Wildlife Conservation Centre as Eco-tourism Destination

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ABSTRACT
It is commonly acknowledged that human activities, such as deforestation, are primarily responsible for the destruction of natural habitats and food sources for wildlife has forced them to encroach upon human settlements, resulting in conflicts between humans and wildlife. Consequently, these have forced wildlife to encroach upon human settlements, resulting in conflicts between humans and wildlife. While authorities have taken steps to address the issue, it is essential for them to start prioritizing preventive strategies including the environmental education program. In such program, the theory of emotional attachment (EA) can serve as a valuable tool in finding ways to educate people in protecting the environment by significantly impact human behaviour. Realizing the potential of wildlife conservation centre as ecotourism destination, specifically in resource conservation, this paper aims to understand the viability of the National Elephant Conservation Centre as a desirable ecotourism site in promoting pro-environmental behaviour and how tourists develop their emotional attachment potential toward the centre. A survey research was carried out among visitors at a wildlife conservation centre by employing the Structural Equation Modeling as the central framework in further examination of relationship between variables. Finding of the study showed that emotional attachment was confirmed with three multi-dimensions include place identity, place dependence and place affect had significant relationship with pro-environmental behaviour of domestic tourist at the centre. This study had proposed that wildlife conservation should be promoted as environmental education in carrying out its roles in propagating pro-environmental messages.
Contribution/Originality: This study contributes to the existing literature on impact of emotional attachment which consist four sub-dimensions (place identity, place dependence, place affect and social bonding) on pro-environmental behavior at different natural environment setting where study area for this study was at wildlife conservation centre.

1. Introduction

Environmental degradation, biodiversity loss, and climate change have been classified as global threats by many researchers (Huang & Lin, 2023; Lu et al., 2023) to current environmental situation has led many scholars to study on how to overcome environmental problems which also had encouraged many researchers to study the human dimensions of environmental conservation such as environmental awareness, environmental concern, and pro-environmental behaviour (Bennett et al., 2017). Multiple environmental issues and conflicts between people and animals as well as the environment have been brought on by the perpetual devastation of nature in the name of progress. Human and wildlife conflict in Malaysia was result from deforestation and forest fragmentation (Department of Wildlife and National Park, 2005). One of the action took by the Malaysian Government was to gazette part of the forest as a protected area that includes forest reserves, national parks and wildlife forest reserves (Ministry of Natural Resources and Environment, 2006). Since the protected area involves an area that used to be a place for local people to make a living, it has given rise to various conflicts between the authorities and the local people. There is a need to provide a new source of income to the local community and at the same time require support from them for sustainable environmental protection. Then, eco-tourism, also identified as responsible tourism, became a well-known concept in the tourism industry as a solution to the conflict between protecting natural resources and promoting the wellbeing of the local community. Its three main tenets are local community benefits, environmental education, and natural environment protections, which include flora and fauna. Although ecotourism can benefit the environment as well as the local community, it can still bring damages to the resources if not properly implemented (Muehlenbein, 2018). At present, ecotourism destinations become a popular attraction among tourist and it was among the fast growing sector in tourism in Malaysia (Azlizam et al., 2018). Besides nature conservation and benefits the local community, ecotourism also emphasized on environmental education which is important to promote pro-environmental behaviour. This had provided opportunities for authorities in promoting pro-environmental behaviour through environmental education.

Establishing and promoting a wildlife conservation centre into an ecotourism site can provide numerous benefits, including generating revenue for conservation efforts, raising awareness about environmental issues, and fostering a sense of appreciation for nature through environmental education. However, there are also several challenges associated with this endeavour that need to be carefully considered and addressed, including on how visitors will react to pro-environmental messages and how emotional attachment of individual toward a place can influence their pro-environmental behaviour and create loyalty to ecotourism destination. As such, this study was aimed to investigate whether or not, tourist who had emotional attachment toward wildlife conservation Centre can encourage increase their pro-environmental behaviour.
2. Literature Review

2.1. Ecotourism

Ecotourism is a popular concept that emerged as biodiversity and habitat loss increased (Forje, Tchamba, & Eno-Nku, 2021). Ecotourism was first introduced because it can balance biodiversity conservation, local communities, and the tourism industry (Angessa, Lemma, Yeshitela, & Endrias, 2022). Its definition has evolved after being introduced by Ceballos-Lascurain for almost two decades ago which defines it not only visiting pristine natural areas but also learning about, appreciating, and participating in their surroundings, their wild plants and animals, as well as any remaining traces of their past and present cultural expressions (Ross & Wall, 1999). The definition then evolved from just natural resource conservation and environmental education to socioeconomic benefits, sustainability, and cultural preservation (Cobbinah, 2015).

As protected areas (PA) have been identified as the most effective biodiversity conservation strategy around the world, they also lead to conflicts with local communities who depend on forest gazettes as PA for their livelihoods (Forje, Tchamba, & Eno-Nku, 2021). Tourists come to a particular destination because of the protected natural resources, and if local communities continue to participate in conservation, they have a source of income and no longer depend on forest resources for their livelihoods (Angessa, Lemma, Yeshitela, & Endrias, 2022). Therefore, implementation of ecotourism at protected area become essentials nowadays but without proper implementation eco-tourism could also bring negative impact either on local community or the natural resources (Ren, Li, Li, & Dang, 2021). Furthermore, many previous study on place attachment had focussing on protected area like national park and forest reserve (Halpenny, 2010; Ramkissoon, Weiler, & Smith, 2012; Zhang, Cai, Bai, Yang, & Zhang, 2023) less study was carried out at wildlife conservation centre.

2.2. Emotional attachment

Emotional attachment of an individual toward a place was a deep tie or bonding that had been developed between human and a place. It also defined as an emotional bond between a person and a particular target, such as a product, location, or piece of property (Grisaffe & Nguyen, 2011). This attachment goes beyond simple physical or functional connections and involves a sense of belonging, identity, and meaning associated with a particular place. Place attachment can influence people’s behaviors, attitudes, and decisions in various ways (Mazlina, Azlizam, Farzaneh & Manohar, 2018).

Established from attachment theory (Bretherton, 1992) it was first used to characterise the mother-infant relationship and the inter-human attachment relationship by John Bowlby (Bretherton, 1992). The term that describes the relationship between individuals and a place can vary in literature. These include sense of place (Jorgensen & Stedman, 2001; Westerholt, Acedo, & Naranjo-Zolotov, 2022), place attachment (Bonaiuto, Alves, De Dominicis, & Petruccelli, 2016; Budruk & Wilhelm Stanis, 2013; Koohsari et al., 2023), emotional attachment (Abdullah, Wasiuzzaman, & Musa, 2014; Hawthorne et al., 2022; Newton, 2008) and connectedness to nature (Chen & Dang, 2023; Gosling & Williams, 2010). The operationalization of this construct was diverse as it taken across various disciplines. Place attachment has been conceptualized as place dependence (Koohsari et al., 2023), place identity (Budruk & Wilhelm Stanis, 2013), social bonding (Han, Kim, Lee, & Kim, 2019) and place affect (Halpenny, 2010).
study had used emotional attachment as multi-dimension with place dependence, place identity, place affect and social bonding as proposed by Ramkissoon, Graham Smith, and Weiler (2013). Throughout many research discipline, emotional attachment (EA) had been proved as one of the social science studies that can promote pro-environmental behaviour (PEB) (Peng, Liu, Hu, & He, 2023). Besides PEB, other study also found it has positive relationship with satisfaction and loyalty (Yuksel, Yuksel, & Bilim, 2010). Therefore, tourists who had emotional attachment towards a place can be considered satisfy and triggered to act environmentally while intend to revisit the destination. By understanding the emotional attachment that tourists have with the wildlife conservation centre, we can gauge how this connection impacts their pro-environmental actions. This insight can also illustrate the conservation centre's success in educating tourists about conservation efforts.

2.3. Pro-environmental behaviour

As nature environment was the main pull factors that attract tourist to a destination, all stakeholder in tourism industry should concern on environment issues at the tourist site and promote pro-environmental behaviour (Zhang, Zhang, Zhang, & Cheng, 2014). Pro-environmental behaviours was identified as individuals who empathize with nature take proactive measures to protect the environment (Zhang et al., 2014). Previous study on place attachment with pro-environmental behaviour had varies findings and most of it indicate that place attachment had a moderate to strong relationship with PEB (Daryanto & Song, 2021). Pro-environmental behaviour can encompass a range of activities, from volunteering to implementing site-specific practices and also can be group in low (volunteering activities) and high (write letter for support) group of pro-environmental behaviour (Ramkissoon et al., 2013). Previous study had verified that place attachment had positively effect on pro-environmentally directly or indirectly but those findings were varies based on place setting and dimension of place attachment (Ramkissoon et al., 2012). Less study on emotional attachment effect toward pro-environmental behaviour at a wildlife conservation centre that also an ecotourism destination.

3. Methodology

3.1. Research design

A survey research was carried out among the domestic tourists at National Elephant Conservation Centre (NECC) Kuala Gandah, Pahang, Malaysia. Quantitative methods were used since they were the best method as the aim of this study is to explore the relationship between the variables involve. A total of 400 respondents agreed to participate in a self-administered questionnaire that asked them to provide information about their demographics, pro-environmental behaviour, and emotional attachment statements that were measured as multiple dimensions, including place identity, place dependence, place affect, and social bonding. The emotional attachment questions were adapted from Vaske and Kobrin (2001) and Halpenny (2010). Pro-environmental behaviour were measured by their low and high effort pro-environmental behaviour adapted from Ramkissoon, Graham Smith and Weiler (2013). A random stratified sampling was executed to collect different data based on time-stratified which were between weekdays, weekend, school holiday and public holiday. The data were analysed with SPSS 22.0 and AMOS 22.0, following the two-stage structural equation modeling (SEM) testing procedure recommended by Awang (2015a). Structural Equation
Modeling was utilized to test the model fitness and the correlational between emotional attachment and pro-environmental behaviour as illustrated in Figure 1.

Figure 1: Research framework for emotional attachment and pro-environmental behaviour

3.2. Study area

The National Elephant Conservation Centre (NECC), Kuala Gandah, Pahang was one of eight ecotourism locations placed under the Department of Wildlife and National Parks’ (DWNP) jurisdiction, and is situated in Krau Forest Reserve (Figure 2). In recent years, this centre has grew into one of Malaysia’s most well-liked ecotourism destinations for to its reputation in actively promotes wildlife conservation.

Figure 2: National Elephant Conservation Centre

The Centre was previously a base for an elephant translocation team and was not accessible to the general public. However, it began to draw tourists who were passionate about elephants and gradually become a tourism attraction in Pahang. In addition to being a conservation centre, NECC also had provided jobs opportunity for local community who live around the centre. The growing number of tourists to NECC for the past ten years as shown in Table 1 (except during the pandemic COVID-19 duration (2019, 2020 and 2021) proved that NECC had gained popularity as ecotourism destination. Therefore NECC was chosen as it was the best study area to display wildlife conservation centre that also an ecotourism destination.
Table 1: Visitor Statistic at NECC 2011-2021

<table>
<thead>
<tr>
<th>Year</th>
<th>Domestic</th>
<th>International</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>140,370</td>
<td>38,608</td>
<td>178,978</td>
</tr>
<tr>
<td>2012</td>
<td>144,706</td>
<td>32,398</td>
<td>177,104</td>
</tr>
<tr>
<td>2013</td>
<td>100,147</td>
<td>22,627</td>
<td>122,774</td>
</tr>
<tr>
<td>2014</td>
<td>137,339</td>
<td>26,959</td>
<td>164,298</td>
</tr>
<tr>
<td>2015</td>
<td>166,058</td>
<td>24,587</td>
<td>190,645</td>
</tr>
<tr>
<td>2016</td>
<td>188,794</td>
<td>27,290</td>
<td>216,084</td>
</tr>
<tr>
<td>2017</td>
<td>196,184</td>
<td>27,002</td>
<td>223,186</td>
</tr>
<tr>
<td>2018</td>
<td>184,571</td>
<td>26,983</td>
<td>211,554</td>
</tr>
<tr>
<td>2019</td>
<td>188,739</td>
<td>27,003</td>
<td>215,742</td>
</tr>
<tr>
<td>2020</td>
<td>94,914</td>
<td>5,611</td>
<td>100,525</td>
</tr>
<tr>
<td>2021</td>
<td>57,653</td>
<td>353</td>
<td>58,006</td>
</tr>
</tbody>
</table>

Source: National Elephant Conservation Centre (2022)

4. Result

4.1. Respondents’ profile

Only 370 out of the 400 questionnaires collected were valid for analysis. The sociodemographic breakdown of the respondents for this study can be presented as, female (61.6%), Malay (86.5%), single (75.4%), between the ages of 19 and 39 (84.3%), students (64.3%), and those who had earned a degree for their education (49.5%). Many groups from higher education institutions frequented the National Elephant Conservation Centre (NECC) for educational visits, with the majority of them participating in volunteer programmes. Majority of the respondents was a first time (85.7%) visitor compared to repeat visitors (14.3%).

4.2. Measurement model

Before proceed to structural model, the measurement model of the study was conducted first to assess the uni-dimensionality, validity, and reliability of items in latent construct. Each construct were evaluated by their items (value in rectangular) which then will display in their factor loading. Pooled Confirmatory Factor Analysis (CFA) was performed where the item-deletion process is made for every construct which item with low factor loading will be deleted. In CFA, any item with low factor loading which lower than 0.5 had been removed from the model. Correlation coefficient for the variable and factor was known as factor loading. Factor loading displays the variance on that specific factor that is explained by the variable. As a rule of thumb, 0.6 or higher factor loading in the SEM technique indicates that the factor ingests enough variation from that variable. Any item that having a factor loading less than 0.6 and R² less than 0.4 should be deleted from the measurement model (Awang, 2015b).

The measurement model had meet the requirement for model fitness where RMSEA < 0.08 (0.076), GFI>0.90 (.961), CFI>0.90 (.967) and Parsimonious fit was Chi-Square/df<5.0 (3.011). The CFA results for emotional attachment construct show social bonding had been removed due to its factor loading was lower than 0.5 (0.49) while place dependence (0.64), place identity (0.76) and place affect (0.70) were successfully remain. While for pro-environmental behaviour factor loading for low PEB was 0.87 and high PEB was 0.86. For convergent validity, all value of Average Variance Extracted...
(AVE) must exceed 0.5 and for construct validity (CR) all value must exceed 0.6 and both emotional attachment and pro-environmental behaviour exceed the requirement value for AVE and CR. It can be concluded that the measurement model in this study was valid and reliable to measure the construct.

4.3. Structural model

As in the Confirmatory Factor Analysis, the criteria for fit indices are same. All requirements for structural model fitness were met where RMSEA < 0.08 (0.076), GFI>0.90 (.962), CFI>0.90 (.965) and Parsimonious fit was Chi-Square/df<5.0 (3.117). The standardized beta estimate for emotional attachment on environment behaviour is 0.56. Result of path analysis in Table 2 showed that there were positive relationship between emotional attachment and pro-environmental behaviour. The probability of getting a critical ratio as large as 6.460 in absolute value is less than 0.001. In other words, the regression weight for Emotional attachment in the prediction of Environment Behaviour is significantly different from zero at the 0.001 level (two-tailed). Pro-environmental behaviour increases by 0.839 when emotional attachment increases by one unit, showing that pro-environmental behaviour increased as emotional attachment value grew.

Table 2: The Regression Path Coefficient and its significance based on p-value <0.001

<table>
<thead>
<tr>
<th>Construct Path</th>
<th>Construct</th>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P-value</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment Behaviour</td>
<td>--- Emotional Attachment</td>
<td>.839</td>
<td>.130</td>
<td>6.460</td>
<td>***</td>
<td>Significant</td>
</tr>
</tbody>
</table>

5. Discussion

The regression weight for emotional attachment toward environmental behaviour is 0.839 (p - 0.001) (Table 2). Therefore it had supported the study hypothesis that emotional attachment is positively influences domestic tourists’ environment behaviour. From four sub-dimensions that measured the emotional attachment, only three were significant in determine tourists’ environment behaviour which are place identity, place affect and place dependence. This was similar with other place attachment study that use only three place attachment sub-dimensions which were place identity, place dependence and place affect (Halpenny, 2010). Through previous study too it had been discussed widely that results for each study on place attachment may vary as different number of place attachment sub-dimensions used and different area of study conducted (Ramkissoon et al., 2013).

The positive relationship between emotional attachment and pro-environmental behaviour on domestic tourist that visit NECC Kuala Gandah proved that wildlife conservation centre can play role to educate people and promote pro-environmental behaviour. It also become evident that tourist who emotionally attached to NECC will act in accordance to environmentally acceptable behaviour through their experienced at NECC. Furthermore, individuals attachment to a place was not only influence by the place itself but the experience they had, community members on site and even the whole culture offer at a destination (Kyle, Graefe, & Manning, 2005). Therefore, the activity provided by a destination also play role to tourist emotional attachment. The result of
this study was also in parallel with several previous studies (Xu & Han, 2019) which support that emotional attachment towards nature lead to pro-environmental behaviour (Irani, Aghdam, & Ghasemzadeh, 2023). This also supported the notion that emotional attachment was an effective tool in promoting pro-environmental behaviour. As a wildlife conservation centre that also promoted as an ecotourism destination, it becomes a perfect duo in aiming for nature conservation and promoting pro-environmental behaviour. Thus, several implications were suggested in conserving the natural environment through wildlife conservation centre as ecotourism destination; first, Department of Wildlife and National Park (DWNP) can transform NECC to become a centre for environment education. Due to the current environmental problems that we are facing, preventive measures should be emphasized in such educational programs and its modules. Secondly, to increase emotional attachment among tourists, it is recommended to upgrade and enhance the setting, activities, community, and cultural activities offered at NECC. To attract more visitors and create more meaningful experience for them, it is crucial to improve the services and facilities that can greatly impacted their overall experience at NECC and subsequently their emotional attachment to the centre. Finally, as emotional attachment can influence people PEB, it is important to strengthen the local community’s emotional attachment towards NECC by offering them training that covers tourism knowledge, as well as cultural and technical aspects. This training aims to equip them with the necessary skills to contribute in serving the tourism industry while practising and offering sustainable tourism activities on site.

6. Conclusion

Through this study, it is proved that in order to harness the power of emotional attachment in influencing pro-environmental attitudes and behaviours, the environmental education, storytelling, and campaigns that evoke positive emotions related to nature can be effective tools. In brief, significant contribution of this includes enriching the knowledge on emotional attachment specifically for domestic tourist at protected area. Future studies are suggested to focus on emotional attachment on local community that live near wildlife conservation centre or ecotourism destination to better understand on how the factor may influence their support in conserving the natural environment. NECC serves a dual purpose of protecting elephants and minimizing human-wildlife conflicts while also attracting tourists as an ecotourism destination. Given this unique position, NECC is an ideal platform to offer environmental education to visitors, promoting the development of responsible eco-tourism practices that support conservation efforts.

Ethics Approval and Consent to Participate

All participants had given their consent before participating in the survey.

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Conflict of Interest

The authors reported no conflicts of interest for this work and declare that there is no potential conflict of interest with respect to the research, authorship, or publication of this article.

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