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Community Foundations of Green Tourism in a Coastal Village Through Place Attachment, Connectedness to Nature, and Support for Green Practices

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ABSTRACT

As the global tourism sector increasingly shifts toward sustainability, understanding the psychological and community-based factors that drive support for green tourism has become essential. This study examines the impact of place attachment and connectedness to nature on community support for green tourism development in a coastal village setting. Focusing on Kampung Tok Jembal, Terengganu, Malaysia, the research integrates key psychological constructs, including place identity, place dependence, affective attachment, and connectedness to nature within the framework of green tourism engagement. A purposive sampling strategy was used to recruit 200 residents who had lived in the village for at least two years and were actively involved in tourism-related activities, including homestay operations, local entrepreneurship, and community-based tourism programmes. Data were collected through structured self-administered questionnaires and analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM). The results revealed that place identity and affective attachment significantly influenced connectedness to nature, which strongly predicted support for green tourism development. Moreover, connectedness to nature mediated the relationships between place-based emotional bonds and pro-environmental support. These findings provide theoretical insights into the psychological mechanisms that underpin local environmental engagement and offer practical implications for sustainable tourism planning. By highlighting the role of emotional and identity-driven connections to place and

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nature, this study contributes to the design of participatory, community-focused sustainability strategies for tourism development in coastal regions.

Keywords: Coastal village tourism, community engagement, connectedness to nature, green tourism, place attachment, pro-environmental behaviour

INTRODUCTION

In recent decades, the emergence of green tourism has garnered increasing attention as societies strive to address the environmental challenges posed by traditional tourism practices (Tok et al., 2024). Green tourism emphasises sustainable approaches that prioritise environmental stewardship, community engagement, and cultural preservation, making it particularly relevant in coastal villages where the delicate balance between tourism development and ecological integrity is paramount (Daneshwar & Revaty, 2024; Tehseen et al., 2024). The integration of sustainability in tourism practices has instigated a paradigm shift in how tourism is conceptualised and executed, particularly in regions characterised by rich biodiversity and unique cultural heritages, such as many coastal villages worldwide (Lukman et al., 2022).

Coastal communities are often situated in ecologically sensitive areas that face significant pressures from tourism-related activities (Lazzari et al., 2021). These pressures could cause ecological damage, loss of biodiversity, and cultural homogenisation (Newton et al., 2020). Consequently, green tourism emerges as a transformative strategy that seeks to mitigate these impacts by fostering practices that are not only ecologically sustainable but also economically viable and socially equitable. Recent literature suggests that green tourism can enhance the resilience of coastal communities, offering pathways for economic development that do not compromise environmental integrity (Hidayat et al., 2023; Ma et al., 2024). However, a key challenge remains in securing local community participation and long-term commitment to sustainability initiatives, as community engagement is often influenced by socio-cultural (Caperon et al., 2022), economic (Rahman & Baddam, 2021), and psychological factors (Kelvin, 2024).

The relevance of this challenge is evident in Kampung Tok Jembal and the wider Kuala Nerus coastal setting, where local development plans position the coastal beach network as a key eco-tourism attraction that requires careful environmental stewardship (PlanMalaysia, 2025). At the same time, tourism-related interventions along the Tok Jembal coastline have attracted public and industry attention, reflecting the sensitivity of coastal tourism development and the importance of maintaining environmental conditions that support destination attractiveness (Bernama, 2019). More broadly, the coastal environment in Kuala Nerus has been discussed in relation to shoreline

dynamics and coastal management responses, highlighting the practical need for sustainability-oriented development and local support in coastal areas (Zulfakar et al., 2020). However, as widely documented in sustainable tourism research, translating sustainability goals into meaningful and sustained community engagement remains challenging in many coastal contexts, where participation may be uneven and difficult to institutionalise (Reindrawati, 2023). Against this backdrop, examining how residents' place-based bonds and connectedness to nature shape support for green tourism development becomes practically important for strengthening community participation and improving the long-term effectiveness of sustainability-oriented tourism initiatives.

Within this context, community support is widely recognised as a foundation of sustainable tourism development. Local residents play a dual role as both custodians of environmental resources and active participants in tourism-related activities, particularly in community-based tourism settings. Existing studies suggest that residents' support for sustainable or green tourism is shaped by a combination of economic expectations, socio-cultural considerations, and psychological factors (Kelvin, 2024; Rahman & Baddam, 2021). Among these, place-based psychological bonds have received increasing attention for their role in fostering environmental concern and pro-environmental behaviour (Aytekin et al., 2023; Dwyer et al., 2019).

The literature further indicates that place attachment is an important psychological driver of pro-environmental behaviour and support for sustainable tourism (Aytekin et al., 2023; Elshaer et al., 2024). Individuals who feel strongly attached to their place are more likely to value its natural and cultural attributes and support initiatives aimed at preserving them (Elshaer et al., 2024). Nevertheless, place attachment is a multidimensional construct encompassing distinct dimensions such as place dependence, place identity, and affective attachment (Scannell & Gifford, 2010; Williams & Vaske, 2003). Existing studies have often treated place attachment as a unified construct or focused on its direct effects on pro-environmental behaviour, resulting in mixed and sometimes inconsistent findings, particularly in community-based tourism contexts.

Similarly, connectedness to nature has emerged as a key psychological construct for explaining pro-environmental attitudes and behaviours. Connectedness to nature refers to the extent to which individuals perceive themselves as part of the natural world rather than separate from it (Barragan-Jason et al., 2022; Lee et al., 2015). Research consistently demonstrates that individuals with stronger connectedness to nature exhibit greater environmental concern and are more likely to engage in environmentally responsible behaviours (Bankole & Adesina, 2024; Zhang et al., 2023). In tourism, meaningful interactions with natural environments can further strengthen this sense of connection, reinforcing support

for sustainability-oriented tourism practices (Chen et al., 2023; Luo et al., 2024).

Despite the relevance of both place attachment and connectedness to nature, prior research has primarily examined these constructs independently or modelled them as parallel predictors of environmental outcomes (Li et al., 2023; Ramkissoon et al., 2013). Consequently, there remains a limited understanding of how different dimensions of place attachment are translated into broader environmental orientations that motivate support for green tourism development, particularly at the community level (Ramkissoon, 2020; Mandić et al., 2025). Moreover, while sustainability-oriented perspectives such as the Green Paradigm Theory emphasise ethical responsibility, environmental stewardship, and community participation, they are often applied as normative backdrops rather than being explicitly linked to the psychological mechanisms that drive residents' support for green tourism development initiatives (Bramwell & Lane, 2011; Carvajal-Trujillo et al., 2024; Han et al., 2023).

Addressing these gaps, this study examines the interrelationships between place attachment, connectedness to nature, and support for green tourism development within a coastal village context. Focusing on Kampung Tok Jembal, Terengganu, Malaysia, the study integrates Place Attachment Theory, the Connectedness to Nature framework, and Green Paradigm Theory to develop a comprehensive model explaining how residents' place-based bonds and human–nature relationships shape their support for environmentally responsible tourism development. By distinguishing between place dependence, place identity, and affective attachment, the study explores the uneven psychological pathways through which different forms of place attachment influence connectedness to nature and subsequent support for green tourism development.

LITERATURE REVIEW

Theoretical Background

This study draws on three interconnected theoretical frameworks: Place Attachment Theory, the Connectedness to Nature Framework, and Green Paradigm Theory, to examine the foundations of green tourism development in coastal village communities. These frameworks are integrated to explain how emotional and functional bonds with place, human–nature relationships, and sustainability-oriented value systems collectively shape community support for environmentally responsible tourism development.

Place Attachment Theory explains how individuals develop emotional, cognitive, and functional bonds with places that are meaningful to their lives (Altman & Low, 1992; Scannell & Gifford, 2010). Within tourism and environmental studies, place attachment is commonly operationalised through dimensions such as place dependence, place identity, and affective attachment (Williams & Vaske, 2003). In coastal village contexts, where livelihoods, cultural practices, and social identities are closely tied to land and

marine environments, such attachments tend to be particularly strong (Ispas et al., 2021; Silva et al., 2021). Prior research suggests that strong place attachment can enhance residents' sense of belonging and motivate protective attitudes toward local environments, thereby influencing their responses to tourism development initiatives (Aytekin et al., 2023; Cheng et al., 2022). However, while Place Attachment Theory effectively explains why individuals value and care for specific places, it provides limited insight into how these place-based bonds translate into broader environmental orientations and support for sustainability-driven tourism development.

To address this limitation, the Connectedness to Nature Framework focuses on individuals' perceived emotional and psychological relationship with the natural world. Connectedness to nature reflects the extent to which individuals see themselves as part of nature rather than separate from it (Barragan-Jason et al., 2022; Lee et al., 2015). Research has consistently shown that individuals with higher levels of connectedness to nature exhibit stronger environmental concern and are more likely to engage in pro-environmental behaviours (Bankole & Adesina, 2024; Zhang et al., 2023). Particularly in ecologically sensitive areas such as coastal regions, repeated and meaningful interactions with natural environments can foster a more profound sense of connectedness (Li et al., 2023; Luo et al., 2024). By extending beyond place-specific attachments, this framework helps explain how local environmental experiences evolve into more generalised environmental orientations that support sustainability-driven tourism development.

At a broader normative level, Green Paradigm Theory provides a sustainability-oriented perspective that situates individual and community attitudes within ethical and developmental considerations. Rooted in sustainable development principles (WCED, 1987), the green paradigm advocates a shift away from growth-centric development models toward approaches that balance ecological preservation, social equity, and economic well-being (Mowforth & Munt, 2015). This paradigm emphasises community participation, environmental stewardship, and culturally respectful development practices (Phoochinda, 2018). Although widely referenced in discussions of sustainable tourism, the green paradigm is often treated as a contextual backdrop rather than being explicitly linked to the psychological mechanisms that drive community support for green tourism initiatives.

Despite the extensive use of these theories in tourism and environmental research, existing studies have largely examined them in isolation (Daryanto & Song, 2021; Lee, 2011; Ramkissoon et al., 2013). Prior research has predominantly focused on either place attachment or connectedness to nature as direct predictors of pro-environmental attitudes or behaviours (Li et al., 2023; Mayer & Frantz, 2004), without sufficiently explaining how place-based bonds are translated into broader environmental orientations that support

sustainability-driven tourism development (Mandić et al., 2025; Yoon et al., 2024). Moreover, few studies have explicitly integrated a normative sustainability framework, such as the Green Paradigm Theory, to contextualise these psychological processes within community-level support for green tourism (Hunter, 1997; Bramwell & Lane, 2011). As a result, the theoretical mechanisms linking emotional and functional attachment to place, human-nature connectedness, and support for green tourism development remain fragmented and underdeveloped (Daryanto & Song, 2021; Mandić et al., 2025).

By integrating Place Attachment Theory, the Connectedness to Nature Framework, and Green Paradigm Theory, this study addresses this gap by offering a coherent theoretical explanation of how functional, identity-based, and affective bonds with place foster connectedness to nature, which in turn shapes community support for green tourism development. This integrative approach enables the study to bridge individual-level psychological processes with collective sustainability-oriented outcomes, thereby advancing a more comprehensive understanding of green tourism development in coastal village communities.

Hypotheses Development

Place dependence, derived from Place Attachment Theory, reflects an individual's functional reliance on a place to satisfy daily needs and promote emotional well-being (Scannell & Gifford, 2010; Williams & Vaske, 2003). From a theoretical perspective, such reliance increases the frequency and depth of interaction with local environments, particularly in nature-dependent contexts such as coastal villages. However, prior tourism studies have often treated place dependence as a direct predictor of pro-environmental outcomes, without clearly explaining the psychological mechanism through which functional attachment to place fosters broader environmental orientations (Daryanto & Song, 2021; Lee, 2011; Ramkissoon et al., 2013).

Integrating Place Attachment Theory with the Connectedness to Nature Framework, this study argues that place dependence enhances connectedness to nature by embedding individuals' functional reliance on place into a broader human-nature relationship. When individuals depend on their local environment for livelihoods and everyday activities, they are more likely to internalise nature as part of their lived experience, strengthening emotional and psychological inclusion of the natural world (Mayer & Frantz, 2004). Empirical evidence further supports this mechanism in nature-based and tourism settings (Chen & Liu, 2024; Yoon et al., 2024).

Synthesising this theoretical reasoning, place dependence is expected to operate as an antecedent to connectedness to nature by transforming place-based reliance into broader environmental affiliation. Accordingly, the following hypothesis is proposed:

H1: Place dependence positively influences connectedness to nature.

Place identity, derived from Place Attachment Theory, refers to the extent to which individuals incorporate a place into their self-concept and define themselves in relation to their environment (Scannell & Gifford, 2010; Williams & Vaske, 2003). From a theoretical perspective, when a place becomes central to individuals' identity, the surrounding natural environment is no longer perceived as external but as an integral part of the self. This identity-based alignment fosters a sense of belonging that extends beyond physical space to include emotional and psychological connectedness with nature.

The Connectedness to Nature Framework conceptualises self-environment integration as a key antecedent of nature connectedness, whereby strong place identification increases individuals' perceptions of being embedded in the natural world (Lumber et al., 2017). In ecologically sensitive settings, place identity operates as a cognitive-emotional mechanism that strengthens individuals' sense of inclusion in nature (Berze & Dúll, 2024). Rather than operating merely as an emotional bond, place identity aligns personal identity with environmental values, making connectedness to nature a natural psychological outcome of strong place-based self-definition.

Taken together, these theoretical perspectives suggest that place identity provides a direct pathway through which attachment to place is translated into a deeper psychological connection with nature. Given this context, the study proposes the following hypothesis:

H2: Place identity positively influences connectedness to nature.

Affective attachment refers to the emotional bond individuals form with places through meaningful and repeated experiences, particularly within natural environments (Scannell & Gifford, 2010). Theoretically, emotional engagement plays a crucial role in fostering a connection to nature due to its affective responses. This includes feelings of comfort, pride, or emotional fulfilment that enhance psychological closeness and perceived kinship with the natural world (Mayer & Frantz, 2004).

Prior studies indicate that emotionally rich interactions with natural settings enhance individuals' sense of belonging to nature and reinforce environmentally oriented attitudes (Branham, 2024; Zhang et al., 2023). Affective attachment formed through repeated and emotionally meaningful experiences has been shown to deepen individuals' emotional bonds with nature, thereby strengthening connectedness to nature and encouraging environmental stewardship (Li & Song, 2024; Rezapouraghdam et al., 2024). All things considered, this suggests that emotional attachment to place functions as a key affective pathway through which individuals develop a stronger connection to the natural environment. From this foundation, the study advances the following hypothesis:

H3: Affective attachment positively influences connectedness to nature.

Connectedness to nature refers to how individuals see themselves as part of the natural world and form an emotional bond with it (Branham, 2024). From a theoretical perspective, individuals who experience a strong sense of connectedness to nature are more likely to internalise environmental values and develop a moral orientation toward environmental protection. This internalisation extends beyond personal attitudes and behaviours, shaping support for collective and development-oriented initiatives that prioritise environmental sustainability, such as green tourism (WCED, 1987).

Empirical research supports this theoretical linkage by demonstrating that connectedness to nature plays a central role in fostering pro-environmental orientations within tourism contexts. Prior studies consistently demonstrate that connectedness to nature plays a central role in shaping pro-environmental orientations and sustainability-related support within tourism contexts (Chen et al., 2023; Luo et al., 2024; Pearce et al., 2022; Shimul et al., 2024). Similarly, Pearce et al. (2022) demonstrated that connectedness to nature, in conjunction with personal moral norms, directly influences pro-environmental behaviours among visitors to protected areas, suggesting that nature connectedness strengthens normative commitment to environmental protection. Tourism experiences themselves can further reinforce this relationship. Chen et al. (2023) demonstrated that positive rural tourism experiences enhance connectedness to nature, which in turn increases green consumption intentions, while Luo et al. (2024) showed that sensory engagement with natural environments promotes pro-environmental responses through connectedness to nature and place attachment.

Importantly, when viewed through the lens of Green Paradigm Theory, connectedness to nature provides the psychological foundation through which individuals translate emotional bonds with the natural environment into support for environmentally responsible tourism development. In community-based and ecologically sensitive settings, such as coastal villages, individuals who feel a connection to nature are more likely to endorse tourism initiatives that balance ecological preservation, community well-being, and long-term sustainability, rather than prioritising short-term economic gains. In line with this, both theoretical reasoning and empirical evidence suggest that connectedness to nature is a critical antecedent of support for green tourism development. Taking this into account, the following hypothesis is proposed:

H4: Connectedness to nature positively influences support for green tourism development.

Connectedness to nature serves as a key psychological mechanism through which

place-based attachments are translated into support for green tourism development. While place dependence, place identity, and affective attachment capture individuals' functional, cognitive, and emotional bonds with place, these bonds alone do not fully explain why individuals extend their concern toward environmentally responsible tourism initiatives (Guazzini et al., 2025; Sapiains et al., 2025). Drawing on the Connectedness to Nature Framework, individuals who feel emotionally and psychologically embedded within the natural world are more likely to internalise ecological values and express support for development approaches that prioritise environmental protection (Luo et al., 2024; Zhang et al., 2023).

From a theoretical perspective, connectedness to nature explains how place-based bonds evolve into sustainability-oriented support. These processes collectively foster a stronger sense of connectedness to nature, which in turn motivates support for green tourism development aligned with ecological preservation and community well-being (Elshaer et al., 2024; Mousighichi et al., 2024). Thus, connectedness to nature is expected to mediate the relationships between place attachment dimensions and support for green tourism development. The proposed research framework is presented in Figure 1. In light of this, the following hypotheses are suggested:

H5: Connectedness to nature mediates the relationship between place dependence and support for green tourism development.

H6: Connectedness to nature mediates the relationship between place identity and support for green tourism development.

H7: Connectedness to nature mediates the relationship between affective attachment and support for green tourism development.

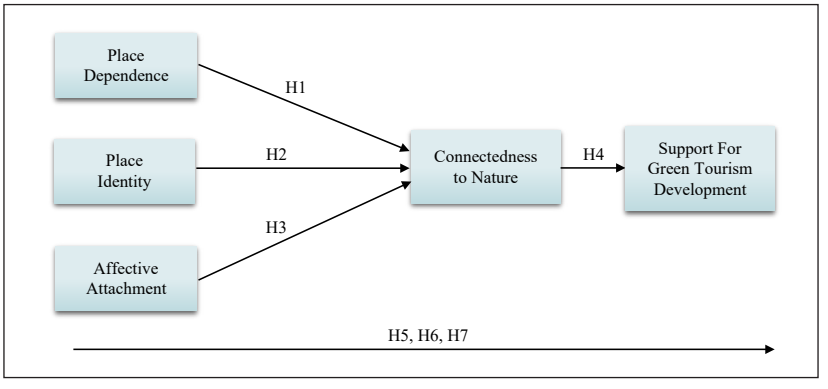


Figure 1. Study framework
Source: Authors' own work

METHOD

This study employed a quantitative, cross-sectional research design to examine the relationships between place dependence, place identity, affective attachment, connectedness to nature, and support for green tourism development in a local community context. The research was conducted in Tok Jembal, a coastal village located in Kuala Nerus, Terengganu, Malaysia.

Tok Jembal was selected as the study site due to its documented integration into regional tourism development initiatives. This is reflected in the prevalence of community-run homestays and accommodation options in the area, as well as broader state support for community-based tourism (Ismail et al., 2023; Terengganu Strategic & Integrity Institute, 2021). Previous planning documents and regional development reports have identified Tok Jembal as a locality experiencing tourism-related economic diversification alongside its traditional residential function (Majlis Bandaraya Kuala Terengganu, 2014; Tourism Terengganu, 2018). This dual character as both a residential and tourism-involved community makes Tok Jembal an appropriate context for examining how local place-based bonds and emotional connections influence residents' support for green tourism development.

Sampling and Data Collection

Data were collected from November 2024 to January 2025 through structured, self-administered questionnaires. Trained enumerators distributed the questionnaires in person, ensuring that respondents clearly understood the items and could seek clarification when needed. This approach helped maximise response quality and minimise the risk of incomplete answers.

A purposive sampling strategy was employed to target residents of Tok Jembal who were directly or indirectly involved in tourism-related activities. To ensure that participants had relevant experiences and insights, a screening question was included at the beginning of the questionnaire. Only respondents who (i) were 18 years of age or older, (ii) had lived in Tok Jembal for at least two years, and (iii) were actively involved in tourism-related activities such as running homestays, operating local businesses, or participating in community-based tourism programmes were eligible to participate.

Sample size estimation was conducted using G*Power 3.1 software (Faul et al., 2009), adopting a statistical power analysis approach instead of a population-proportion-based calculation. This decision was based on the absence of precise demographic data for the tourism-involved population in Tok Jembal, and the study aimed to test theoretical relationships rather than generalise findings to the entire population. An a priori power analysis was performed for linear multiple regression (fixed model, R^2 increase) using a medium effect size ($f^2 = 0.15$), a significance level (α) of 0.05, power ($1-\beta$) of 0.80, and three predictors in the structural model. The result indicated a minimum required sample size of 77 respondents.

Table 1
Questionnaire items

Section	Constructs	No. of Items	Source
B	Place Dependence (PD)	3	Elshaer et al. (2024)
C	Place Identity (PI)	3	
D	Affective Attachment (AA)	3	
F	Support for Green Tourism Development (SGTD)	5	
E	Connectedness to Nature (CTN)	7	Chen et al. (2023)

Source: Authors' own work

A more conservative sample size was pursued, given the application of Partial Least Squares Structural Equation Modelling (PLS-SEM), which involves latent constructs and mediation paths. Following MacCallum et al. (1996), who recommend larger samples for structural equation modelling involving complex models or uncertain commonalities, the study aimed for more than 150 participants. After accounting for non-responses and data screening, a final sample of 200 valid responses was obtained, ensuring sufficient statistical power for PLS-SEM analysis using SmartPLS 4.

Measurement Instrument and Validity

The questionnaire was initially developed in English and then translated into Bahasa Malaysia to ensure clarity and contextual relevance for local respondents. It comprised six key sections to capture demographic information and measure the study's core constructs. Section A gathered basic demographic data such as gender, age, ethnicity, marital status, education level, years of residence in Tok Jembal, and the respondent's involvement in tourism-related activities. The details of the following sections in the questionnaire are presented in Table 1.

All items were measured on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), allowing respondents to express varying levels of agreement with each statement. To ensure clarity and content appropriateness, face validity was first established through consultations with three experts in tourism and sustainability, whose feedback informed minor revisions to language and item phrasing. Subsequently, a preliminary pilot test was conducted with 30 residents from a nearby community involved in tourism to assess the reliability and comprehensibility of the measurement instrument. Among the participants, 20 were actively involved in tourism-related activities, including 10 individuals who had more than five years of experience in the sector. This ensured that the pilot participants had relevant contextual knowledge.

Consistent with recommendations in methodological literature, pilot sample sizes ranging from 20 to 30 respondents are considered sufficient for assessing instrument clarity, internal consistency,

and preliminary reliability in survey-based studies (Hair et al., 2019; Taherdoost, 2016). The pilot test yielded Cronbach's Alpha values exceeding the 0.70 threshold for all constructs, indicating satisfactory internal consistency. Based on the pilot findings and participant feedback, minor refinements were made to improve item clarity and cultural appropriateness, thereby strengthening the instrument's validity and reliability for the main data collection.

RESULTS

Respondent Demographic Profile

A total of 200 respondents who met the screening criteria were included in the study. All had lived in Kampung Tok Jembal, Terengganu, for at least two years and were directly involved in tourism-related activities, such as running homestays or local businesses. The sample comprised 54% males and 46% females. Respondents were mostly between 18 and 25 years old (45%), followed by those aged 26 to 35 (22%) and 36 to 45 (20.5%). Over half (53.5%) reported earnings below RM3,000 per month. Regarding educational background, a majority held a bachelor's degree (55%). Most had resided in the area between 2 and 6 years. While some respondents were students, their inclusion was based on active involvement in tourism-related initiatives, such as assisting in family-run tourism businesses or contributing to local tourism events. A majority (79%) lived in areas undergoing green tourism development, with 74.5% reporting participation in such initiatives and 88% expressing support for the development of green tourism in the village.

Measurement Model

The measurement model was assessed to ensure its reliability and convergent validity (Hair et al., 2020). Based on Table 2, the internal consistency of the constructs was evaluated using Cronbach's Alpha (α) and Composite Reliability (CR), with all values exceeding the acceptable threshold of 0.7. Specifically, CR values ranged from 0.850 to 0.932, indicating high internal consistency across all constructs.

Convergent validity was assessed through the Average Variance Extracted (AVE), which reflects the proportion of variance captured by the construct about the variance due to measurement error. All constructs reported AVE values above the 0.50 benchmark, with values ranging from 0.690 (Connectedness to Nature) to 0.904 (Place Dependence), affirming that each construct explained more than half of the variance in its observed variables (Fornell & Larcker, 1981).

In terms of indicator reliability, the majority of item loadings were above the recommended cut-off of 0.70 (Table 2). The exception was item CTN3, which recorded a loading of 0.689. However, based on the guidelines by Hair et al. (2017), items with loadings between 0.4 and 0.7 may be retained if the overall CR and AVE values are satisfactory, which is the case in this model. Therefore, CTN3 was retained to preserve the theoretical comprehensiveness of the Connectedness to Nature construct.

Table 2
Measurement model assessment

Construct Name	Item Loadings	Alpha	CR	AVE
Place Dependence	–	0.895	0.900	0.904
PD1	*0.946*			
PD2	*0.956*			
Place Identity	–	0.914	0.915	0.853
PI1	*0.915*			
PI2	*0.921*			
PI3	*0.936*			
Affective Attachment	–	0.849	0.850	0.769
AA1	*0.902*			
AA2	*0.866*			
AA3	*0.861*			
Connectedness to Nature	–	0.924	0.932	0.690
CTN1	*0.849*			
CTN2	*0.864*			
CTN3	*0.689*			
CTN4	*0.832*			
CTN5	*0.829*			
CTN6	*0.889*			
CTN7	*0.848*			
Support for Green Tourism Development	–	0.922	0.924	0.811
SGTD1	*0.879*			
SGTD2	*0.928*			
SGTD3	*0.903*			
SGTD4	*0.891*			

Source: Authors' own work

Discriminant validity was assessed using the heterotrait-monotrait (HTMT) ratio of correlations, a robust criterion for detecting discriminant validity issues in structural equation modelling (Henseler et al., 2015). A commonly accepted threshold for HTMT is 0.90, which indicates that constructs are empirically distinct even when conceptually related (Hair et al., 2019). While more stringent cut-offs, such as 0.85, are recommended for theoretically less correlated constructs (Roemer et al., 2021), the 0.90 threshold was deemed appropriate in this study due to the interrelated nature of the constructs under investigation.

As shown in Table 3, all HTMT values ranged from 0.576 to 0.890. Although the HTMT values for Affective Attachment and Place Dependence (HTMT = 0.890) and Affective Attachment and Place Identity (HTMT = 0.876) approached the upper boundary, they remained below the threshold of 0.90. This indicates that these constructs, while related, are empirically distinguishable. All other construct combinations exhibited HTMT values well

Table 3
HTMT ratios for discriminant validity

	AE	CTN	PD	PI	SGTD
AE					
CTN	0.772				
PD	0.890	0.714			
PI	0.876	0.754	0.879		
SGTD	0.621	0.672	0.576	0.591	

*AE = Affective Attachment, CTN = Connectedness to Nature, PD = Place Dependence, PI = Place Identity, SFG = Support for Green Tourism Development
Source: Authors' own work

Table 4
Structural estimates (path analysis)

Hypotheses	Path Analysis	Decision	Beta (β)	Confidence Interval (Bias Corrected)		f^2	R^2	Q^2
				2.5%	97.5%			
H1	Place Dependence -> Connectedness to Nature	Not supported	0.123	-0.046	0.323	0.111	0.548	
H2	Place Identity -> Connectedness to Nature	Supported	0.344***	0.141	0.534	0.048		
H3	Affective Attachment -> Connectedness to Nature	Supported	0.332***	0.134	0.546	0.075		
H4	Connectedness to Nature -> Support for Green Tourism Development	Supported	0.633***	0.490	0.745	0.655	0.395	0.372

*Note. ***(p <0.001) **(p<0.01) *(p <0.05)*
f^2: Effect size; R^2: Explanatory variance; Q^2: blindfolding
Source: Authors' own work

below the cut-off, providing additional support for the discriminant validity of the model.

Structural Model

To assess the structural model, bootstrapping procedures were applied using the Partial Least Squares (PLS) algorithm to test the hypotheses' significance and predictive strength. Key indicators examined included the path coefficients (β), t-statistics (p-values), confidence intervals (bias-corrected), effect sizes (f^2), explanatory variance (R^2), and predictive relevance (Q^2), as recommended by Hair et al. (2020). The structural estimates are summarised in Table 4.

The results revealed that the path from Place Dependence to Connectedness to Nature was not statistically significant (β = 0.123, 95% CI: -0.046 to 0.323), and therefore, H_1 was not supported. Despite a small effect size (f^2 = 0.111), the confidence interval crossed zero, indicating insufficient evidence for a significant effect. In contrast, H_2 was supported, demonstrating that Place Identity significantly influenced Connectedness to Nature (β = 0.344, p < 0.001, 95% CI: 0.141 to 0.534), with a small effect size (f^2 = 0.048) and substantial explanatory power (R^2 = 0.548). Similarly, H_3 was supported, indicating a significant relationship between Affective Attachment and Connectedness to Nature (β = 0.332, p < 0.001, 95% CI: 0.134 to 0.546), also with a small-to-medium effect size (f^2 = 0.075). The strongest relationship emerged in H_4, where Connectedness to Nature significantly predicted Support for Green Tourism Development (β = 0.633, p < 0.001, 95% CI: 0.490 to 0.745), demonstrating a large effect size (f^2 = 0.655) and a robust level of variance explained in the dependent construct (R^2 = 0.395). The Q^2 value of 0.372 also confirmed the model's predictive relevance in this relationship. These results provide strong empirical support for the proposed model, with three out of four hypotheses validated and R^2 and Q^2 values meeting the thresholds for substantial explanatory and predictive capacity (Henseler, 2012; Hair et al., 2020).

Mediation Effect

The results of the mediation analysis are summarised in Table 5. The mediating role of Connectedness to Nature was analysed with specific indirect effects using bootstrapping procedures and a 95% bias-corrected confidence interval. The

Table 5
Mediation effects testing (indirect path analysis)

Hypotheses	Path Analysis	Beta (β)	P-Values	Confidence Interval (Bias Corrected)		Result
				2.5%	97.5%	
H5	Place Dependence -> Connectedness to Nature -> Support for Green Tourism Development	0.078	0.191	-0.029	0.209	Not Significant
H6	Place Identity -> Connectedness to Nature -> Support for Green Tourism Development	0.078**	0.001	0.090	0.354	Significant
H7	Affective Attachment -> Connectedness to Nature -> Support for Green Tourism Development	0.211**	0.006	0.082	0.362	Significant

Note. *** (p<0.001) **(p<0.010) *(p<0.05)
Source: Authors' own work

first indirect path, Place Dependence → Connectedness to Nature → Support for Green Tourism Development, yielded a non-significant result (β = 0.078, p = 0.191, 95% CI: -0.029 to 0.209). Since the confidence interval includes zero, it indicates that Connectedness to Nature does not mediate the relationship between Place Dependence and Support for Green Tourism Development, and therefore, this indirect effect is not statistically supported.

This non-significant finding suggests that functional reliance on place alone may not be sufficient to foster a deeper psychological connection with nature within the study context. In tourism-integrated communities, such as Tok Jembal, residents may primarily depend on the place for economic or livelihood-related reasons, rather than for experiential or emotional engagement with the natural environment. As a result, place dependence may reflect utilitarian attachment that does not necessarily translate into a stronger sense of connectedness to nature. This distinction is consistent with prior studies suggesting that functional attachment may be weaker than identity-based or affective bonds in predicting environmental orientations (Scannell & Gifford, 2010; Williams & Vaske, 2003).

In contrast, the mediation path Place Identity → Connectedness to Nature → Support for Green Tourism Development was significant (β = 0.078, p = 0.001, 95% CI: 0.090 to 0.354), supporting H6. This suggests that Connectedness to Nature serves as a significant mediator, reinforcing the indirect influence of Place Identity on Support for Green Tourism Development. The result implies that individuals who identify more strongly with a place tend to feel a deeper connection to nature, enhancing their green-supportive behaviours. Similarly, the indirect path Affective Attachment → Connectedness to Nature → Support for Green Tourism Development also demonstrated a significant mediation effect (β = 0.211, p = 0.006, 95% CI: 0.082 to 0.362), confirming H7. This finding indicates that individuals who are emotionally attached to a place tend to foster a stronger sense of connectedness to nature, positively affecting their support for environmentally sustainable practices.

DISCUSSION

This study provides valuable insights into the role of place-based constructs in shaping connectedness to nature and subsequent pro-environmental support. The findings demonstrate that Place Identity and Affective Attachment are significant predictors of Connectedness to Nature, while Place Dependence does not exhibit a statistically significant effect. This suggests that emotional and identity-related connections to place may profoundly influence individuals' perceived relationship with the natural environment more than utilitarian or functional reliance on place (Berze & Dúll, 2024). This finding aligns with earlier scholarship, which asserts that the symbolic meanings embedded in personal and emotional associations with place play a crucial role in fostering a sense of environmental connectedness (Chen & Liu, 2024).

The lack of significance for Place Dependence in predicting Connectedness to Nature warrants further reflection. While the literature often associates place dependence with behavioural intention (Wan et al., 2022), the findings suggest that utilitarian reliance alone may be insufficient to inspire emotional or ecological engagement. In the context of Tok Jembal, many respondents, although involved in tourism activities, may view their relationship with the place through a practical or economic lens rather than a deeply personal or affective one. This could be particularly relevant in communities where tourism is emerging as a commercial opportunity rather than a culturally embedded practice. Moreover, the dominance of external tourism stakeholders or institutional decision-making in green tourism development may reduce the perceived agency or ownership among local actors. Without a sense of influence or co-creation, residents may engage in tourism functionally but remain disconnected from the environmental narratives that underpin the values of green tourism. This interpretation aligns with Ruiz and Hernández (2025), who argue that place dependence lacking emotional resonance may fail to activate the cognitive pathways needed for ecological concern.

In contrast, the significant positive relationships between Place Identity and Affective Attachment with Connectedness to Nature reaffirm the importance of emotional and identity-driven dimensions in fostering nature-relatedness. These results confirm that individuals who strongly identify with their community and hold emotional ties to their surroundings are more likely to develop meaningful relationships with nature. The findings extend the theoretical argument that affective and identity-based bonds are critical in shaping pro-environmental behaviour (Atik et al., 2023; Zhang et al., 2023). In Tok Jembal, such bonds may stem from residents' participation in cultural and tourism-related activities that affirm their connection to the place, such as homestays, heritage crafts, or community-based eco-events. These emotional investments, often rooted in social interactions and shared environmental experiences, are more likely to cultivate a sense of environmental stewardship compared to purely functional engagement.

The strong predictive effect of Connectedness to Nature on Support for Green Tourism Development highlights its central role in translating place-based emotions into environmental action. The large effect size ($f^2 = 0.655$) and substantial variance explained ($R^2 = 0.395$) indicate the psychological weight of nature connectedness in shaping tourism-related behavioural intentions. This finding reinforces previous research by Chen et al. (2023) and Luo et al. (2024), who argue that emotional and sensory connections with nature are key motivators for sustainable engagement. In practical terms, this finding suggests that green tourism initiatives in coastal villages must prioritise experiences that foster affective and immersive connections with the natural environment. Programmes that encourage environmental

storytelling, hands-on eco-learning, or nature-embedded cultural performances may be particularly effective in deepening connectedness and fostering long-term support.

The mediation analysis further reveals the bridging role of Connectedness to Nature between place-based constructs and green tourism support. Specifically, Place Identity and Affective Attachment indirectly influenced Support for Green Tourism Development through Connectedness to Nature, while Place Dependence again showed no significant mediating effect. These patterns support the argument that emotional and symbolic place bonds are stronger psychological pathways to environmental engagement than practical dependence alone. This is consistent with Shipley et al. (2023), who cited that the emotional dimension of place attachment is more predictive of ecological concern than its functional counterpart. The finding also calls attention to the often-overlooked mediating mechanisms in environmental behaviour models. While many studies identify correlations between place and behaviour, fewer examine how these connections are psychologically internalised. The current findings offer empirical evidence that nature connectedness plays a key role in this internalisation process.

CONCLUSION

Theoretical Contributions

This study offers several important theoretical implications for the green tourism and environmental psychology literature by advancing the conceptualisation and explanation of community-level support for environmentally responsible tourism development. At a foundational level, the study contributes by integrating Place Attachment Theory, the Connectedness to Nature framework, and Green Paradigm Theory into a single explanatory model. While each of these perspectives has been widely applied in tourism and environmental research (Altman & Low, 1992; Bramwell & Lane, 2011; Hunter, 1997; Mayer & Frantz, 2004), prior studies have predominantly examined them in isolation or treated sustainability paradigms as broad normative contexts rather than as components of an integrated explanatory structure (Daryanto & Song, 2021; Mandić et al., 2025). By bringing these frameworks together, the present study provides a more coherent theoretical account of how place-based psychological bonds, human–nature relationships, and sustainability-oriented values jointly shape residents' support for green tourism development, particularly within coastal village contexts characterised by environmental vulnerability and strong community involvement (Elshaer et al., 2024; Silva et al., 2021).

A second key theoretical implication lies in the conceptualisation of connectedness to nature as a mediating psychological mechanism. Existing research has essentially treated connectedness to nature and place attachment as parallel or independent predictors of pro-environmental attitudes and behaviours (Li et al., 2023; Mayer &

Frantz, 2004; Ramkissoon et al., 2013). This study extends prior work by empirically demonstrating that connectedness to nature functions as a critical psychological bridge through which emotional and identity-based attachments to place are translated into support for green tourism development. This mediating perspective advances theoretical understanding by revealing the internal psychological process through which place-based meanings are transformed into broader environmental orientations, thereby addressing a recognised gap in models of community-based sustainability behaviour (Daryanto & Song, 2021; Luo et al., 2024; Zhang et al., 2023).

Third, the study contributes to the refinement of Place Attachment Theory by empirically distinguishing between its functional (place dependence), identity-based (place identity), and affective (affective attachment) dimensions and demonstrating their uneven influence on environmental orientations. Although place attachment has long been recognised as a multidimensional construct (Scannell & Gifford, 2010; Williams & Vaske, 2003), many empirical studies continue to operationalise it as a unified predictor of pro-environmental behaviour, contributing to inconsistent findings (Lee, 2011; Ramkissoon et al., 2013). The present findings clarify that utilitarian or functional reliance on place may be insufficient to foster a deeper sense of connectedness to nature or to generate support for green tourism development. In contrast, identity-based and affective attachments emerge as more influential pathways through which individuals internalise environmental values, a distinction that aligns with recent evidence emphasising the stronger role of symbolic and emotional place bonds in shaping ecological concern (Berze & Dúll, 2024; Shipley et al., 2023).

Collectively, these theoretical implications contribute to a more nuanced and psychologically grounded understanding of how community-place-nature relationships shape support for green tourism development. By explicitly linking place-based emotional and identity bonds to environmental support through connectedness to nature, the study advances existing theoretical debates in sustainable tourism and environmental psychology and provides a stronger foundation for future research seeking to integrate psychological attachment processes into sustainability-oriented tourism models (Ramkissoon et al., 2025; Zhang et al., 2024). The findings also open avenues for extending this integrated framework into other behavioural theories, such as the Value-Belief-Norm framework or the Theory of Planned Behaviour, to further enrich theoretical explanations of pro-environmental support within tourism contexts (Stern, 2000; Ajzen, 1991).

IMPLICATION OF THE STUDY

The findings provide context-specific implications for Tok Jembal and similar coastal communities in Malaysia, which are increasingly integrated into tourism activities. First, the significant roles of

place identity and affective attachment suggest that community-based tourism programmes in Tok Jembal should prioritise strengthening residents' emotional and symbolic connections to their coastal environment. Local councils and tourism agencies can support this by developing heritage-based storytelling, community-led interpretation activities, and cultural-ecological narratives that highlight Tok Jembal's fishing heritage, coastal lifestyle, and natural assets. Such initiatives can reinforce residents' sense of belonging and foster stronger stewardship toward local tourism development.

Second, since connectedness to nature strongly predicts support for green tourism development, practical interventions should focus on direct and meaningful engagement with coastal ecosystems. In Tok Jembal, this may include community-led beach conservation programmes, mangrove awareness activities, eco-guided coastal walks, and small-scale environmental education initiatives involving local residents and youth. These programmes can translate emotional bonds with nature into sustained support for environmentally responsible tourism practices, aligning with Malaysia's broader coastal sustainability agenda.

Third, the non-significant role of place dependence indicates that improving infrastructure or access alone is insufficient to foster support for green tourism development. Therefore, tourism planning in Tok Jembal should move beyond functional development by incorporating participatory planning mechanisms, where residents are actively involved in decision-making related to tourism projects. Encouraging local participation in tourism governance can strengthen community ownership and ensure that green tourism initiatives reflect local values and environmental priorities. Overall, these findings suggest that community stewardship programmes, emotional place-based engagement, and participatory planning are essential for strengthening long-term support for green tourism development in coastal Malaysian communities.

LIMITATION AND RECOMMENDATION FOR FUTURE RESEARCH

This study is not without limitations. Using a cross-sectional research design limits the ability to determine causality between constructs. Future research should employ longitudinal designs to track changes in place attachment and pro-environmental behaviours over time. Such approaches would offer greater insight into how emotional and cognitive bonds with place evolve in response to environmental or social changes. Additionally, the study relied on non-probability sampling, which may affect the generalisability of the findings. Future studies could employ probability sampling techniques and collect data from various geographic regions or destination types to validate the current findings across a more diverse population. Although the model explains a substantial proportion of variance in Support for

Green Tourism Development, it does not consider potential moderating or mediating influences such as environmental value orientation, frequency of nature exposure, or cultural context. Including constructs such as place satisfaction, environmental identity, or moral obligation in future models could yield more comprehensive insights. Researchers are also encouraged to explore the application of these findings in different destination contexts, including urban parks, marine environments, or culturally significant sites. Comparative studies across regions or cultural groups may offer further insight into context-dependent dynamics. Additionally, the use of qualitative or mixed-methods approaches could uncover deeper narratives and personal meanings associated with place, identity, and environmental responsibility.

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