lindsay & Dobkins, 2025).

A recent systematic review on NC and pro-environmental behavior reaffirmed that the relationship between the two constructs is consistently positive and significant, although the magnitude of the effect varies depending on behavioral type and context (Guazzini et al., 2025). Within tourism research, NC-related studies are emerging but remain fragmented. Systematic reviews on hospitality, tourism, and nature connectedness indicate that empirical applications of NC remain scarce, with few theory-driven validations in specific destination settings (Mihiretu et al., 2025; Strzelecka et al., 2023). In tourism well-being models, L. Chang et al. (2024) also demonstrated that nature connectedness constitutes a key component shaping tourists' positive experiences and social connectedness. Recent meta-analytic evidence confirms that nature connectedness is a malleable psychological target, with nature-based and mindfulness-oriented activities consistently enhancing individuals' sense of human–nature connection, thereby reinforcing its relevance for intervention-oriented research in conservation and tourism contexts (Wilkie et al., 2026; Wood et al., 2025).

Beyond environmental outcomes, meta-analytic findings suggest that affective bonds with nature are also linked to broader prosocial orientations, indicating that connectedness to nature may reflect an expansive moral concern extending beyond the self to both human and non-human worlds (Yao et al., 2025). Thus, the Connectedness to Nature Framework proposed by Mayer & Frantz (2004) provides a robust theoretical foundation for understanding how individuals perceive their emotional bond with nature and how this bond predicts nature-oriented behaviors.

However, in the field of tourism—particularly nature-based destinations—there remains a notable scarcity of studies integrating NC into theoretical models that predict ecotourism interest and nature destination choice intention. This gap highlights a promising research opportunity to apply and extend the NC framework within Ramsar contexts such as U Minh Thuong National Park, where ecological and educational values are deeply intertwined.

HYPOTHESIS DEVELOPMENT

The Relationships between NC, EI, and TI

NC is defined as the degree of emotional attachment and sense of belonging that humans feel toward nature (Mayer & Frantz, 2004), which can positively influence environmental values, attitudes, and behaviors (Barrera-Hernández et al., 2020). Ives et al. (2018) argued that fostering stronger emotional connections with nature is more effective in addressing ecological and sustainability challenges. According to Gezahegn et al. (2024), tourists' attitudes reflect their degree of concern toward ecotourism; thus, tourists' interest can be regarded as a component of their environmental attitude. Scholars have begun to emphasize the positive effects of nature exposure on environmental emotions, attitudes, values, and behavioral change (Capaldi et al., 2014; Martin et al., 2020; Zhang et al., 2014).

Recent empirical evidence shows that NC strongly predicts intentions and interests associated with nature-based travel experiences. For instance, a study among green tourists revealed that higher NC enhances the intention to stay at eco-resorts, implying that individuals with stronger connectedness to nature are more inclined toward eco-oriented products and services (Shimul et al., 2024). Besides, recent experimental evidence further demonstrates that nature-related emotions—

particularly awe—can enhance individuals' willingness to pay a premium for ecotourism and other pro-environmental intentions through heightened connection to nature, reinforcing NC as a proximal psychological driver of ecotourism-related intentions (Liu et al., 2025). Experimental research using virtual nature exposure demonstrated that increased state-level NC leads to higher intentions to engage in hiking and guided nature tours, directly supporting the NC → interest/intention linkage in nature-based tourism (Brambilla et al., 2025).

At the behavioral level, individuals with higher NC are more likely to visit green spaces frequently and exhibit nature-oriented motivations, reflecting a stronger preference and sustained interest in outdoor activities that can translate into ecotourism interest (C.-c. Chang et al., 2024). Additionally, Luong (2024) found that destination-level attitudinal constructs in a mountainous ecotourism context significantly enhance tourists' behavioral intentions, implying that ecotourism interest—a closely related attitudinal construct—also has a high likelihood of predicting travel intention within the Ramsar context. Within the context of national parks, NC has been found to predict tourists' pro-environmental behavioral intentions, reinforcing the psychological mechanism leading to the choice of ecotourism activities (Cao et al., 2022; Zhang et al., 2023). Collectively, these findings support the argument that individuals who feel a stronger sense of belonging to nature tend to show greater interest in ecotourism experiences. Supporting this view, recent ecotourism research conceptualizes affective engagement with nature—such as enjoyment, fascination, and emotional comfort—as an immediate attitudinal response that translates nature connectedness into sustained interest in nature-based tourism activities (Septiarini & Adialita, 2025). Moreover, emotions—complex physical and psychological states—actively influence individual responses to the environment (Soga et al., 2016). Positive emotions toward nature can enhance pro-environmental responsiveness (Soga et al., 2016). As Mayer & Frantz (2004) proposed, NC represents an emotional state of humans toward nature, and such emotions can drive environmentally responsible behaviors. Given that ecotourism inherently involves environmentally friendly and conservation-oriented actions, studies on environmentally responsible tourism behavior are highly relevant to this field. Empirical findings further indicate that enhancing NC at a particular site can promote individuals' pro-environmental behaviors (Barrera-Hernández et al., 2020; Cao et al., 2022; Clark et al., 2019; Li & Wu, 2020; Vaske & Kobrin, 2001; Whitburn et al., 2019). From a behavioral standpoint, cumulative evidence highlights a positive correlation between NC and tourists' pro-environmental behavioral intentions, suggesting that NC may serve as a psychological bridge connecting emotional belonging with ecotourism-related decision-making.

Therefore, based on the above reasoning, the following hypotheses 1 and 2 are proposed:

H1: NC is positively related to EI.

H2: NC is positively correlated to TI.

The Relationships between EI, and TI

Interest in nature has been identified by Beall & Boley (2022) as one of the key criteria that distinguish ecotourists from other types of travelers. Assessing the degree of interest in ecotourism-related activities helps bridge the gap between supply and demand in the ecotourism market, thereby potentially increasing both revenue and visitor satisfaction (Beall & Boley, 2022). Previous research has shown that individuals with a strong interest toward ecotourism are often attracted to destinations where natural and cultural environments are preserved, and where opportunities for learning and authentic experiences are provided (Hall, 1992; Jefferson, 1995). According to Juric et al. (2002), ecotourists are characterized not only by their concern for culture and environmental conservation but also by their curiosity and desire to learn about and experience natural ecosystems. This description clearly demonstrates that ecotourists intend to visit ecotourism destinations not merely for relaxation or escape, but also out of genuine interest in experiencing nature and contributing to environmental preservation (Blamey, 1997; Juric et al., 2002). Consequently, consumers' interest in ecotourism can enhance their intention to participate in ecotourism activities and services (Lu et al., 2016).

Empirical studies consistently confirm that interest in ecotourism positively predicts the intention to engage in or visit nature-based destinations and activities. Recent structural equation modeling further confirms that enjoyment of nature—an affective construct closely aligned with ecotourism interest—exerts a strong and direct effect on ecotourism visit intention, highlighting the pivotal role of interest-based emotions in shaping destination choice (Septiarini & Adialita, 2025). In the context of wetland parks, favorable perceptions and attitudes toward ecotourism—reflecting higher levels of interest—have been shown to significantly increase ecotourism intention in structural equation models, reinforcing the central role of interest in behavioral prediction (Huo et al., 2024). Similarly, research on wetland tourism indicates that interpretive and experiential mechanisms at Ramsar sites enhance visitors' enthusiasm and curiosity, which in turn stimulate participation intentions and value co-creation behaviors at the destination (Wang et al., 2022; Zhu et al., 2022). Integrating these discussions and empirical findings, the following hypothesis 3 is proposed:

H3: EI is positively associated with TI.

The Mediating Role of Ecotourism Interest

The study by Hinds & Sparks (2008) demonstrated that individuals with a higher degree of involvement with nature tend to feel a stronger emotional attachment to it, which in turn leads them to make environmentally friendly decisions and exhibit positive pro-environmental behaviors. Cumulative evidence further confirms that NC positively predicts both pro-environmental intentions and behaviors, forming a psychological foundation for participation in ecotourism activities (Whitburn et al., 2020). At the psychological level, the tendency to feel emotionally connected to or fond of nature evokes motivation and interest in nature-related activities, which subsequently fosters behavioral intentions (Kals et al., 1999). Recent research within natural destination contexts has shown that NC is associated with positive

emotional experiences and greater engagement in nature-based activities, implying that interest or fascination functions as a mediating psychological mechanism (Akçakese et al., 2024; Spano et al., 2023). Consistent with this mediation logic, recent ecotourism models demonstrate that affective and aesthetic experiences grounded in nature function through intermediate attitudinal states—such as interest, enjoyment, and moral engagement—before stabilizing into intention and post-visit responsible behavior (Balaskas et al., 2025). In parallel, destination-based ecotourism models indicate that affective and attitudinal constructs—such as attachment and interest—can mediate the influence of ecological motivations on ecotourism intention (An et al., 2024; Luong, 2025). Based on these theoretical arguments and empirical findings, the following hypothesis 4 is proposed:

H4: EI mediates the positive relationship between NC and TI.

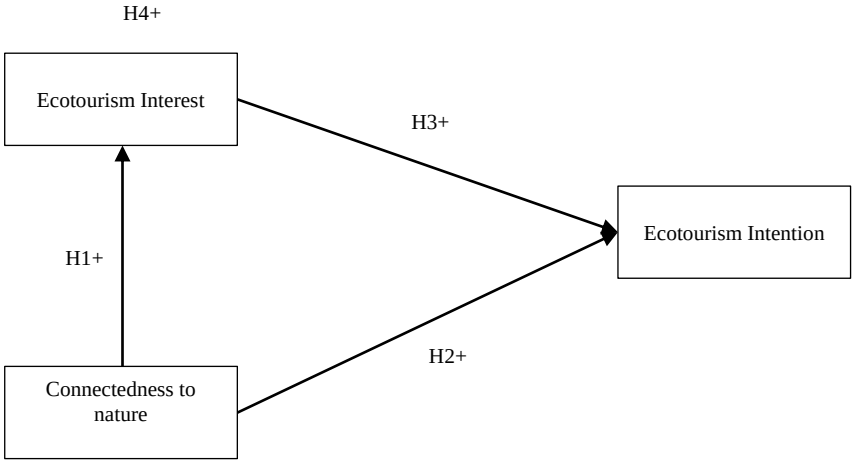

Figure 1. Research model

METHODOLOGY

Study area

U Minh Thuong National Park, located in An Giang Province, Vietnam, was designated as a Ramsar site in 2015. It is one of the very few remaining peat swamp forests in the country and among the top three priority wetlands for conservation in the Mekong Delta (Buckton et al., 1999). Covering an area of approximately 21,800 hectares, the Ramsar site includes about 3,000 hectares of Melaleuca forest on peat soil, representing a rare example of tropical peat swamp ecosystems. The park also contains seasonally flooded grasslands and diverse aquatic habitats that provide critical breeding and roosting grounds for 32 mammal species, 187 species of waterbirds, 34 species of reptiles and amphibians, 37 fish species, and numerous endemic insects. These ecological characteristics make U Minh Thuong an ideal setting for developing interpretive ecotourism products, birdwatching activities, and environmental education programs for visitors (ASEAN Centre for Biodiversity, n.d; Ramsar Sites Information Service, 2015). With its remarkable natural beauty, rich biodiversity, and distinctive ecosystem, U Minh Thuong National Park has increasingly emerged as one of the most prominent Ramsar-based ecotourism destinations in the Mekong Delta (Huynh et al., 2024).

Measurement Instruments

The content of the questionnaire was developed based on the proposed theoretical framework and was adjusted to fit the research context in Vietnam (Figure 1). The constructs in the model were adapted from prior studies as follows: the ecotourism interest construct included three observed variables developed by Lu et al. (2016); the connectedness to nature construct consisted of six observed variables adapted from Cao et al. (2022); and the ecotourism intention construct comprised four observed variables, three of which (TI1, TI2, TI3) were developed from Pham & Khanh (2021), while one additional item (TI4) was incorporated based on Chi & Pham (2024). Initially, the questionnaire was designed in English and subsequently translated into Vietnamese, as the survey respondents were domestic tourists. The translated version was reviewed by tourism experts and academic researchers to ensure clarity and contextual appropriateness.

After expert revision, a pilot study was conducted to assess the feasibility of the research instrument. A total of 60 tourists participated in the pilot survey, and the results indicated that all observed variables demonstrated acceptable reliability and strong convergent validity. Based on the pilot findings, the final questionnaire was refined and structured into two main sections: The first section contained demographic questions regarding respondents' gender, age, educational attainment, and current occupation. The second section focused on key measurement items designed to capture data relevant to the study's objectives, encompassing the defined constructs and their associated indicators.

Data Collection and Data Analysis

This study employed convenience sampling combined with the snowball technique to collect data. The questionnaire was printed and administered to domestic tourists in Vietnam with the assistance of student collaborators. All participants were informed about the purpose of the study and provided informed consent prior to participation. The survey was conducted over a period from May 2024 to April 2025. The target population primarily consisted

of domestic respondents who had expressed an intention to travel to U Minh Thuong National Park in the near future. A total of 325 questionnaires were collected, of which 306 valid responseswere retained for data analysis after excluding incomplete or non-engaged responses. The final sample size of 306 met the general recommendation for Partial Least Squares Structural Equation Modeling (PLS-SEM) analysis. Specifically, Hoyle (1995) suggested that a minimum of 200 observations is adequate for structural equation modeling, while the "10-times rule" proposed by J. Hair et al. (2017) indicates that the minimum required sample size should be 10 times the largest number of structural paths directed at a latent variable. In this study, with 13 observed items, the minimum required sample size was 130; therefore, a sample of 306 respondents exceeded this threshold, ensuring the robustness and reliability of the analysis.

Demographic characteristics of the 306 respondents were generally well balanced in terms of gender, with females accounting for 52.3% and males for 47.7%. The respondents' ages ranged from 18 to over 53 years old, with the largest proportion falling between 18 and 41 years old (74.9%), of which 37.3% were aged 18–29 and 37.6% aged 30–41. Participants aged 42–53 represented 20.6%, while those over 53 years old accounted for 4.6%. Regarding educational attainment, 17.3% of respondents had completed high school or below, 12.1% held a vocational degree, 28.1% had a college degree, 28.8% held a university degree, and 13.7% possessed a postgraduate qualification. In terms of occupation, respondents represented a diverse range of professions, including workers and office staff (31.4%), business owners or traders (27.5%), students (17.3%), government officers and public servants (16.3%), and others such as drivers or homemakers (7.5%). Given the complexity of the research model, Structural Equation Modeling (SEM) was employed to test the proposed hypotheses. Following Fornell and Larcker (1981), the Partial Least Squares SEM (PLS-SEM) approach was deemed appropriate for theory development and prediction-oriented research. Accordingly, data analysis was conducted using SmartPLS version 4.0.

RESEARCH RESULTS

Measurement Model

Assessing the outer (measurement) model is a critical step in PLS-SEM, as it evaluates the link between each latent construct and its observed indicators (Hamid et al., 2017). In this study, the measurement model comprises three constructs with 13 items. As summarized in Table 1, we examined construct reliability, convergent validity, and discriminant validity, providing evidence of the model's robustness and adequacy.

Table 1. Assessment of the first-order factor model (Source: Results of data analysis, 2025)

Measurement scales	Factor loading	Cronbach's Alpha	CR	AVE
Ecotourism Interest (EI)				
EI1: I am interested in wilderness and undisturbed nature in U Minh Thuong National Park.	0.816	0.842	0.901	0.754
EI2: I am interested in learning about nature in U Minh Thuong National Park.	0.881			
EI3: I am interested in photographing landscapes and wildlife in U Minh Thuong National Park.	0.906			
Connectedness to nature (NC)				
NC1: I feel the beauty in nature.	0.832	0.918	0.931	0.709
NC2: I treat nature with respect.	0.877			
NC3: Being in nature makes me very happy.	0.872			
NC4: Spending time in nature is very important to me.	0.819			
NC5: I find being in nature amazing.	0.881			
NC6: I feel myself part of nature.	0.765			
Ecotourism Intention (TI)				
TI1: I will choose ecotourism in my travelling.	0.876	0.861	0.880	0.703
TI2: I intend to visit an ecotourism destination within a foreseeable future.	0.813			
TI3: I properly choose ecotourism tour.	0.821			
TI4: I think the ecotourism is right.	0.844			

Construct reliability—reflecting the correlation among indicators within a construct—was assessed via Composite Reliability (CR), with recommended thresholds of ≥ 0.70 (or ≥ 0.60 for exploratory settings) (Joe F. Hair et al., 2017). As reported in Table 2, all CR values exceeded 0.70, indicating strong internal consistency.

Convergent validity was evaluated using factor loadings and Average Variance Extracted (AVE) (Joe F. Hair et al., 2017). Cronbach's alpha values for all constructs were > 0.70, confirming satisfactory reliability for subsequent analyses. Likewise, all AVE values were > 0.50, showing that each construct explains more than 50% of the variance in its indicators and meets recommended criteria for convergence.

Furthermore, discriminant validity was assessed to verify the distinctiveness of each construct within the model by examining cross-loadings, the Fornell–Larcker criterion, and the Heterotrait–Monotrait (HTMT) ratio (Joe F. Hair et al., 2017). The initial evaluation of discriminant validity revealed that each indicator's loading on its assigned construct was higher than its loadings on other constructs, supporting construct uniqueness (Joe F. Hair et al., 2017).

Additionally, both Cronbach's alpha and rho_A values—presented in Table 2—exceeded 0.7, consistent with the threshold commonly accepted in social science research (Hamid et al., 2017). Importantly, the convergent validity of the measurement model in this study met all minimum requirements, as all AVE coefficients were greater than 0.50.

Finally, the HTMT ratio was also applied to assess discriminant validity, and all values fell within the acceptable range of 0 to 1, confirming that the constructs demonstrated adequate discriminant validity.

Table 2. Reliability, Validity, and Correlation (Source: Results of data analysis, 2025)

Fornell–Larcker Criterion				Heterotrait–Monotrait ratio		
Variable	**EI**	**NC**	**TI**	**EI**	**NC**	**TI**
EI	**0.869**					
NC	0.295	**0.842**		0.327		
TI	0.346	0.274	**0.839**	0.370	0.295	

Table 3. Results of direct effects (Source: Results of data analysis, 2025) (Notes: *p<0.05; **p<0.01, ***<0.001)

Hypothesis	Path Coefficient	T Statistics	*p*-Value	VIF	R^2	Q^2	Decision
H1: NC → EI	0.290	5.022	0.000***	1.000	0.087	0.063	Supported
H2: NC → TI	0.295	5.028	0.000***	1.095	0.152	0.100	Supported
H3: EI → TI	0.188	3.423	0.001**	1.095			Supported

Structural Model

As shown in Figure 2, the structural model presents the relationships among NC, EI, and TI, together with the path coefficients and explained variance of the endogenous constructs. The results presented in Table 3 indicate that the model explains 15.2% of the variance in TI and 8.7% of the variance in EI, demonstrating moderate explanatory power of the structural model (Hair et al., 2019). In addition, the results show that all Q^2 values were positive (EI = 0.063 and TI = 0.1.00), confirming that the model possesses predictive relevance for the endogenous constructs (Hair et al., 2019). Furthermore, prior to estimating the path coefficients and testing the hypotheses, multicollinearity was assessed. According to Hair et al. (2011), Variance Inflation Factor (VIF) values should be below 5 to ensure that the estimates are free from collinearity bias. The findings reveal that all constructs recorded VIF values below 1.1, which is far lower than the recommended threshold of 5, indicating that no multicollinearity issues were present and that the regression results are reliable. Among the three direct hypotheses examined in this study, none were rejected, indicating strong empirical support for the proposed model. As shown in Table 3, NC was found to have a positive and significant effect on EI ($\beta NC \rightarrow EI = +0.290$, $t = 5.022$, $p < 0.001$), thereby supporting Hypothesis H1. Similarly, NC demonstrated a positive influence on TI among tourists visiting the Ramsar wetland destination ($\beta NC \rightarrow TI = +0.295$, $t = 5.028$, $p < 0.001$), thus confirming Hypothesis H2. Furthermore, the study examined the relationship between EI and TI.

The results revealed that EI significantly and positively influenced TI toward the Ramsar wetland destination—specifically U Minh Thuong National Park, Vietnam ($\beta EI \rightarrow TI = +0.188$, $t = 3.423$, $p < 0.01$).

This finding supports Hypothesis H3, reinforcing the notion that higher levels of interest in ecotourism are directly associated with stronger intentions to engage in ecotourism activities within the Ramsar context.

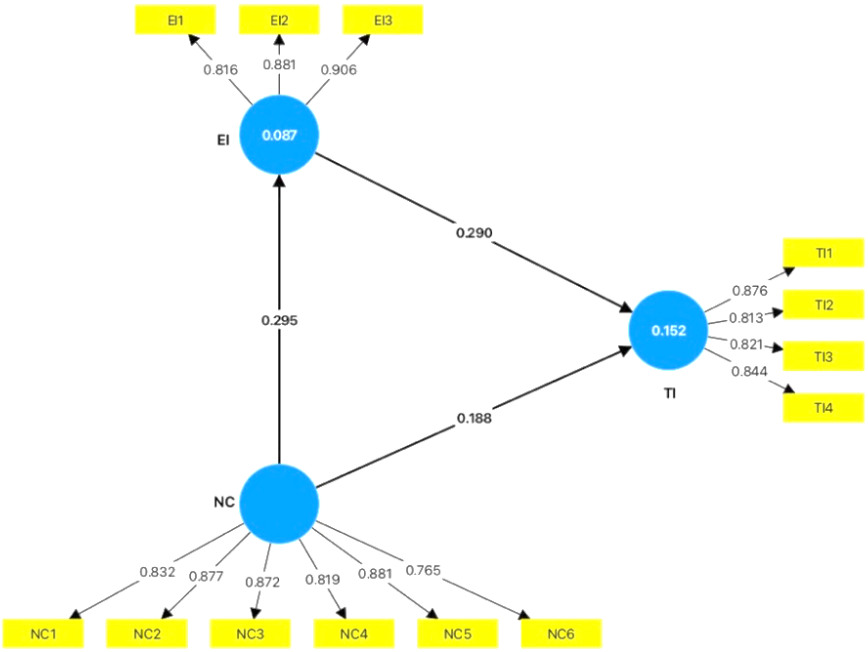

Figure 2. Structural (Source: Results of data analysis, 2025)

Mediation analysis

The mediation analysis was conducted using the nonparametric bootstrapping method, in which EI was specified as a mediating variable between NC and TI. Following (J. F. Hair et al., 2017), effects were considered statistically significant when $t > 1.645$ and $p < 0.01$. To assess the strength of the mediation effect, the Variance Accounted For (VAF) was calculated. According to Ramayah et al. (2018), full mediation occurs when VAF > 80%, partial mediation when 20% ≤ VAF ≤ 80%, and no mediation when VAF < 20%. As reported in Table 4, the model

yielded VAF = 38.1%, which falls within the partial mediation range. This indicates that EI partially mediates the relationship between NC and TI in the Ramsar wetland context. The indirect effect was found to be statistically significant (βNC→EI→TI = 0.086, $p < 0.01$), thereby providing empirical support for Hypothesis H4.

DISCUSSION

The findings indicate that all three direct hypotheses were supported, confirming both the theoretical and practical validity of the Connectedness to Nature Framework (Mayer & Frantz, 2004) in explaining ecotourism behavior. Specifically, NC was found to have a positive and significant effect on EI ($\beta = 0.290$, $p < 0.001$). This result aligns with previous evidence suggesting that emotional attachment to nature enhances motivation and curiosity toward nature-based activities (Nisbet et al., 2009; Tam, 2013). The finding also reinforces the argument that NC is not merely a cognitive construct related to self-concept in nature but also an affective driver that fosters interest and participation in ecological experiences (Brambilla et al., 2025; Schultz, 2002). Furthermore, NC was found to have a direct and positive influence on TI at the U Minh Thuong Ramsar site ($\beta = 0.295$, $p < 0.001$), confirming that NC functions as an essential behavioral antecedent in predicting ecotourism intention. This finding is consistent with prior studies demonstrating NC as a strong predictor of pro-environmental behaviors and intentions to engage in nature-based activities (Davis et al., 2011; Guazzini et al., 2025; Otto & Pensini, 2017). As argued by Tam (2013), individuals with higher NC tend to perceive unity between themselves and the natural environment, which fosters a sense of responsibility and the desire to maintain a harmonious relationship with nature—ultimately translating into ecotourism intention.

In addition, the results show that EI positively influences TI ($\beta = 0.188$, $p < 0.01$), in line with prior research emphasizing the role of attitudes and interest in shaping behavioral intentions (Ajzen, 1991; Lee & Jan, 2019). Empirical evidence from wetland and national park studies also suggests that interest in ecotourism mediates the link between environmental awareness and conservation-oriented behavioral intentions (Cao et al., 2022; Zhang et al., 2023). Thus, the current findings support the assumption that when tourists feel fascination, curiosity, or inspiration derived from nature, they are more likely to translate those emotions into concrete ecotourism intentions (L. Chang et al., 2024; Shimul et al., 2024).

The mediation test results further reveal that EI partially mediates the relationship between NC and TI. This suggests that, while NC directly influences TI, part of its effect is transmitted through EI—highlighting the psychological mechanism of interest as an intermediary between emotional connectedness and behavioral intention. This finding supports the proposition of Mayer and Frantz (2004) that NC activates positive emotions and environmental concern, which subsequently encourage nature-based behavioral intentions. Recent studies similarly confirm the mediating role of nature-based interest in translating NC into pro-environmental behavior, where EI serves as a psychological bridge transforming "emotional connection with nature" into "specific ecological behavioral intentions" (Brambilla et al., 2025; Guazzini et al., 2025).

Overall, these empirical results reinforce the central premise of the Connectedness to Nature Framework, asserting that the emotional–cognitive relationship between humans and nature forms the foundation of environmental attitudes, interest, and conservation-oriented behaviors (Mayer & Frantz, 2004; Perrin & Benassi, 2009). The results from U Minh Thuong National Park—a unique Ramsar wetland—demonstrate that NC influences ecotourism intention both directly and indirectly through ecotourism interest, illuminating the psychological pathway of "emotional connection – interest – behavior". This insight holds practical significance for ecotourism destination management, suggesting that enhancing nature-based experiences—such as birdwatching, ecological interpretation, and peat forest exploration—can strengthen tourists' connectedness to nature, thereby stimulating ecotourism interest and intention. In summary, this study contributes to the academic literature by confirming that the Connectedness to Nature Framework can be effectively extended to the Ramsar wetland context in Southeast Asia, where ecological and cultural values intersect. Moreover, the findings provide policy implications for sustainable ecotourism development, emphasizing that communication and experience design strategies should aim to foster emotional connection between tourists and nature, a fundamental psychological driver of ecotourism behavior (Brambilla et al., 2025; Guazzini et al., 2025).

CONCLUSION AND IMPLICATION

Research on TI has increasingly attracted the attention of scholars worldwide. However, studies focusing on tourists' TI within Ramsar wetland reserves in developing Asian countries—particularly in southern Vietnam—remain scarce. This study successfully tested a theoretical model grounded in the Connectedness to Nature Framework proposed by Mayer & Frantz (2004), thereby empirically demonstrating the relationships among NC, EI, and TI of visitors to the U Minh Thuong Ramsar site, a wetland area distinguished by its rich ecological features and growing tourism appeal in southern Vietnam. The results of the PLS-SEM analysis confirmed that all direct hypotheses were supported. Specifically, NC exerted a significant positive influence on EI ($\beta = 0.290$, $p < 0.001$) and TI ($\beta = 0.295$, $p < 0.07$), while EI also had a positive impact on TI ($\beta = 0.188$, $p < 0.001$). The mediation analysis further revealed that EI partially mediates the relationship between NC and TI (*VAF* = 38.1%), indicating that NC influences ecotourism intention both directly and indirectly through ecotourism interest.These findings are consistent with prior evidence suggesting that emotional connectedness to nature can foster positive environmental attitudes and a greater desire to engage in nature-based activities (Brambilla et al., 2025; Guazzini et al., 2025; Nisbet et al., 2009; Tam, 2013).

Theoretical Implications

This study broadens the Connectedness to Nature Framework beyond its traditional home in environmental psychology to the domain of ecotourism, showing that NC not only predicts conservation behaviors and pro-environmental intentions

(Guazzini et al., 2025; Whitburn et al., 2020) but also serves as a core antecedent of TI. The evidence that NC affects TI both directly and indirectly via EI mirrors the structure described by Mayer & Frantz (2004): perceived human–nature oneness fosters emotional attachment, which subsequently stimulates interest and nature-oriented action.

The findings also strengthen the framework's explanatory power for the emotion–cognition–behavior sequence in tourism. When tourists feel a sense of belonging to nature, they develop EI and intrinsic motivation to interact with, experience, or help conserve natural environments, positioning NC as a foundational psychological state shaping environmental attitudes and behavioral intentions and extending the framework's implications to tourism behavior and destination management (Brambilla et al., 2025; Tam, 2013).

By confirming the mediating role of EI, the study illuminates an underexplored pathway—NC → EI → TI—and clarifies that EI is not a transient affective by-product but a mechanism translating emotional connectedness into concrete tourism behavior. This advances theoretical integration between environmental psychology and ecotourism behavior research and offers a more holistic account of how attachment to nature becomes sustainable travel intention.

Finally, evidence from Vietnam's U Minh Thuong Ramsar site expands the framework's cross-cultural generalizability beyond predominantly Western validations. It shows that while NC is universal in meaning, its expression is culturally contextualized through distinctive emotional, experiential, and behavioral engagements with nature.

The study thus enhances the framework's explanatory capacity and cultural adaptability across diverse socio-ecological contexts and reaffirms its relevance as a foundational lens for future research on sustainable, nature-based tourism.

Practical Implications

From a practical perspective, the findings suggest that enhancing NC can serve as an effective strategy to strengthen tourists' interest and intention toward ecotourism. The management authority of the U Minh Thuong Ramsar site should prioritize the development of direct nature-based experiences, such as Melaleuca forest tours on peatlands, birdwatching activities, or nighttime swamp explorations, as these experiences foster emotional attachment and ecological fascination among visitors (Brambilla et al., 2025). In addition, implementing environmental education programs in collaboration with local communities can enhance emotionally engaging learning experiences, which help sustain connectedness to nature even after the trip (Guazzini et al., 2025). Such participatory and interpretive initiatives not only enrich visitor experiences but also reinforce conservation awareness through emotional engagement.

Moreover, tourism policymakers should integrate nature-based storytelling and emotional communication strategiesinto destination marketing to portray Ramsar sites as environmentally responsible ecotourism destinations, while evoking a "sense of belonging to nature" among domestic and international tourists. Finally, these findings carry significant implications for the implementation of Vietnam's Green Tourism Development Strategy toward 2030, contributing to the promotion of "nature-positive tourism" in the Mekong Delta region. By designing tourism experiences that reconnect humans with nature, the study offers actionable guidance for aligning ecological conservation with sustainable tourism growth in Vietnam's wetland ecosystems.

Research Limitations and Future Studies

Despite the encouraging results, this study acknowledges several limitations. First, the sample consisted exclusively of domestic tourists, which may limit the generalizability of the findings to international visitors. Future research should include cross-cultural samples to examine potential differences in the relationships among NC, EI, and TI across diverse cultural contexts. Second, the Connectedness to Nature Scale primarily captures the emotional dimension of human–nature connection, without clearly distinguishing the cognitive and behavioral components.

Therefore, future studies are encouraged to integrate broader measurement instruments such as the Nature Relatedness Scale (Nisbet et al., 2009) or the Inclusion of Nature in Self Scale (Schultz, 2002) to achieve greater conceptual coverage and robustness. Finally, future research could extend the model by incorporating additional mediating and moderating variables—such as Environmental Knowledge, Place Attachment, or Destination Image—to provide a deeper understanding of how NC influences sustainable tourism behaviors across different natural contexts.

Such extensions would help refine the theoretical framework and strengthen its explanatory power in predicting eco-behavioral intentions in global Ramsar and nature-based destinations.

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