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Exploring the Role of Place Attachment in Shaping Satisfaction Among Adventure Tourists in Malaysia

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ABSTRACT

Adventure tourism is increasingly popular in ecologically rich destinations like Malaysia offering immersive experiences that foster place attachment. This study explores the impact of place attachment on tourist satisfaction among adventure tourists in Malaysia, conceptualizing attachment into four dimensions: place affect, place identity, place dependence, and place social bonding. A quantitative approach was employed, with survey data collected from 402 adventure tourists in Gopeng, Perak, ensuring robust statistical analysis. Using Partial Least Squares Structural Equation Modeling (PLS-SEM), the study found that place affect ($\beta = 0.704$, $p < 0.001$) and place identity ($\beta = 0.122$, $p = 0.031$) positively influence satisfaction, emphasizing the role of emotional and self-identity connections in enhancing tourist experiences. In contrast, place dependence ($\beta = -0.095$, $p = 0.108$) and place social bonding ($\beta = -0.097$, $p = 0.028$) had insignificant or negative effects, suggesting that functional reliance and social interactions are less critical in adventure tourism satisfaction. The model explained 45% of the variance ($R^2 = 0.45$) in satisfaction, with place affect exhibiting the highest predictive power ($f^2 = 0.290$). Findings underscore the need for destination managers to prioritize emotional engagement, storytelling, and immersive experiences to strengthen attachment and satisfaction. The study contributes to sustainable tourism management by highlighting the significance of emotional and identity-based connections. Future research should adopt longitudinal and qualitative approaches to examine evolving place attachment dynamics over time.

Keywords: Adventure tourism, place attachment, tourist satisfaction, place affect, place identity, Malaysia

INTRODUCTION

Adventure tourism has emerged as a significant and dynamic segment within the global travel industry, offering travellers immersive experiences that combine physical activity, cultural exchange, and interaction with nature. Malaysia, a country renowned for its rich biodiversity and diverse landscapes, provides an ideal setting for adventure tourism, with activities such as jungle trekking, mountain climbing, white-water rafting, and scuba diving attracting both domestic and international tourists. These adventure-based experiences not only offer thrill-seekers adrenaline-fueled activities but also foster deep emotional and psychological connections between tourists and their chosen destinations. This relationship between tourists and destinations can be understood through the concept of place attachment, which refers to the emotional and functional bonds individuals develop with specific locations. Place attachment is a crucial determinant of tourist satisfaction, revisit intentions, and destination loyalty (Ramkissoon & Mayondo, 2015).

Despite Malaysia's strategic emphasis on promoting adventure tourism as a driver for economic growth and sustainable development, the relationship between place attachment and tourist satisfaction remains underexplored, particularly within the adventure tourism segment. Understanding this relationship is vital, as insights into the impact of place attachment on satisfaction can inform destination management strategies, enhance marketing initiatives, and improve conservation efforts, thereby enriching the overall tourist experience. Research indicates that place attachment comprises multiple dimensions, including place identity, place dependence, place affect, and place social bonding, each of which plays a significant role in shaping tourist experiences and satisfaction levels (Ujang & Zakaria, 2018).

Place identity is a key component of place attachment that refers to the symbolic importance a destination holds for an individual. It encompasses the emotional and psychological connections that tourists establish with a place based on their personal experiences and self-concept. Tourists who perceive a destination as integral to their identity are more likely to experience higher levels of satisfaction and demonstrate loyalty through repeat visits and positive word-of-mouth recommendations (Ganji et al., 2021). However, the relationship between place identity and tourist satisfaction is not universally positive. Some studies suggest that heightened place identity can lead to unrealistic expectations, and when these expectations are not met, tourist dissatisfaction may arise (Almodawer et al., 2024). This complexity underscores the importance of managing tourists' expectations and providing authentic experiences that align with their place identity perceptions.

Place dependence refers to the functional value of a destination in fulfilling tourists' specific needs and desired activities. Adventure tourism destinations that offer unique and irreplaceable experiences foster a stronger sense of place dependence, which, in turn, enhances tourist satisfaction (Ispas et al., 2021). For instance, a national park that provides unparalleled opportunities for trekking, rock climbing, or scuba diving can cultivate a high degree of place dependence among adventure tourists. However, place dependence can also introduce challenges. If a destination fails to maintain its quality due to environmental degradation, overcrowding, or inadequate infrastructure, tourists may experience dissatisfaction, leading to negative word-of-mouth and reduced visitation rates (Zhang & Ren, 2024). Consequently, destination managers must ensure that adventure tourism sites maintain their distinctiveness while offering sustainable and high-quality experiences to retain tourist satisfaction.

Place affect encompasses the emotional responses and feelings that tourists associate with a destination. Positive emotions, such as joy, nostalgia, and relaxation, significantly enhance tourist satisfaction, while negative emotions, such as frustration or disappointment, can diminish the overall experience (Dai et al., 2023). Personal experiences, environmental aesthetics, and the hospitality of locals often shape emotional connections to a place. Research indicates that place affect strongly influences

tourists' revisit intentions and willingness to recommend a destination to others (Nasir et al., 2020). However, individual differences and cultural backgrounds may affect how tourists perceive and respond to a destination's emotional appeal. Destination marketers can leverage place affect by curating experiences that evoke positive emotions, such as personalized adventure packages and culturally immersive activities.

Place social bonding refers to the relationships and interactions tourists develop with locals, fellow travellers, and service providers during their visits. Positive social interactions can significantly enhance tourists' sense of belonging, leading to greater satisfaction and loyalty to the destination (Gautam, 2025). Studies have shown that destinations fostering strong social connections tend to attract repeat visitors who view the location as a part of their extended social identity (Kong et al., 2022). However, negative social experiences, such as cultural misunderstandings, poor service quality, or perceived hostility, can diminish place attachment and reduce tourist satisfaction. Thus, destination managers and local communities must cultivate a welcoming and inclusive atmosphere that encourages meaningful social interactions and enhances the overall adventure tourism experience.

The relationship between place attachment and tourist satisfaction is multidimensional, with place identity, place dependence, place affect, and place social bonding playing critical roles in shaping tourists' experiences and perceptions. While these dimensions generally contribute to increased satisfaction and destination loyalty, their effects can vary based on individual expectations, cultural backgrounds, and destination characteristics. For Malaysia's adventure tourism sector to thrive, stakeholders must recognize and leverage these dimensions by maintaining high environmental quality, fostering strong emotional and social connections, and managing tourist expectations effectively (Mat Yusoff et al., 2024). This study aims to bridge the gap in the literature by exploring the complex interactions between place attachment and satisfaction among adventure tourists in Malaysia, providing valuable insights for sustainable tourism development.

METHODOLOGY

Study design and study population

This study employed a quantitative research design, specifically a survey method, to examine the relationship between place attachment, satisfaction, and subjective well-being among adventure tourists in Malaysia. Specifically, the population of this study derived from Gopeng, Perak, Malaysia. The study population comprised adventure tourists who had visited various adventure tourism destinations in Gopeng, Perak, and engaged in activities such as jungle trekking, ATV riding, caving and white-water rafting. Following the guidelines provided by G*Power and the "10-times rule," as suggested by Hair et al. (2019), the required sample size for this study was calculated to be 302 participants. Additionally, to account for potential non-response (Mitchell & Jolley, 2013), an additional 25% was included, bringing the total to 377 respondents. However, to enhance the statistical power and robustness of the findings, the researcher included an additional 100 participants (total: 402). This increase ensured greater variability in responses and strengthened the reliability of the model. The study also received ethical approval from the Ethics Committee for Research involving Human Subjects Universiti Putra Malaysia under the reference number JKEUPM-2023-1303, ensuring compliance with ethical guidelines for research involving human participants.

Instrument and measurement outcome

The study employed a structured questionnaire to assess the relationships between place attachment, tourist satisfaction, and subjective well-being. The instrument was adapted and constructed based on an extensive literature review and prior validated scales. It comprised three primary constructs: socio-demographic information, place attachment dimensions, and tourist satisfaction. Place attachment was measured across four dimensions: place identity, place dependence, place affect, and place social bonding, using a 7-point Likert scale (1 = strongly disagree to 7 = strongly agree). The place identity and place dependence scales were adapted from Williams and Vaske (2003), while place affect items were derived from Jorgensen and Stedman (2001), Walker and Chapman (2003), and Williams and Roggenbuck (1989). Place social bonding was measured using the scale developed by Kyle et al. (2005). Tourist satisfaction was assessed using a five-item scale from Ramkissoon and Mavondo (2015). The questionnaire underwent a rigorous translation process, including back-translation and validation by linguistic experts. Additionally, face and content validity assessments were conducted following Lynn's (1986) methodology. Seven academic experts specializing in adventure tourism and leisure studies evaluated the questionnaire using a Content Validity Index (CVI) approach to ensure clarity, relevance, and comprehensiveness. The final instrument was refined based on their feedback, ensuring that all items met the required validity and reliability standards before being administered to respondents.

Data analysis

The data analysis in this study followed a systematic approach to ensure the validity and reliability of the findings. Data preparation involved transforming collected responses into a suitable format for statistical analysis, including checking for missing data, outliers, and normal distribution. Missing data were addressed using frequency distribution in SPSS 29, and responses with over 25% missing values were removed to maintain data integrity (Hair et al., 2010). Descriptive statistics, including mean, standard deviation, and percentages, were used to analyse adventure tourists' place attachment, and tourist satisfaction (Hahs-Vaughn, 2016). Partial Least Squares Structural Equation Modelling (PLS-SEM) was utilized to assess both the measurement and structural models, with SmartPLS 4 employed for model validation (Hair et al., 2019). Normality tests included skewness and kurtosis assessments, confirming that the data distribution met standard assumptions for further analysis (Garson, 2012). The PLS-SEM bootstrapping procedure was applied to validate the significance of path coefficients, using 10,000 resampling iterations to ensure robust estimates (Hair et al., 2017). This methodological rigor enhances the reliability of the study's findings and ensures meaningful interpretations in understanding the relationship between place attachment and satisfaction among adventure tourists in Malaysia.

RESULT

Measurement model

This study assesses the measurement model comprehensively as an integrated model where all variables and instruments are included. As all instruments are reflective measurement models, with Place Affect, Place Dependence, Place Identity, Place Social Bonding, and Satisfaction being second-order constructs defined by their respective indicators, the evaluation process prioritizes internal reliability, convergent validity, and discriminant validity.

Prior to applying the PLS-SEM technique, data normality was examined. The results indicated that skewness and kurtosis values ranged between 1.0 and -0.1, affirming the data's normal distribution. Furthermore, the variance inflation factors (VIF) for Place Affect, Place Dependence, Place Identity, Place Social Bonding, and Satisfaction were all below 5, confirming the absence of collinearity issues among the

latent variables. Table 1 subsequently presents the measurement model, outlining reliability and convergent validity indices.

Table 1. Reliability and Convergent Validity of the Instruments

Factors	items	Loading	CA	CR	AVE
Place Affect	PA1	0.831	0.928	0.930	0.666
	PA2	0.857			
	PA3	0.833			
	PA4	0.848			
	PA5	0.857			
	PA6	0.815			
	PA7	0.750			
	PA8	0.728			
Place Dependence	PD1	0.768	0.941	0.945	0.707
	PD2	0.808			
	PD3	0.850			
	PD4	0.830			
	PD5	0.860			
	PD6	0.888			
	PD7	0.885			
	PD8	0.830			
Place Identitiy	PI1	0.847	0.938	0.940	0.763
	PI2	0.883			
	PI3	0.894			
	PI4	0.875			
	PI5	0.863			
	PI6	0.878			
Place Social Bonding	PSB2	0.932	0.801	0.801	0.648
	PSB3	0.717			
	PSB4	0.750			
Satisfaction	S1	0.905	0.948	0.950	0.828
	S2	0.910			
	S3	0.894			
	S4	0.917			
	S5	0.925			

Table 1 presents the reliability and convergent validity results for the study's measurement model, evaluating the internal consistency and construct validity of place attachment dimensions (Place Affect, Place Dependence, Place Identity, and Place Social Bonding) and Satisfaction. Cronbach's Alpha (CA) and Composite Reliability (CR) values exceed the recommended threshold of 0.70, confirming strong internal reliability. Average Variance Extracted (AVE) values surpass 0.50, demonstrating adequate convergent validity. Factor loadings range from 0.717 to 0.932, indicating high item reliability.

Table 2. Discriminate Validity (HTMT Value)

	Place Affect	Place Dependence	Place Identity	Place Social Bonding	Satisfaction
Place Affect					
Place Dependence	0.835				
Place Identity	0.800	0.820			
Place Social Bonding	0.598	0.704	0.525		
Satisfaction	0.699	0.506	0.552	0.283	

Table 2 presents the discriminant validity assessment using the Heterotrait-Monotrait (HTMT) ratio of correlations, ensuring that the constructs are distinct. The HTMT values for all constructs are below the recommended threshold of 0.90, confirming adequate discriminant validity. The highest correlation between Place Affect and Place Dependence (0.835) indicates a strong but acceptable relationship. The lowest correlation is between Place Social Bonding and Satisfaction (0.283), suggesting minimal overlap. These results confirm that the constructs in this study measure distinct aspects of place attachment and satisfaction, enhancing the robustness of the structural model.

Table 3. Discriminant Validity (Fornell–Larcker Value).

	Place Affect	Place Dependence	Place Identity	Place Social Bonding	Satisfaction
Place Affect	0.816				
Place Dependence	0.788	0.841			
Place Identity	0.746	0.775	0.874		
Place Social Bonding	0.612	0.674	0.519	0.805	
Satisfaction	0.661	0.489	0.523	0.333	0.910

Table 3 presents the discriminant validity assessment using the Fornell-Larcker criterion, which verifies whether constructs are distinct from one another. The square root of the Average Variance Extracted (AVE) for each construct (diagonal values) is higher than the correlations between constructs, confirming adequate discriminant validity. The highest correlation exists between Place Affect and Place Dependence (0.788), indicating a strong relationship, while the lowest correlation is between Place Social Bonding and Satisfaction (0.333). These findings confirm that each construct uniquely contributes to the model, ensuring reliability in measuring place attachment and satisfaction in the adventure tourism context.

Table 4. Cross-loading.

	Place Affect	Place Dependence	Place Identity	Place Social Bonding	Satisfaction
PA1	**0.831**	0.776	0.700	0.555	0.534
PA2	**0.857**	0.769	0.673	0.530	0.551
PA3	**0.833**	0.577	0.566	0.402	0.581
PA4	**0.848**	0.647	0.602	0.512	0.529
PA5	**0.857**	0.687	0.657	0.516	0.576
PA6	**0.815**	0.596	0.599	0.471	0.495
PA7	**0.750**	0.539	0.560	0.514	0.436
PA8	**0.728**	0.538	0.511	0.503	0.580
PD1	0.660	**0.768**	0.720	0.418	0.493
PD2	0.613	**0.808**	0.638	0.532	0.348

PD3	0.639	**0.850**	0.636	0.566	0.409
PD4	0.649	**0.830**	0.642	0.564	0.410
PD5	0.635	**0.860**	0.626	0.610	0.349
PD6	0.653	**0.888**	0.649	0.651	0.364
PD7	0.677	**0.885**	0.652	0.626	0.369
PD8	0.729	**0.830**	0.613	0.587	0.476
PI1	0.582	0.602	**0.847**	0.385	0.456
PI2	0.660	0.671	**0.883**	0.416	0.510
PI3	0.658	0.698	**0.894**	0.460	0.439
PI4	0.627	0.671	**0.875**	0.484	0.436
PI5	0.653	0.706	**0.863**	0.487	0.429
PI6	0.727	0.717	**0.878**	0.497	0.462
PSB2	0.645	0.663	0.527	**0.932**	0.387
PSB3	0.326	0.428	0.304	**0.717**	0.104
PSB4	0.331	0.445	0.316	**0.750**	0.132
S1	0.578	0.403	0.454	0.284	**0.905**
S2	0.601	0.468	0.481	0.323	**0.910**
S3	0.566	0.430	0.447	0.303	**0.894**
S4	0.633	0.462	0.500	0.292	**0.917**
S5	0.624	0.459	0.495	0.314	**0.925**

Table 4 presents the cross-loading values for five constructs including Place Affect, Place Dependence, Place Identity, Place Social Bonding, and Satisfaction. The highest factor loadings for each item are shown in bold. Place Affect items (PA1-PA8) exhibit strong loadings, ranging from 0.728 to 0.857. Place Dependence items (PD1-PD8) range from 0.768 to 0.888. Place Identity items (PI1-PI6) have high loadings from 0.847 to 0.894. Place Social Bonding (PSB2-PSB4) varies between 0.717 and 0.932. Satisfaction (S1-S5) shows the highest loadings, ranging from 0.894 to 0.925. These values indicate strong validity and reliability of the measurement model.

Table 5. Hypotheses Testing

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Results
Place Affect -> Satisfaction	0.704	0.704	0.074	9.472	0	Supported
Place Dependence -> Satisfaction	-0.095	-0.096	0.077	1.236	0.108	Not supported
Place Identity -> Satisfaction	0.122	0.121	0.065	1.868	0.031	Supported
Place Social Bonding -> Satisfaction	-0.097	-0.093	0.051	1.916	0.028	Supported

Table 5 presents the hypothesis testing results for the relationships between place attachment dimensions and tourist satisfaction. Place Affect ($\beta = 0.704$, $p < 0.001$) and Place Identity ($\beta = 0.122$, $p = 0.031$) positively influence satisfaction, with significant t-values above 1.96. Conversely, Place Dependence ($\beta = -0.095$, $p = 0.108$) has an insignificant negative relationship with satisfaction. Place Social Bonding ($\beta = -0.097$, $p = 0.028$) also negatively influences satisfaction but is statistically significant. These findings suggest that while emotional and identity-related attachment enhances satisfaction, dependency, and social bonding may not necessarily contribute positively in an adventure tourism context.

The R^2 value represents the proportion of variance in endogenous latent variables that is explained by exogenous variables. According to Hair et al. (2022), an R^2 value of ≥ 0.67 indicates substantial predictive relevance, values between 0.33 and 0.67 signify moderate predictive relevance, values between 0.19 and 0.33 denote weak predictive relevance, and $R^2 < 0.19$ suggests very weak or no predictive relevance. In Figure 1, the R^2 value for Satisfaction is 0.45, indicating that Place Affect, Place Dependence, Place Identity, and Place Social Bonding explain 45% of the variance in Satisfaction. Based on Hair et al.'s (2022) classification, this result suggests that the model exhibits moderate predictive relevance in explaining Satisfaction within the adventure tourism context.

Table 6. Predictive Relevance of Q^2

	Q^2predict
Satisfaction	0.435

Table 6 presents the Q^2 predictive relevance value for Satisfaction, which assesses the model's predictive accuracy using the blindfolding procedure in PLS-SEM. The Q^2 value of 0.435 indicates substantial predictive relevance, as values greater than 0 confirm that the model has predictive capability (Hair et al., 2022). According to Hair et al. (2019), Q^2 values above 0.35 suggest high predictive accuracy, supporting the robustness of the model in explaining Satisfaction among adventure tourists. This result confirms that the independent variables; Place Affect, Place Dependence, Place Identity, and Place Social Bonding collectively contribute meaningfully to predicting tourist satisfaction.

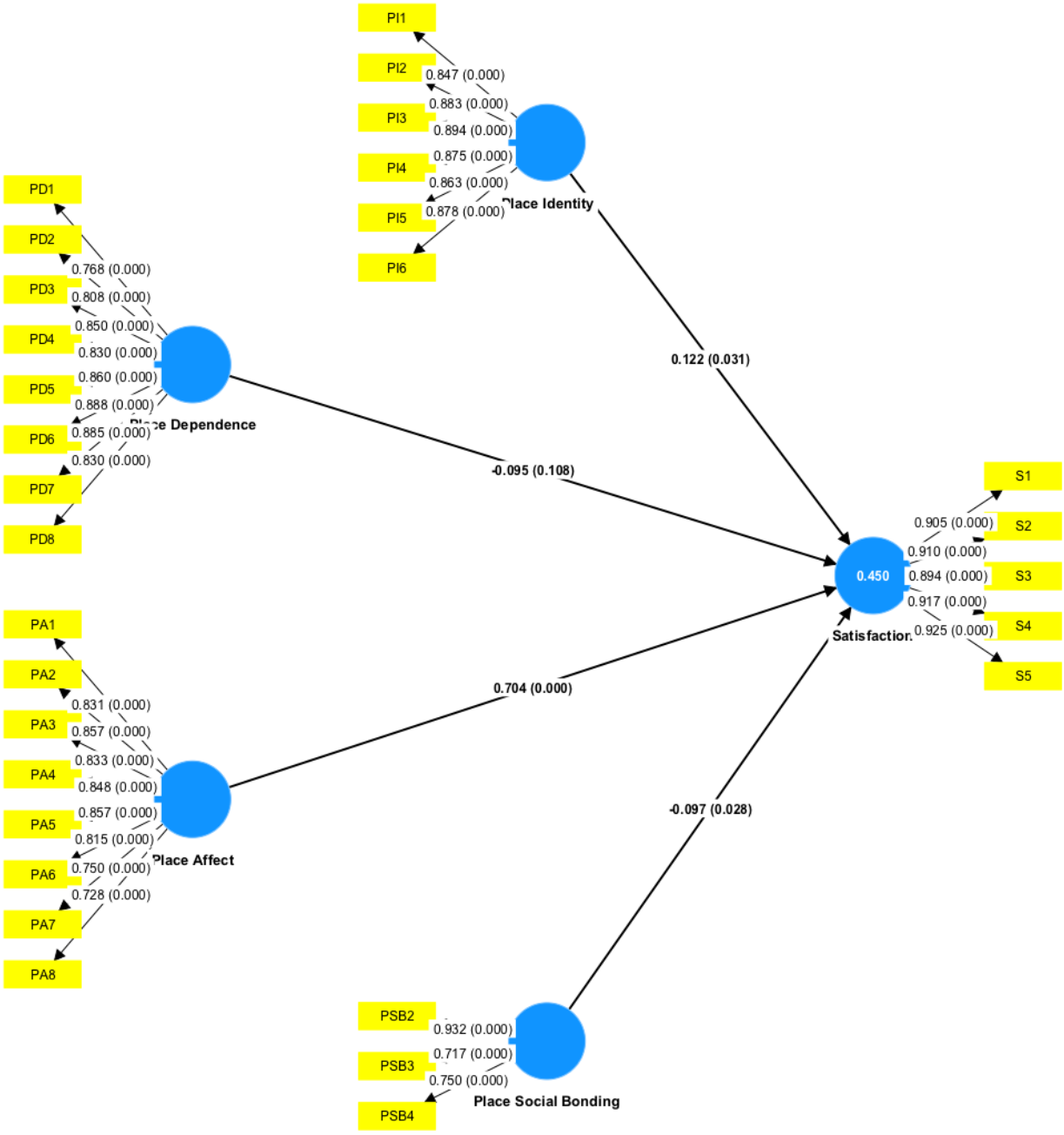

Figure 1. Structural Model

To gain deeper insight into the relative impact of each predictor on Satisfaction, it is essential to examine the f^2 effect size values. The f^2 effect size represents the unique contribution of each predictor to the R^2 value of the dependent variable when included in the model, compared to when it is excluded. According to Hair et al. (2019), an f^2 value ≤ 0.02 indicates a small effect size, $f^2 \leq 0.15$ denotes a medium effect size, and $f^2 \geq 0.35$ suggests a large effect size. Table 5 presents the f^2 values for each predictor of Satisfaction, highlighting their individual contributions and relative importance in explaining variance within the model.

Table 7. Predictive Relevance of f^2

	Satisfaction
Place Affect	0.290
Place Dependence	0.004
Place Identity	0.009
Place Social Bonding	0.009

Table 7 presents the f^2 effect size values, assessing the predictive relevance of each construct on Satisfaction. Among the four dimensions, place affect exhibited the strongest effect size ($f^2 = 0.290$), reinforcing its dominant role in determining satisfaction. Conversely, place dependence ($f^2 = 0.004$), place identity ($f^2 = 0.009$) and place social bonding ($f^2 = 0.009$) had negligible effect sizes, confirming their limited influence on satisfaction within this model. These results highlight that emotional connections (Place Affect) play a dominant role in shaping satisfaction among adventure tourists, whereas identity, functional and social attachment dimensions contribute less significantly.

DISCUSSION

The findings of this study provide critical insights into the relationship between place attachment and satisfaction among adventure tourists in Malaysia. The results reveal that place affect and place identity significantly influence tourist satisfaction, whereas place dependence and place social bonding exhibit weaker or insignificant effects. These findings align with previous research suggesting that emotional and identity-based connections to a destination play a more dominant role in shaping tourist experiences than functional and social attachments (Ramkissoon & Mavondo, 2015; Dai et al., 2023).

Place Affect and Satisfaction

The significant positive relationship between place affect and satisfaction ($\beta = 0.704$, $p < 0.001$) highlights the emotional dimension of place attachment as a key determinant of tourist satisfaction. This finding aligns with previous studies demonstrating that destinations evoking positive emotions, such as joy, nostalgia, and relaxation, foster stronger sense of attachments and higher satisfaction levels (Jorgensen & Stedman, 2001; Nasir et al., 2020). For adventure tourists, the sensory experiences and immersive environments offered by activities such as jungle trekking, cave exploration and white-water rafting contribute to this emotional connection. Moreover, destinations that provide aesthetic appeal and high-quality natural landscapes tend to elicit stronger place affect, further enhancing tourist satisfaction (Deng et al., 2021; Li & Liu, 2024). These findings underscore the importance of destination marketers and managers curating experiences that evoke positive emotional responses to strengthen place attachment and improve tourist satisfaction.

Place Identity and Satisfaction

The study also found a significant relationship between place identity and satisfaction ($\beta = 0.122$, $p = 0.031$), indicating that self-concept and destination connection influence tourists' overall experiences. Tourists who perceive a destination as integral to their identity and values, report higher satisfaction and stronger loyalty (Ganji, Johnson, & Sadeghian, 2021). This aligns with previous findings that symbolic meaning and personal relevance enhance attachment to places, particularly in the context of heritage and nature-based tourism (Ujang & Zakaria, 2018). However, expectations associated with high place identity may lead to dissatisfaction if the experience does not align with preconceived notions (Almodawer et al., 2024). Thus, tourism providers should focus on authentic branding strategies to ensure that the destination's perceived identity matches actual visitor experiences.

Place Dependence and Satisfaction

The results indicate an insignificant relationship between place dependence and satisfaction (β = -0.095, p = 0.108). This suggests that while adventure tourists may rely on specific destinations for certain activities, this functional attachment does not necessarily translate into satisfaction. Previous studies have similarly noted that place dependence is more relevant in repeat visitation contexts, where familiarity and exclusivity of a destination play a greater role (Ispas et al., 2021). Additionally, if alternative destinations offer similar experiences, the sense of place dependence weakens, reducing its impact on satisfaction (Zhang & Ren, 2024). These findings highlight the need for adventure tourism destinations to differentiate themselves through unique experiences, high service quality, and superior infrastructure to enhance their functional appeal.

Place Social Bonding and Satisfaction

The study found that Place Social Bonding had a statistically significant negative relationship with Satisfaction (β = -0.097, p = 0.028). This result contrasts with the expectation that stronger social bonds in tourism settings typically enhance satisfaction (Gautam, 2025). However, given the nature of adventure tourism, where travelers often seek personal fulfillment, solitude, and immersive natural experiences, excessive social interactions particularly those that are not perceived as meaningful may not contribute positively to their satisfaction. One possible explanation is that adventure tourists prioritize experiential and emotional engagement over social bonds. Unlike leisure or heritage tourism, where strong community ties and cultural exchanges enhance satisfaction, adventure tourists may view social interactions as secondary to personal challenges, environmental engagement, and self-discovery. This aligns with findings in previous research that indicate adventure tourists often value autonomy and independence more than social integration (Kong et al., 2022). Additionally, while positive social interactions with fellow tourists, local communities, and service providers can foster place attachment, negative social experiences, such as poor service, unfriendly interactions, or cultural misunderstandings, can lead to dissatisfaction. In some cases, group dynamics or crowded adventure sites may disrupt the sense of exclusivity or solitude that many adventure tourists seek.

CONCLUSION AND RECOMMENDATION

In conclusion, this study reinforces the complex role of place attachment in shaping tourist satisfaction among adventure travellers in Malaysia. While place effect and place identity significantly enhance satisfaction, place dependence and place social bonding have weaker or even negative effects. These findings emphasize the dominance of emotional and identity-based attachments in adventure tourism contexts, offering valuable insights for destination managers, policymakers, and marketers. Tourism operators should prioritize emotional engagement to improve satisfaction, ensuring that tourists form positive and meaningful experiences with destinations. Marketing campaigns should highlight place identity and personal connections, fostering a deeper attachment to adventure sites. Sustainable tourism practices should be adopted, maintaining the uniqueness of destinations and preventing over-commercialization that could weaken place dependence. Furthermore, training programs for local service providers should be implemented to enhance positive social interactions, ensuring that place social bonding contributes positively to satisfaction. Future research should explore longitudinal studies and qualitative insights to deepen the understanding of how these relationships evolve over time.

AUTHORS' CONTRIBUTION

All authors have contributed significantly to this study. Mohd Helme Basal conceptualized the research framework, supervised data collection, and led the manuscript preparation. Azlizam Aziz, Nor Akmar Abdul Aziz, and Muhammad Solehin Maarop contributed to the literature review, methodological design, and data analysis. Mohd Aswad Ramlan was responsible for statistical analysis and interpretation of results. Shahazwan Mat Yusoff provided critical revisions and theoretical insights and ensured the

alignment of findings with the broader academic discourse. All authors participated in manuscript drafting, reviewed the final version, and approved it for publication.

CONFLICTS OF INTEREST

The authors declare that there is no conflict of interest regarding the publication of this study. The research was conducted independently, without any financial or personal relationships that could have influenced the results, interpretations, or conclusions presented in this paper

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