Liking of and Willingness to Coexist with Animals among Residents near Nature-Based Destinations

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Abstract: The support of local stakeholders is crucial for the sustainable tourism management of nature-based destinations (NBDs). Local people near NBDs may have more interaction with wildlife; however, research on local people's attitudes towards wildlife is surprisingly limited. To explore their liking and willingness to coexist with different wild animals, and the associated influencing factors, we conducted a survey of residents living near Tanjung Piai National Park (TPNP), Johor, Malaysia. Most of the residents had experienced numerous direct encounters with bats and snakes inside TPNP, as well as with wild boar and macaque monkeys outside of the park. The local people showed a high level of liking for animals but a relatively low level of willingness to coexist with them. The results of the statistical models suggest that the liking of animals is significantly influenced by childhood nature experiences and sociodemographic characteristics including sex, education, and the presence of children. Education was an effective factor shaping the preferences of favorable, fairly favorable, and unfavorable animal groups. On the other hand, willingness to coexist with animals was significantly influenced by childhood nature experiences, age, and sex. Age was an effective factor shaping willingness to coexist with favorable, fairly favorable, and unfavorable animal groups; specifically, elderly people showed a low level of willingness to coexist with animals compared to young people. Therefore, we conclude that in addition to providing educational programs for shaping preferences regarding wildlife, careful support and considerable efforts aimed at elderly people are essential to increasing residents' willingness to coexist with animals to obtain wider support for NBD management.

Keywords: childhood nature experience; national park; Malaysia's rural residence; wildlife attitude

1. Introduction

Tourism is one of the forms of sustainable use in national parks that plays an important role in the development of nature-based destinations (NBDs). Nature-based tourism could provide not only incentives for conservation, but also opportunities for local engagement in national parks. The support of NBDs and national parks by local people is key to the sustainable tourism management of protected areas and hospitality [1]. Unlike people in urban areas, rural residents near NBDs have more opportunities to interact with wildlife. Frequent exposure to nature and wildlife could affect people's attitudes toward animals and NBDs. A study in Malaysia found that locals' activities and experiences were influenced by their childhood settings [2]. In studies in Mexico and the United States, children from rural areas have reported more active participation in nature-related activities than urban children [3,4].

On the other hand, rural citizens who live in close proximity to NBDs are more susceptible to wildlife encounters, both positive and negative [5], given their more frequent exposure. These interactions could prove costly in terms of people's attitudes towards certain wildlife species [6]. Numerous studies have measured the perceptions and attitudes of urban residents toward wildlife [7–9]. However, an understanding of people's attitudes regarding NBD experiences remains surprisingly limited.

As one aspect of people's attitudes towards nature, affinity towards animals is crucial as this often correlates with support for conservation efforts [10]. Previous studies have demonstrated a wide spectrum of emotional attitudes toward wild animals among people [7,10,11]. Affective attitudes can have a greater effect on public support than cognitive considerations for biodiversity conservation [12]. On the other hand, the species that people express as being most likeable may not be the same as those that they are willing to coexist with in a rural setting. For example, despite the fact that more than three-quarters of the Swedish population claims to like bears and wolves, their support for conservation initiatives decreased when their encounters with these animals became more frequent [13]. Therefore, merely enhancing emotional attitudes toward biodiversity does not guarantee broader public support for conservation efforts. A willingness to coexist with wildlife may also be essential to people's support for NBDs.

The emotional attitudes of the public toward wild animals can vary among different demographic groups, for example, with respect to sex, age, and education [7,10,11,14–16]. Previous studies consistently indicate that males tend to exhibit more positive attitudes toward wild animals, particularly unpopular ones such as invertebrates, while females tend to show positivity towards aesthetically pleasing and popular animals such as pets. In Norway, it was reported that the inclination to observe birds and insects during walks increased at the age of 60 [7]. Yet, a study reported that older individuals expressed less interest and affection towards 61 animals compared to younger people in the United States [14]. Education may strongly influence people's attitudes towards nature and animals. For example, Thornton and Quinn (2009) and Ngo et al. (2022) showed that people with a high education level have more favorable views towards animals and are more willing to support conservation activities [8,17]. This may be because education raises awareness and knowledge of the importance of biodiversity and animals' functions in ecosystems [18].

Beyond these sociodemographic aspects, personal experiences significantly influence the liking of wild animals. A lack of wildlife experiences and understanding about animals often leads to negative perceptions and fear. Negative attitudes and a limited tolerance toward problems caused by wildlife are strongly linked to a lack of childhood exposure to nature [9]. Preferences for dealing with such wildlife vary, depending on the taxonomic group. For instance, in Singapore, it is known that popular fauna such as macaques are eliminated as a result of the damage they inflict on property and possessions [9]. Complaints and requests for removal also surface when wildlife is observed near urban infrastructure outside of nature zones, such as within drainage canals, even if the species has not caused any damage [1]. However, numerous wild animals forming part of the "urban biodiversity", encompassing both vertebrates and invertebrates, tend to face low popularity/acceptance among the public.

Childhood nature experiences may affect local residents' preferences near NBDs [19–21]. Childhood encounters with nature as firsthand activities in the form of fishing, hunting, insect catching, plant collecting, hiking, and camping [16,19], as well as indirect experiences through television, books, and websites [16,22], shape environmental preferences, skills, and concerns [19,20,23–25]. Nature-related activities in childhood could shape positive attitudes toward wild animals in rural areas [26]. Early encounters with nature in childhood have numerous positive effects, fostering environmental appreciation [27], nurturing pro-environmental attitudes [20], and increasing the likelihood of participating in conservation actions [28]. These childhood experiences also play a pivotal role in shaping an individual's connection with nature in adulthood [29].

Malaysia, one of the ASEAN countries, is among the 12 most biodiverse nations globally [30] and is predominantly covered with dense tropical rainforests. The protected areas in this country not only provide habitats for numerous plants and animals, but also serve as tourist destinations. Despite Malaysia having many NBDs, little is known about the human–wildlife interactions in and around these areas. In the present study, we focused on NBDs in southern Malaysia, specifically Tanjung Piai National Park (TPNP), which is surrounded by rural areas and is a familiar landscape to the local people [30,31]. Therefore,

many rural people near it may have a connection with it, and may have been positively or negatively affected by their park experiences.

To understand the affective attitudes of rural residents towards wild animals, and the factors affecting their liking of wildlife, we examined their childhood nature experiences, wildlife experiences, attitudes towards animals, and factors influencing their attitudes towards wildlife. First, we assessed their frequency of nature-related activities in childhood (referred to here as 'childhood experience'), wildlife knowledge and experiences ('wildlife experience'), liking of wild animals ('like or dislike'), and willingness to coexist with these animals ('willingness'). We constructed generalized linear models (GLMs) to analyze the effects of childhood nature experience, wildlife experience, and sociodemographic characteristics on attitudes towards animals. We hypothesized that childhood experience has a positive effect on liking and willingness [8,15,16,32–34]. Wildlife experience may have positive or negative effects on liking and willingness [35]. Following the findings obtained from previous studies, we hypothesized that males would have a higher liking and willingness than females [7,11,14–16,18], and that respondents with children would have a lower liking and willingness [36], but that this would increase with education level [8]. In addition, we hypothesized that older respondents would have more positive attitudes towards animals [10].

2. Materials and Methods

2.1. Study Site: Tanjung Piai National Park

TPNP is a protected area in the southern region of Peninsular Malaysia in the Pontian District of Johor state (Figure 1). It is a mangrove ecotourism park and is listed as a protected area under the International Union for Conservation of Nature (IUCN) [31]. This park was designated by the Johor State Government as a national park in 1997 and was opened to the public in 2002. In 2003, it was declared a Ramsar Wetland of International Importance, renowned for its diverse flora and fauna, including various bird species, mangroves, and unique aquatic life [32]. The TPNP covers 926 ha and is a critical site for conservation efforts and ecological research due to its remarkable array of wildlife and biodiversity [33]. In the area around TPNP, despite much of the land being developed, a diverse range of natural settings persists, offering children various opportunities to engage with nature. These include children's parks, mangrove areas, forests, and riverside green spaces. Several studies have been published regarding mangrove ecotourism and these have emphasized that nature-based activities, services, and facilities require urgent management and attention [34,37–39].

2.2. Questionnaire Survey

Surveys, by means of questionnaires, were conducted in six rural villages near TPNP: (1) Tanjung Piai, (2) Kampung Sungai Kuali, (3) Kampung Perpat Timbul, (4) Serkat, (5) Kampung Bugis Peranakan and (6) Kampung Chokoh Besar. The villages were covered by agricultural and forested lands or water bodies, and the total number of residents was less than 10,000 [35]. The online questionnaire survey was administered via Google Forms from 20 January 2023 to 14 July 2023. Direct face-to-face interviews were conducted to urge participation in the questionnaire survey during two periods: from 20 January 2023 to 20 February 2023, and from 1 June 2023 to 14 July 2023. (File S1: Questionnaire) Two research assistants were trained to perform the interviews, administer the questionnaire, encourage participation and collect the survey data. Convenience sampling was applied in our research in order to access elusive populations in TPNP. Due to the limitations of time and cost, randomization as well as testing the entire population were practically impossible, and so this method was recommended. The methodology involves selecting initial participants strategically, expanding the sample iteratively through referrals, and collecting data ethically and rigorously.
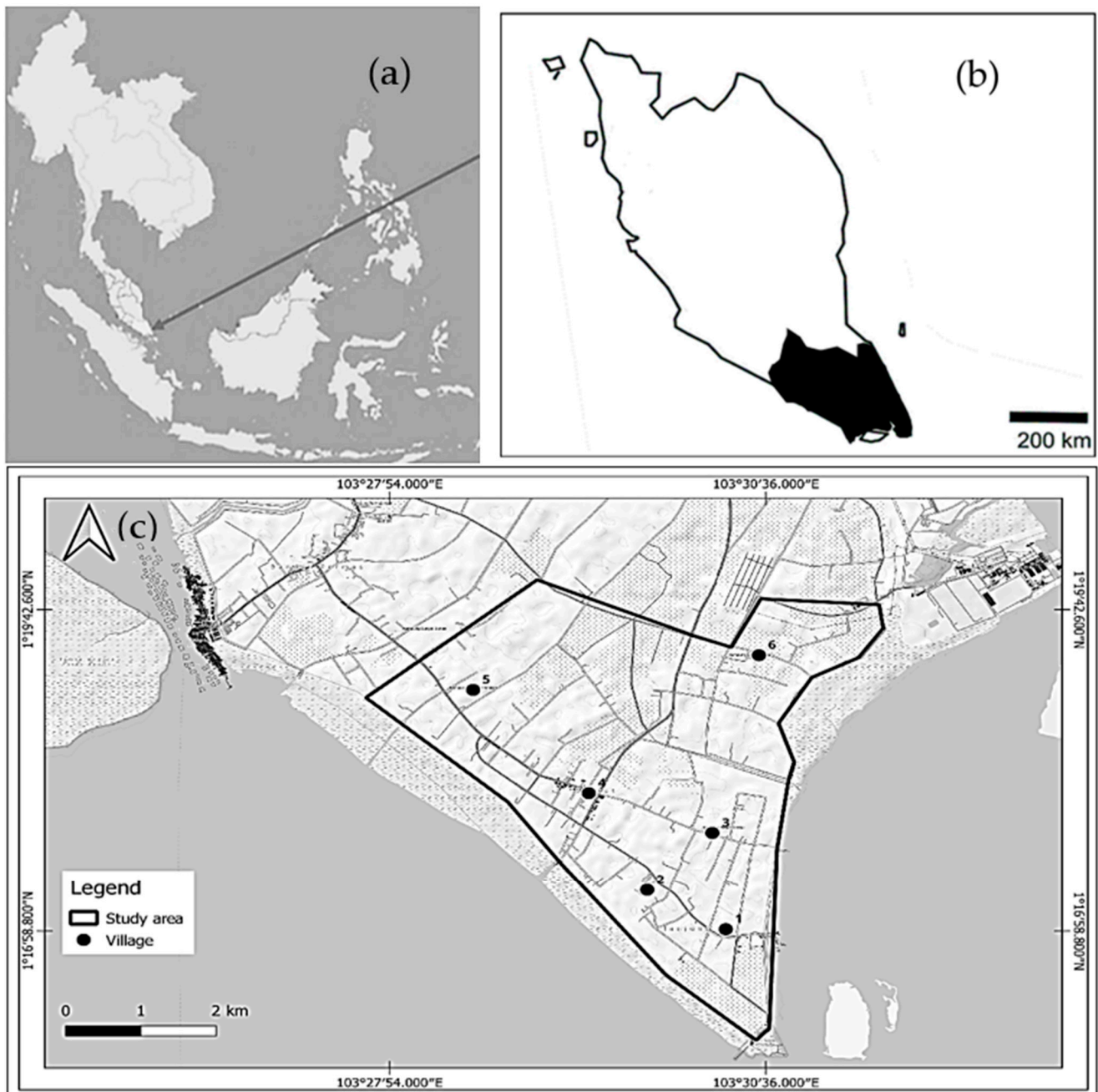
Figure 1. Study site: maps of (**a**) Southeast Asia and (**b**) Johor state in Peninsular Malaysia, and (**c**) TPNP and village of study area: (1) Tanjung Piai, (2) Kampu. Sungai Kuali, (3) Kampung Perpat Timbul, (4) Serkat, (5) Kampung Bugis Peranakan, (6) Kampung Chokoh Besar.

A total of 269 residents aged 20 years and older from Tanjung Piai participated. During the survey, investigators explained the research purpose and the questionnaires to the respondents. Each question was verbally presented to the participants to ensure their understanding of the question. During the answering session, respondents were monitored to make sure that each completed the questionnaire in the proper manner. Participants were restricted from interacting with others during the survey. However, they could seek clarification as needed. Each participant was given a nine-page questionnaire. The questionnaire contained three sections pertaining to the following: (1) the experiences rural residents report having had in childhood; (2) wild animals that the local people know and like; and (3) wild animals with which the local people are willing to coexist. Of a total

of 300 initial respondents, 31 participants who failed to complete the questionnaire were removed; thus, 269 valid questionnaires were used for data analysis.

2.2.1. Childhood Nature Experience

The measure of childhood nature experience was made up of the average score derived from two focus areas: to what extent did you visit nature during childhood (<13 years old) and to what extent did you play in nature during childhood (<13 years old)? Green spaces encompassed forests, parks, farms/plantations, and rivers/beaches, whereas nature-related activities included insect catching, collecting flowers and fruits, birdwatching, tree-climbing, fishing, and swimming in rivers/oceans. Both questions were implemented using a 5-point scale, spanning from 1 (never; no experience) to 5 (very often; once a week or more), with 3 denoting a neutral response (once or a few times a year). These activities have historically been prevalent among Japanese children for at least a decade [19,24,36,40].

2.2.2. Wildlife Experience and Knowledge

According to the previous studies [2,8], we selected 26 common animals that can be seen in and near Tanjung Piai National Park. To better understand the extent of respondents' wildlife experience and knowledge, we asked "To what extent do you know about the following animals?" Respondents had to choose their wildlife experience with each animal according to their prior sightings. Wildlife experience was scored on a scale of 1 to 5, with 1 being "do not know", 2 "only know by name", 3 "have watched a video or seen a photo", 4 "have watched outside of TPNP including the zoo, insectarium and so forth" and 5 "have seen inside the TPNP".

2.2.3. Liking towards Wildlife

To gauge preferences, participants were asked to express their feelings of like or dislike toward 26 wild animals on a 5-point scale. Wildlife liking was scored on a scale of 1 (dislike) to 5 (like), with 3 as a neutral point. The animals included common urban ones such as sparrows, crows, and butterflies, as well as exclusive forest animals such as flying lemurs and flying squirrels.

2.2.4. Willingness to Coexist with Wildlife

This was measured by having respondents select the most preferable habitat for each of the 26 animals from four options scored on a scale of 1 to 4, with 1 being "nowhere", 2 "forests and parks apart from your house", 3 "green spaces near your home (within walking distance)", and 4 "anywhere including your home garden or veranda".

In the last section, respondents were asked to provide sociodemographic information, specifically sex, age, whether they had children, and education level. Initially, a preliminary survey was conducted with approximately 30 local individuals from Tanjung Piai to ensure respondents' comprehension and accuracy in answering the questionnaire items.

2.3. Data Analysis

Cronbach's alpha analysis was used to test the reliability for each dataset (Table A1). The values were 0.94, 0.94, 0.96, and 0.94 for the childhood nature experience, wildlife experience, liking questions, and habitat preference (where they prefer the animal to be) scores, all of which were higher than the recommended 0.8 reliability level [41]. To explore childhood nature experience, we calculated the percentage of respondents that scored each activity and the time spent in nature during childhood.

To analyze the relationship between the liking of and willingness to coexist with wildlife, we explored the correlation between the averages of the liking and willingness scores for each animal. This method facilitated the assessment of the proportion of respondents who were willing to have the animal near their home, ascertained by computing the mean scores for each animal based on their 5-point Likert scales. We calculated the mean

scores for each animal (Table A2), where, for example, a score of 3.3 would indicate that 33% of respondents were willing to have that animal in close proximity.

To investigate the influences of childhood nature experience, wildlife experience, and socioeconomic factors on the liking of animals among residents near the TPNP, we constructed generalized linear models (GLMs) using the liking and willingness scores for each animal group as a response variable. Childhood nature experience, wildlife experience, and four sociodemographic factors were used as explanatory variables.

To examine the frequency with which the respondents participated in nature-based activities during childhood and the time they spent in nature, respondents replied using a 5-point scale ranging from 1 (never) to 5 (very often). Although the retrospective self-report approach has limitations in quantifying the actual frequency of activities, we adopted this method following previous studies [19,24], due to the ease of answering for respondents and the difficulty collecting reliable objective data. To quantify attitude, respondents were asked to rate their level of like and dislike toward 26 animals using a 5-point scale ranging from 1 (dislike) to 5 (like), with 3 as a neutral point. The sociodemographic factors included sex (0 = male, 1= female), age, having children (0 = do not have, 1 = have), and education level (1 = primary school, 2 = secondary school, 3 = university). These sociodemographic parameters are often used to assess public liking towards animals [6]. All statistical analyses were conducted using R version 3.6.0 (ver. 3.6.0; R Development Core Team, Vienna, Austria).

3. Results

3.1. General Results

More than 40% of the respondents replied "once a week or more" and "once a few times a month" with respect to their participation in each activity during childhood (Figure 2). Tree climbing was the most popular activity in their childhood (54% of respondents responded "once a week or more"), followed by insect catching (49%), swimming in rivers (35%), collecting wildflowers and fruit (34%), and fishing (29%). Among the nature visits undertaken during childhood, farmland was the most frequent place for nature visits (55% of respondents responded "once a week or more"), followed by forests (47%), rivers (41%), urban parks (35%), and oceans (34%).
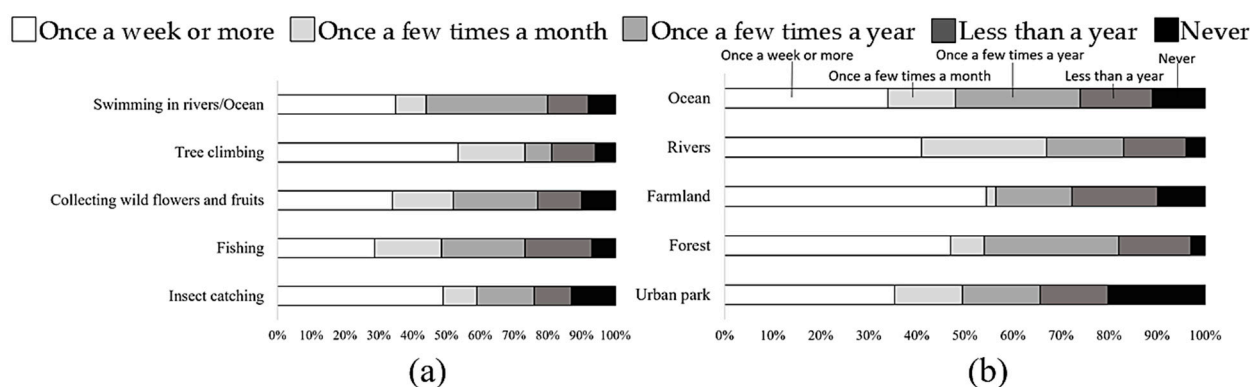

Figure 2. Frequencies of (**a**) involvement in nature-related activities in childhood, including insect catching, fishing, collecting wildflowers and fruits, tree climbing, and swimming in rivers or the ocean and (**b**) nature visits during childhood, including to parks, forests, farmlands, rivers, and oceans.

3.2. Wildlife Experience and Knowledge

According to the respondents' wildlife experiences, 47% of the animals were often observed inside the TPNP, 27% were observed directly outside of it, 15% were not observed in the wild, 9% were only known by name, and 2% were not known/recognized. The species that respondents had encountered directly inside TPNP included bats, snakes, crows, butterflies, frogs, bees, beetles, squirrels, moths, dragonflies, crickets, swallows, and

sparrows. The species encountered indirectly outside of the park (e.g., zoo or insectarium) included macaques, kingfishers, shrews, hornets, civets, fireflies, flying squirrels, hornbills, and cicadas. Respondents had few if any encounters with wild boars, water monitors, sunbirds, or flying lemurs. The local people had less experience of forest-dependent animals. Among the 26 animals, snakes, bats, and crows, which are often viewed as pests, were the most encountered (Figure 3). Conversely, species that rarely pose harm to humans such as cicadas, monitor lizards, and fireflies were the least directly observed.
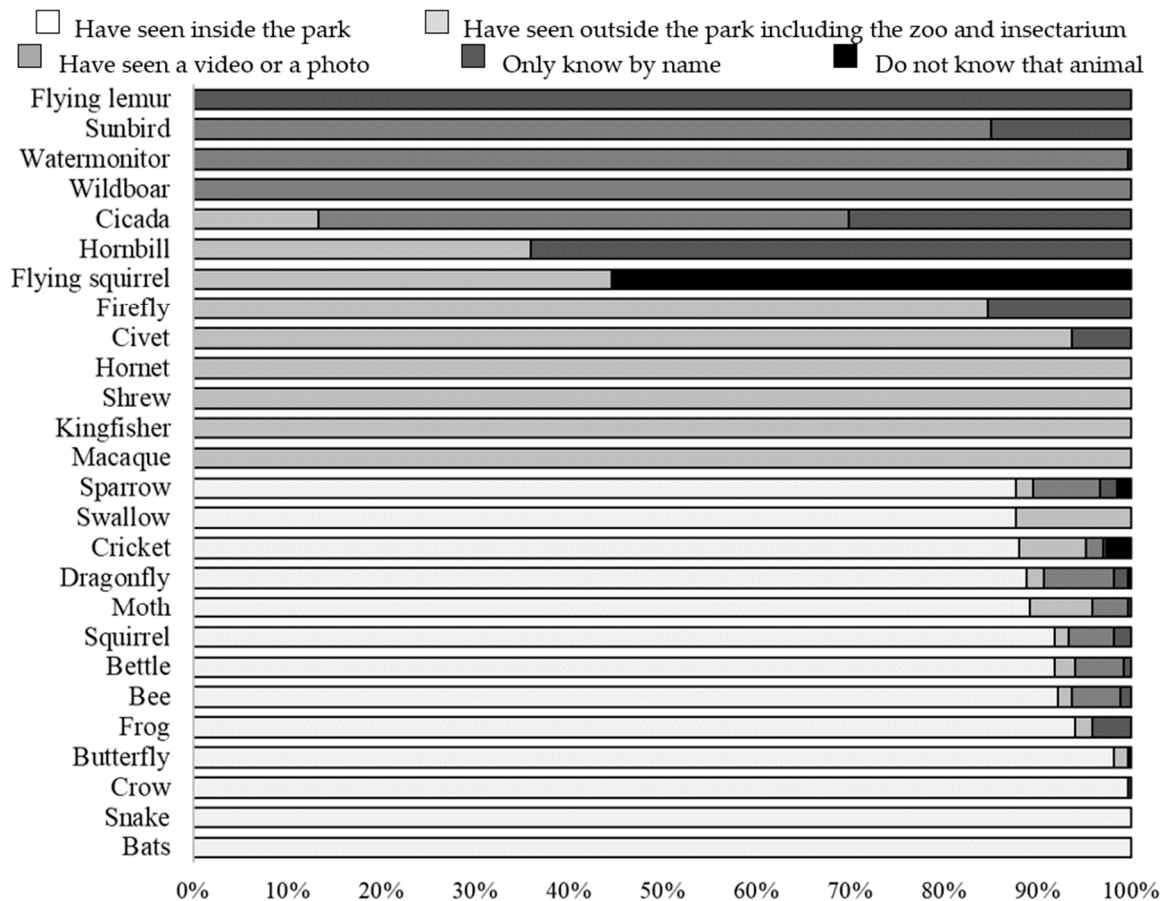

Figure 3. Respondents' wildlife experiences and knowledge of each animal.

3.3. Attitude towards Animals

Among the 26 animals, fireflies were the most liked (mean score: 4.55), followed by butterflies (4.51) and dragonflies (4.40). Snakes were the most disliked (2.28), followed by wild boars (2.51) and hornets (2.60). Respondents were most willing to coexist with the three most-liked insects above and were least willing to live near the most disliked animals.

How much locals liked wildlife was significantly positively correlated with where they preferred to encounter that wildlife for all 26 animals (Figure 4). For example, butterflies, dragonflies, fireflies, and moths were on the higher end of both the liking and habitat preference scores, and were also the ones indicated by most respondents as having been observed directly. Forest-dependent animals were found in all three groups, although most of the mammals in the questionnaire were forest-dependent. Problem-causing wildlife (snakes, wild boars, hornets, and macaques) were on the lower end of the liking and willingness scores. Figure 4 shows a positive correlation between liking and willingness to coexist. The willingness mean score for each animal was significantly positively correlated with the liking mean score (r = 0.96, $p < 0.0001$). However, the number of animals that people wanted to coexist with was smaller than the number of animals that people liked.
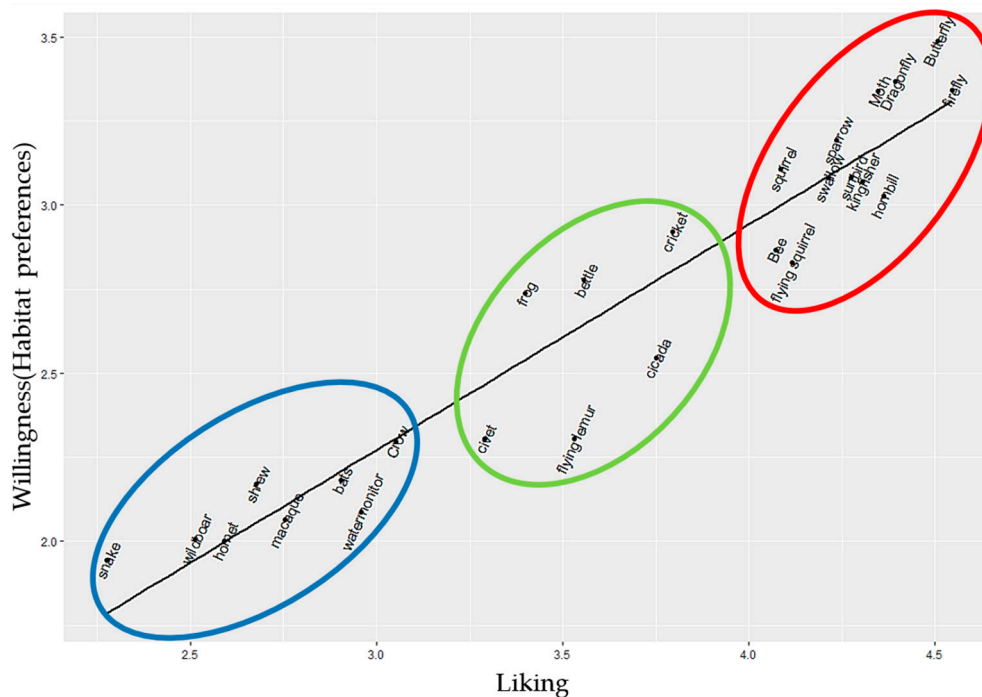
Figure 4. Wildlife liking and willingness (where they prefer the animal to be) scores for the 26 animals. Circles represent the three main groups of animals identified by factor analysis: unfavorable animals (blue ellipse), fairly favorable (green ellipse), and favorable animals (red ellipse). The black line represents the best model for the linear regression between wildlife liking and habitat preference. Fairly favorable animals were forest-dependent, whereas favorable and unfavorable animals included both urban and forest species.

According to the parallel analyses (Figure A1), minimum average partial tests and cluster analyses (Figure A2), we could classify the 26 animals into three groups: "favorable animals", "fairly favorable animals", and "unfavorable animals". There were 11 animals in the favorable group, composed of common and small urban animals such as the favored insects mentioned above; this group had the highest liking and habitat preference scores. Frogs, civets, flying lemurs, and three insects were included in the fairly favorable group, although the liking scores for this group were intermediate. Notably, the animals in this group all prefer forests far away from urban areas. The unfavorable group included eight animals, including the most disliked animals mentioned above as well as water monitors, macaques, bats, shrews, and crows. Of the eight unfavorable species, three were commonly perceived as causing harm to humans (hornets, macaques, and wild boars).

3.4. Effects on Liking and Willingness to Coexist with Animals

The results of the Generalized Linear Models (GLMs) showed different effects on people's attitude towards animals. The coefficients of determination (R^2) were generally low. Liking ranged from 0.08 to 0.34 and willingness ranged from 0.11 to 0.15 (Table 1). Education had a significantly positive effect on liking towards all animal groups. Age had a significantly negative effect on the willingness scores for all animal groups, suggesting that elderly people do not like even fairly favorable animals and are less willing to coexist with all animal groups. Wildlife experience and knowledge had little effect on liking and willingness. Among the sociodemographic factors, sex and childhood nature experience showed significant effects on both factors. Males and people with more childhood nature experience had more liking towards and more willingness to cohabit with favorable animals. Having a child had significant effects on liking towards favorable and fairly favorable animals, as well as on willingness to cohabit with these two groups.

Table 1. Standardized regression coefficients from generalized linear models of various experiences and knowledge (wildlife experience and childhood nature experience) and sociodemographic factors (sex, age, education, and having a child [no child as a reference]) to predict liking towards and willingness to coexist with each animal group, and model fit (R^2).

	Mean	WE	CNE	Sex	Age	Education	Child	R^2
Liking								
All	3.63	0.13	0.21 **	−0.38 **	−0.02	0.22 **	0.23 *	0.15
Favourable animals	4.28	0.39 ***	0.31 ***	−0.52 ***	0.02	0.21 ***	0.11	0.34
Fairy favourable animals	3.55	0.07	0.23 *	−0.26	−0.07	0.19 *	0.35 *	0.11
Unfavourable animals	2.72	−0.21	0.05	−0.26	−0.03	0.27 *	0.13 *	0.08
Willingness								
All	2.7	−0.09	0.11 *	−0.18 *	−0.09 **	−0.02	0.13	0.11
Favourable animals	3.15	0.01	0.17 ***	−0.26 ***	−0.06 *	−0.08	0.16 *	0.15
Fairy favourable animals	2.6	−0.09	0.05	−0.16	−0.15 ***	0.02	0.12	0.12
Unfavourable animals	2.09	−0.28 ***	0. 10	0.00	−0.10 **	0.02	0.01	0.14

Levels of significance: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

4. Discussion

4.1. Local People's Experiences and Knowledge of Nature and Wildlife

Local people near NBDs had relatively high levels of nature experiences in childhood. Tree climbing was the most popular activity and farmland was the most frequently visited type of site. Notably, our results are slightly inconsistent with those of previous studies that have focused on urban people in Malaysia, Singapore, and Japan [9,40,42]. This is probably because natural environments were easily accessible for people near NBDs compared to those in urban areas.

Several species, including animals viewed by tourists, were also observed by local people outside of the TPNP. This is because some species may prefer agricultural areas or mixed-use landscapes to more natural areas [43], and therefore are part of a unique human–nature relationship in this area [44]. For example, although macaque monkeys are common and popular with tourists in such areas [45], they are mostly viewed as pests. This species has received the highest number of wildlife disturbance complaints in peninsular Malaysia, with 1114 cases of human–macaque conflicts reported in Johor state in 2021 based on a report from the Department of Wildlife and National Parks [46].

Interactions with common animals may shape the attitudes of locals towards NBDs. For example, wild boars are also considered pests [47], having the second-highest number of complaints according to the Department of Wildlife and National Parks [46]. Religion and culture could affect experiences with wild boars in this area. In this study, 97% of the respondents were Malay people that tend to avoid direct encounters with wild boar due to religious beliefs [48].

4.2. Liking and Willingness to Coexist with Animals

For people near the TPNP, favorable (e.g., fireflies) and unfavorable (e.g., hornets) animals were consistent with those identified in previous studies conducted in urban areas [36,40,49,50]. However, local residents showed a higher liking towards but a lower willingness to coexist with animals [8,9,36,40,42]. These results are inconsistent with previous studies that revealed a greater appreciation for large mammals in America and Germany [14], as well as in East Africa [18]. Meanwhile, previous studies in Japan have also reported lower scores for coexistence with mammals [36,40]. Therefore, having a relatively positive attitude towards insects but a negative attitude towards mammals regarding coexistence may be characteristic among Asians. This may be due to the problems with animals encountered by residents living near the TPNP [51].

Residents near the TPNP were most willing to coexist with small and common insects. This finding is consistent with those of previous studies in which the highest levels of coexistence were reported for smaller and more common animals [7,36,40,48]. Respondents were unwilling to coexist with mammals and snakes, although they indicated no dislike for

mammals. This is likely related to their concerns about the potential damage and diseases caused by mammals [52].

4.3. Effect of Sociodemographic Factors and Experiences on Liking and Willingness to Coexist with Animals

We found that both experiences and sociodemographic factors affect attitudes towards wildlife (Table 1), but also that different factors affected residents' liking of and willingness to coexist with animals. Local people showed different attitudes towards wildlife experience and knowledge with regard to their liking of and willingness to coexist with animals. The results showed positive attitudes regarding residents' liking of but slightly negative attitudes regarding residents' willingness to coexist with animals. Childhood experiences in nature showed positive and significant effects on both factors in relation to the favorable animal group. This is consistent with previous studies [8,15,16,36,40,48]. We also found significant sociodemographic effects. Males showed more positive attitudes than females. First, males tended to have higher liking and coexistence scores than females; these results are consistent with several studies [7,11,14–16,18]. This difference may be due to females' high level of fear regarding the potential risks associated with wildlife encounters [17,53]. Second, the effect of having children showed a negative correlation with the liking of and willingness to coexist with animals. This may be due to the perceived risk of having problem-causing animals near settlements. If local residents near NBDs have cultural norms that prioritize safety or property protection over coexistence with wildlife [54], they may perceive wildlife encounters as being more risky or problematic due to their proximity to wildlife habitats [55].

Education level showed significant positive effect on the liking scores for all animal groups (Table 1), suggesting that education plays an important role in increasing residents' liking of animals. This is consistent with previous studies in Singapore [8]. The Malaysian Ministry of Education has included the Environmental Education Programme in both primary and secondary school curricula since 1986 [56], with the goal of raising children's awareness of environmental issues and providing opportunities to interact with natural environments. Therefore, our results emphasize the potential role of education and awareness campaigns in enhancing residents' attitudes towards wildlife conservation in the study area. However, education showed no significant effects on willingness to coexist with wildlife. This discrepancy could be due to the residential setting. The significant effects of education have been reported in several countries [8,18,57]. However, Thornton, and Quinn (2009) found no relationship between education and a willingness to coexist with wildlife in Canada [17]. Therefore, the effects of education may be context-dependent, and the effects of education on attitudes towards wildlife may be limited near NBDs.

The scores associated with residents' willingness to coexist with animals for all three animal groups were significantly negatively influenced by age (Table 1). Therefore, aging could have negative impacts on residents' willingness to coexist with wildlife. This result was contrary to our hypothesis, but there are previous studies showing that elderly people tend to have a lower willingness to coexist with mammals known to cause issues [58,59]. The differences in such willingness across age groups may be attributable to various factors, including personal experiences, cultural background, and risk perception [9]. For example, elderly people may have different experiences, perspectives, and cultural influences compared to younger generations, leading to differences in their willingness to coexist with certain animal groups [58–60]. If problem-causing animals are common near NBDs, the risk perceived by elderly people near NBDs may lead to a lower level of willingness to coexist [61,62]. We also found that such willingness to coexist with unfavorable animal groups was significantly affected by wildlife experience. Therefore, the effects of age on willingness may be context-dependent, and elderly people's experience may be related to their willingness.

The factors affecting the liking of wildlife differed among the animal groups, suggesting that people's attitudes and perceptions vary depending on the animal type. Experiences

and sociodemographic factors significantly influenced the liking of favorable and fairly favorable animal groups. Unlike the other groups, experiences did not significantly affect the liking of the unfavorable group. This suggests that people's attitudes towards animals perceived as unfavorable are more influenced by sociodemographic factors, consistent with the results of previous studies in Japan [16]. Therefore, it may be very difficult to change negative perceptions or beliefs regarding unfavorable animals via experiences [10,63,64].

5. Conclusions

Local people near NBDs generally like animals; however, their willingness to coexist with them tends not to be very high due to their experiences with some animals. In addition to childhood nature experiences, for people living near NBDs, education may serve to increase the liking of various animal types. However, elderly people may show a low level of willingness to coexist with animals compared to young people. Therefore, in addition to providing educational programs that shape individuals' preferences regarding wildlife, careful support and considerable efforts aimed at elderly people are crucial to increasing their willingness to coexist with animals viewed by tourists to obtain wider support for NBD management. People near NBDs may appreciate the aesthetic or ecological value of animals. Safety concerns or negative experiences could limit local people's support for NBD management. Therefore, more efforts are needed to increase the willingness of residents in close proximity to NBDs to coexist with animals in order to achieve wider support for these NBDs. Moreover, it is crucial to understand how best to highlight the benefits of nature-based tourism and mitigate the negative impacts caused by wildlife to further promote people's support for NBD management.

Appendix A

Table A1. Cronbach alpha score, for checking the reliability of data.

	Cronbach Alpha Score	
1	Overall childhood nature experience	0.94
	Childhood time spend in nature	0.58
	Childhood activity	0.78

Table A1. *Cont.*

	Cronbach Alpha Score	
2	Willingness to coexist	0.94
3	Wildlife experience and knowledge	0.94
4	Liking	0.96

Parallel Analysis

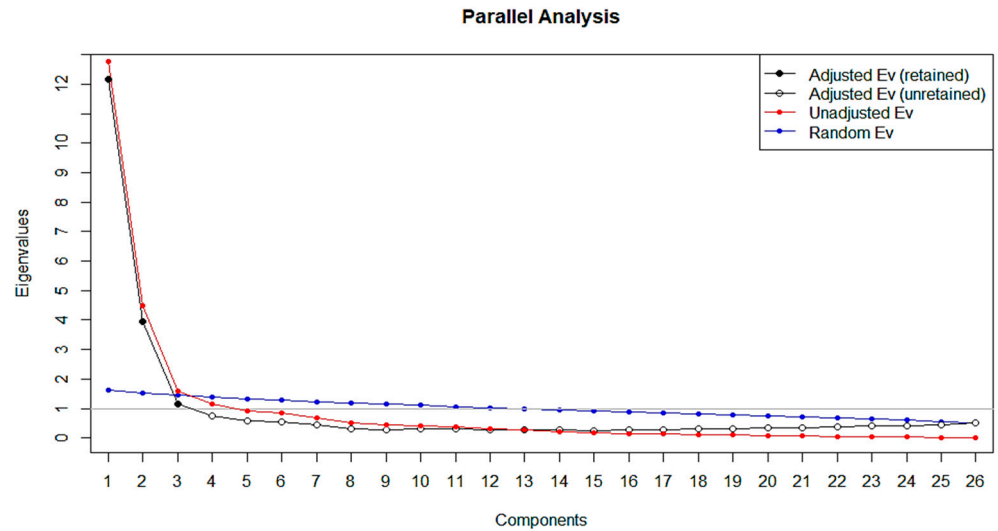**Figure A1.** The parallel analysis results were used to understand how many animal groups should be analyzed in the cluster analysis.
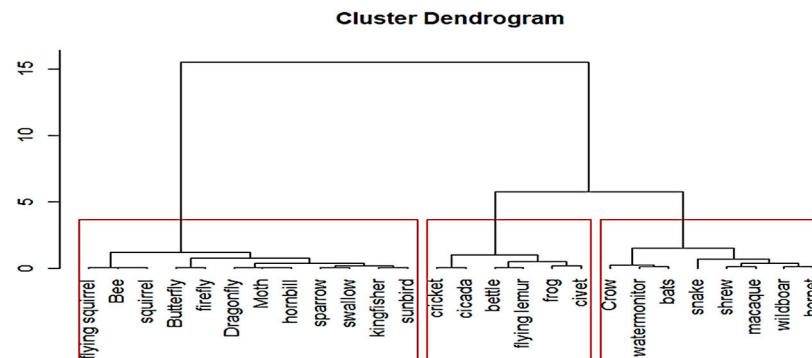
Cluster Dendrogram

Figure A2. Cluster analysis result shows the grouping of different clusters.

Table A2. Liking and willingness mean score (for each animal).

Animals	Liking	Willingness
Bats	2.90	2.18
Bee	4.07	2.87
Bettle	3.56	2.78
Butterfly	4.51	3.49
Cicada	3.75	2.55
Civet	3.29	2.30
Cricket	3.80	2.92
Crow	3.05	2.30
Dragonfly	4.39	3.37
Firefly	4.55	3.34
Flying Lemur	3.53	2.30
Flying Squirrel	4.12	2.83
Frog	3.40	2.74

Table A2. *Cont.*

Animals	Liking	Willingness
Hornbill	4.36	3.03
Hornet	2.59	2.00
Kingfisher	4.30	3.07
Macaque	2.75	2.06
Moth	4.35	3.34
Shrew	2.68	2.17
Snake	2.28	1.94
Sparrow	4.23	3.19
Squirrel	4.09	3.11
Sunbird	4.28	3.08
Swallow	4.21	3.08
Water monitor	2.96	2.09
Wild boar	2.51	2.01

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