

## Does the experience make a difference? Comparing tourist attitudes pre- and post-visit towards the elephant tourism industry

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### ABSTRACT

Animal welfare is a significant issue in wildlife tourism and is becoming an important component in tourists' decisions. This study explored the type of tourists who most likely visit different elephant tourism venues and compared tourist attitudes pre-and post-visit. We surveyed 132 tourists at 12 venues in Thailand. We found that participant age was the clearest indicator for the type of venue they were likely to visit and that home location and welfare standards at venues had the greatest effect on attitudes post-visit. Results suggest elephant welfare can be an important factor for some tourists; therefore, efforts should be made to increase public awareness of the issues within elephant tourism venues which could lead to positive attitude and behaviour change.

### 1. Introduction

Wildlife tourism provides an opportunity for close interactions with nature and wildlife, strengthening the emotional connection people develop during these experiences and fostering pro-environmental behaviour (Ballantyne, Packer, & Sutherland, 2011). Some of the most popular forms of this type of tourism are based in Asia. Thailand, for example, has experienced significant growth in international tourism with visitor numbers increasing from 10 million in 2003 to 39.8 million in 2019 (Vanhaleweyk, 2019). Historically, most tourists visiting Thailand have been from the US and Europe; however, Chinese tourists now greatly surpass visitors from any other country, comprising 27.6% of all international arrivals to Thailand in 2019 (Cohen, 2017; Kontogeorgopoulos, 1998; Vanhaleweyk, 2019). A significant factor in this growth appears to be the increased popularity of visiting and interacting with elephants in captivity (Bansiddhi et al., 2018). One study reported that 40% of tourists surveyed in Thailand had ridden, or planned to ride, an elephant during their visit, equating to approximately 12.8 million elephant rides in 2015 (Schmidt-Burbach, 2016).

Currently, wildlife tourism venues are under constant scrutiny by tourists as animal welfare is a significant issue in all aspects of tourism involving animals (Burns, 2017; Burns & Benz-Schwarzburg, 2021; Carr & Young, 2018). Although many countries enforce strict regulations concerning the treatment of animals in tourism (for example, the

Australian Animal Welfare Standards and Guidelines – [for] Exhibited Animals; Harding & Rivers, 2014), in other countries the tourism industry is underregulated and underenforced (Bansiddhi et al., 2018; Moorhouse, D'Cruxe, & Macdonald, 2017). For example, Thailand's relevant authorities have struggled to formulate adequate animal welfare conditions for many years (Kontogeorgopoulos, 1998, 2020).

Elephant tourism venues use captive, predominantly wild-caught, animals for human entertainment where the levels of care vary based on the accepted standard procedures at the time and between the venues themselves (Schmidt-Burbach, Ronfot, & Srisangiam, 2015). Some elephant tourism venues warrant attention due to the particularly negative aspects associated with captivity that wild elephants do not experience (Schmidt-Burbach et al., 2015), such as the training processes and restrictive enclosure size. The most problematic issue faced by 'working' elephants occurs during the *phajaan* ceremony when calves are removed from their mothers earlier than would naturally occur in the wild and 'broken' into submission around the age of three (Kontogeorgopoulos, 2009b). This process has been used for centuries by mahouts (elephant handlers) and involves confining and inflicting physical and mental pain upon calves until they display a high level of obedience to their handler (King, 2005). To some degree, this training persists into everyday life as elephants are disciplined with, and consequently conditioned to fear, the *ankus* (hook) mahouts carry (Duffy & Moore, 2011).

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Most managers of elephant tourism venues in Thailand more closely reflect an anthropocentric worldview, where elephants are commodified and valued for their use to humans (Flower, Burns, & Jones, 2021). A comparatively small but increasing number of venue managers, however, more closely reflect an ecocentric worldview, where elephants appear to be recognised as having intrinsic value, regardless of their use to humans (Kontogeorgopoulos, 2009b). Here, we have applied anthropocentric and ecocentric perspectives to elephant tourism venues, whereby an anthropocentric, or human-centred approach, by a venue manager would hold that elephants are commodified and valued primarily by their use to humans (Burns, 2017; Flower et al., 2021). In contrast, an ecocentric, or life-centred approach, by a venue manager would hold that individual elephant life has value, regardless of its relationship to humans (Burns, 2017; Flower et al., 2021).

In general, venues with managers who more closely align with an anthropocentric worldview offer seated or bareback elephant rides, frequent close tourist-elephant interactions, elephant shows involving unnatural behaviours (Kontogeorgopoulos, 2009b), and are often associated with lower living conditions. Conversely, venues with managers who more closely align with an ecocentric worldview generally prioritise the treatment and welfare of elephants over the tourists' experience, offering elephant walks in place of rides, limiting or removing tourist-elephant interactions, allowing elephants to exhibit natural behaviours, and are often associated with higher living conditions (Kontogeorgopoulos, 2009b). Many factors influence a tourist's attitudes towards wildlife, such as education level and nationality; however, the higher the value an individual assigns to a species, the more motivated they are likely to be to protect it (Newsome, Dowling, & Moore, 2004).

An earlier study (Schmidt-Burbach et al., 2015) reported that 86% of captive elephants in Thailand were kept in inadequate conditions which are unable to fulfil their basic needs, and have physical restrictions (for example, chaining) which prevent normal species-specific behaviour, such as socialisation. Additionally, a survey of 45 veterinarians (who worked with both wild and/or captive elephants) indicated a need for improved basic husbandry and routine disease prevention (Miller et al., 2015). The welfare of the elephants living in an elephant tourism venue strongly relies on the success of that venue, which consequently strongly relies on the appeal of the elephants to attract visitors to the venue (Cui & Xu, 2019; Fennell, 2013). Therefore, the relationship between tourism and animal ethics is essential for wildlife tourism venues, and the moral acceptability regarding the use of animals and the standard of care provided in the tourism industry should be questioned (Fennell, 2013). In addition to continued tourism demand, constant pressure on venue owners and managers of elephant tourism venues to reflect more ecocentric principles could increase elephant welfare (Kontogeorgopoulos, 2009a). This can already be seen by the numerous sanctuaries which currently provide some form of tourist-elephant interactions while prioritising elephant welfare (Malikhao, 2017) and in the many venues that have removed riding activities (Bansiddhi, Brown, & Thitaram, 2020).

Research on tourist attitudes towards elephant tourism in Thailand is limited and, as such, how a tourist's animal welfare concerns affect their participation in these activities is poorly understood (Worwag & Varga, 2017; Worwag, Varga, & Zizka, 2019). Previous research suggests that tourist satisfaction may be positively influenced by the animals' high welfare (Lee, 2015; Polyapipat & Loh, 2015) and that most tourists do not intentionally overlook poor welfare if they are aware of it (Moorhouse et al., 2017). Additionally, tourists' awareness of the possible poor treatment of animals used in tourism activities is rising (Hughes, 2001; Worwag et al., 2019); therefore, an increase in tourist demand for venues with high welfare may influence venue owners to improve their welfare standards (Schmidt-Burbach et al., 2015). However, most tourists do not have sufficient knowledge to accurately judge or assess the level of welfare provided at an elephant tourism venue, and tourists' perceptions of welfare and animal ethics also vary with factors such as cultural background (Moorhouse et al., 2017).

Demographic information has been used in many research areas to

help understand and profile the people who are more likely to partake in a particular activity or hold a specific belief. In tourism research, demographic information has been used to develop short- and long-term managerial implications to target specific market segments (Leison, 2001), and to identify and describe the main characteristics of people participating in visiting friends and relatives tourism (Asiedu, 2008). Additionally, the preference of different tourist demographics, and knowledge of any influencing factors, can be used to improve and plan attractions more effectively (Lew & McKercher, 2006), and demographic factors such as age, gender, and nationality have been shown to have a significant impact on tourist attitudes (Crofts & Erdmann, 2000; Jalilvand, Samiei, Dini, & Manzari, 2012; Phillips & McCulloch, 2005; Pizam & Sussmann, 1995). For instance, some studies have shown that tourists from Asian countries display a lower level of concern for animal welfare than tourists from European countries (Phillips & McCulloch, 2005; Worwag et al., 2019). Thus, these factors that influence attitude are important to consider when attempting to understand behaviour change. As different tourists visit different elephant tourism venue types, identifying the tourist profiles for each venue type could identify which tourists are most likely to visit venues with lower welfare standards. Consequently, this would identify who to target for educational programs that aim to reduce the number of people perpetuating low living conditions in some elephant tourism venue types.

For some tourists visiting an elephant tourism venue, observing the mahout's method of discipline and the variety of activities involving elephants (for example, the performance of circus-like tricks) may be an unexpectedly confronting and unpleasant experience. This experience may impact the tourist's attitudes towards the venue and, more broadly, towards captive elephants in the tourism industry. Learning from experiences has been identified as an important outcome of tourism as education can change tourists' perceptions, emotion, and intuitions, as well as providing ethical guidance for behaviour (Gössling, 2018). The provision of educational material has also been shown to successfully reduce negative visitor behaviour at wildlife tourism attractions (Bexell, Jarrett, & Ping, 2013; Collins et al., 2019; Orams & Hill, 1998; Sherwen, Magrath, Butler, Phillips, & Hensworth, 2014). Further, Bexell et al. (2013) proposed that this reduction in negative visitor behaviour is indicative of an increase in cognitive empathy and positive behaviour intentions, which may lead to pro-conservation behaviour and animal and environmental stewardship.

Consequently, tourists have the ability to influence the elephant tourism industry by providing feedback regarding, and acting on, their attitudes towards welfare standards at elephant tourism venues. For example, they can support those venues with perceived higher welfare standards and boycotting those with lower welfare standards and exposing other tourists to their opinions through social media platforms, such as TripAdvisor. This type of feedback could encourage venues with lower welfare standards to implement changes to cater for this shift in demand, thereby improving the quality of elephant tourism venues throughout the industry.

However, not all tourists react in this way. For some, a gap may exist between their attitude towards ethical consumption (what they say they are going to do) and their behaviour (what they actually do) (Moorhouse et al., 2017). This is particularly apparent in holiday contexts where, in pursuit of hedonistic enjoyment, tourists may temporarily abandon their normal ethical attitudes and participate in activities they would not normally choose (Thomas, 2005). Consequently, some people may exhibit cognitive dissonance when a feeling of guilt or unease arises as they identify an existing gap between their attitude and behaviour (Burns, Óqvist, Angerbjörn, & Granquist, 2018; Moorhouse et al., 2017). When trying to mitigate these feelings, individuals generally do not change their behaviour, but instead change their previous attitudes or minimise consequences to justify their behaviour (Moorhouse et al., 2017). This may cause tourists to write positive or neutral reviews even after observing poor welfare standards at elephant tourism venues.

Ajzen's (1991) Theory of Planned Behaviour is a widely used model

for understanding the psychological processes that regulate human behaviour. The model posits that social-cognitive factors, such as an individual's attitude towards a behaviour, predict their intentions to engage in that behaviour and, in turn, their actual engagement in the behaviour. As such, focusing on how people's attitudes towards positive animal welfare behaviours may change based on their experiences can be a suitable starting point for determining the antecedents to social behaviour change that can benefit animal welfare.

Research into the application of the Theory of Planned Behaviour model has been undertaken in the context of wildlife tourism to understand the attitudes and behaviours of tourists towards animals in captivity and the wild (for example, Ballantyne & Hughes, 2006; Clark, Mulgrew, Kannis-Dymand, Schaffer, & Hoberg, 2019; Sakseau, Espiner, & Fountain, 2013; Skibins, Powell, & Hallo, 2013). For example, Skibins et al. (2013) found that direct exposure to wildlife, as in elephant tourism venues, may stimulate pro-conservation behaviours in tourists and caring feelings towards the species of interest. They suggest that caring is a predictor of behaviour intent and provides support for the installation of experiences that strengthen an emotional connection with an animal (Skibins et al., 2013). Additionally, Ballantyne and Hughes (2006) showed that well-designed signage, focusing on identified misconceptions and beliefs within the target audience, can influence visitors' on-site behaviour.

A suggested mechanism driving this change in attitudes is that tourists want to leave their experience with positive feelings (high satisfaction) regarding the encounter. If, however, tourists experience an encounter that leaves them with negative feelings (low satisfaction), this may cause a change in attitude towards that experience or activity and, consequently, future behaviour intentions (Pearce, 2009). In the context of elephant tourism, observing an elephant being reprimanded or participating in anthropomorphised activities, such as dancing and throwing darts (Cohen, 2010), may instil negative feelings in a tourist. These feelings may then alter their attitude towards the experience and, ultimately, future intentions of engaging in, or recommending, elephant tourism activities. Effective educational material that is available to tourists prior to visiting an elephant tourism venue could reduce tourists' tolerance of the poor treatment by mahouts. In addition, provision of educational material at the venues themselves could explain how tourists can treat elephants in a respectful manner and encourage this behaviour. Strödecke and Häusler (2021) reported that visitors had repeatedly requested provision of more educational material at elephant tourism attractions, identifying this as an area for improvement which could increase tourist satisfaction and as a possible cause for behaviour change.

Minimal research into tourist behaviour at elephant tourism venues has been undertaken to date. Recently, behaviour change was reported in tourists who volunteered at an elephant tourism venue by them questioning practices, such as the continued presence of bareback and seated riding in different types of tourism venues (for example, Is one form of riding better than the other? Is riding in a sanctuary more ethical than riding in a camp?) and reflecting on tourist-elephant interactions from the elephant's perspective (Taylor, Hurst, Stinson, & Grimwood, 2020). Therefore, as elephant tourism venues shift from anthropocentric to ecocentric principles, so too may visitor motivations, expectations, and their behaviour at the venue (Chotmanakul & Ongkhuap, 2021).

Due to the increased demand and interest for animals in tourism, further research is required regarding animal welfare considerations by tourists (Worwag et al., 2019) in order to identify areas where tourist education could be beneficial (Moorhouse, Dahlsjö, Baker, D'Cruze, & Macdonald, 2015). Also, because of this increased demand, the diversity and impact of wildlife tourism attractions on individual animal welfare requires inspection (Moorhouse et al., 2015). The present study contributes towards this research gap by 1) predicting the type of elephant tourism venue that future tourists may visit based on their demographic information and 2) comparing participant attitudes towards captive Thai elephants and their welfare to reveal whether any attitude change

occurred following the participant's experience at an elephant tourism venue. These analyses allow for the identification of tourists most likely to visit elephant tourism venues with differing welfare standards, and therefore where educational programs could be best implemented, and determines whether exposure to an elephant tourism venue and its activities can lead to attitude change. Here, a tourist is defined as someone who takes a day trip (with a tour group or of their own accord) to an elephant tourism venue and spends at least five hours at the venue.

## 2. Methodology

This study was undertaken in and close to Chiang Mai, Thailand. Chiang Mai is located 700 km north of Bangkok (Fig. 1) and is the capital city of Chiang Mai Province, the second largest province in Thailand. Chiang Mai Province contains the highest concentration of elephant tourism venues nationwide and is consequently a popular destination for tourists visiting Thailand (Thongma & Guntoro, 2011).

### 2.1. Questionnaire distribution and design

Information on tourist attitudes towards elephants in elephant tourism venues was obtained by distributing two English language questionnaires (see Table 4 for questionnaire statements), one pre-visit and one post-visit, to the same participants. Tourist attitudes were investigated as they are "a predisposition, created by learning and experience, to respond in a consistent way...[which] can be favourable or unfavourable", and values (and therefore, beliefs) were also considered as they determine a person's standards for appropriate behaviour (Moutinho, 1987, pg. 19). Questionnaires were offered by the researcher to participants aged 18 years and above during transit to the elephant

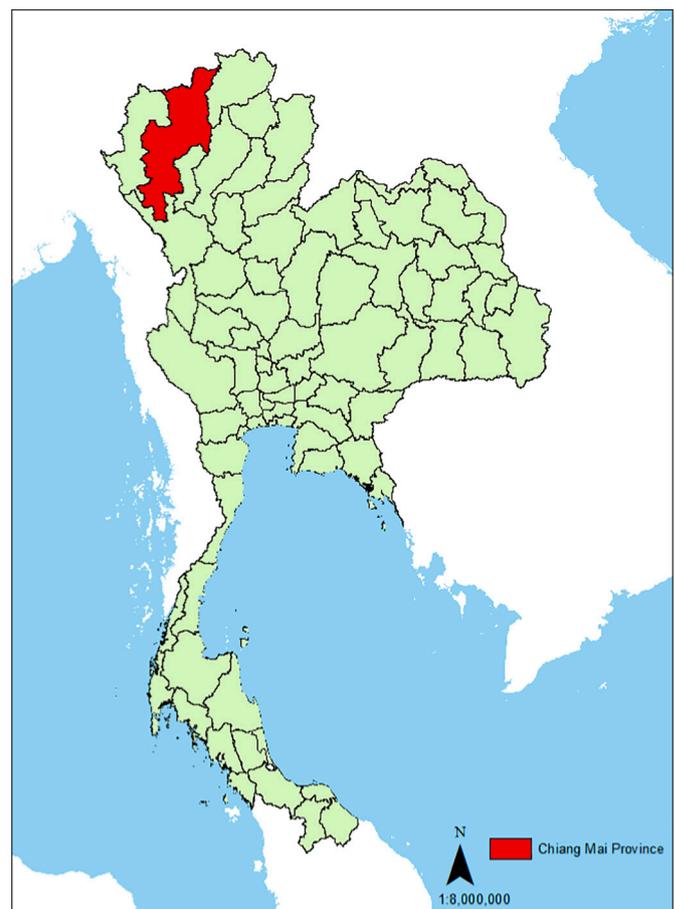


Fig. 1. Location of Chiang Mai Province within Thailand.

tourism venue by tour bus and again during the return journey to Chiang Mai (see Supplementary Material- Questionnaires and Supplementary Material- Tourist Questionnaire Information Sheet). The questionnaire's design was based on that devised by Rattan et al., (2011), whose initial design was informed by a literature review and pilot tested to ensure ease and accuracy of use. Nine additional questions were included in the post-visit questionnaire to further explore tourist attitudes. The pre-visit questionnaire included questions regarding tourist demographics and both pre- and post-visit questionnaires contained 19 identical statements regarding attitudes towards animal protection and, more specifically, captive elephants in Thailand. For this study, we accepted the tourists' self-perception of welfare, without providing them with a definition, despite the possible variation in meaning from one person to another. Participants were invited to respond to the statements on a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). All questions, except one, were closed-ended.

## 2.2. Sampling

Data collection occurred during January 2018, a time of peak international visitation in Chiang Mai (Vanhaleweyk, 2019). Most sampling periods were arranged directly with the elephant tourism venues via email before visiting Thailand (see Supplementary Material- Venue Recruitment Email Script); however, some visits were booked while in Thailand via email and phone. Twelve elephant tourism venues were visited. Six were visited twice, over consecutive days when possible, to increase the opportunity for data collection and the validity of any conclusions drawn. The other six venues were visited once because of transportation misunderstandings or because, for those booked in Thailand, there was insufficient time for a second visit during the available fieldwork period.

Venues were separated into four levels of welfare standards (highest, higher, lower, lowest) following a review of elephant husbandry and welfare literature (for example, American Zoo and Aquarium Association, 2012; Farm Animal Welfare Council, 2009; Gurusamy, Tribe, & Phillips, 2014; Phuangkum, Lair, & Angkawanith, 2005). The venues where elephants displayed mostly natural behaviours were considered to have a higher or the highest standard of welfare and the venues where elephants displayed mostly unnatural behaviours were considered to have a lower or the lowest standard of welfare. This included the amount and type of activities elephants were made to perform at the venue (for example, multiple performances of circus-like tricks per day versus observing elephants' daily behaviours, uninfluenced by mahouts, from afar) and the level and nature of tourist-elephant interactions (for example, physical barrier versus no barrier between tourists and elephants during feeding). We acknowledge that tourism venues are vital for the continued presence of elephants in Thailand due to the excessive logging which has removed much of their native habitat; therefore, here, we refer to elephant welfare (defined here as "how well an animal is coping with the conditions in which it lives. An animal has good welfare if its needs are being met and hence it is healthy, comfortable, well nourished, safe, able to express important behaviour and not suffering from unpleasant states such as pain, fear and distress" adapted from World Organisation for Animal Health (2019)) rather than elephant rights. However, this does not negate the need for high standards of care, both in terms of health care and husbandry practices, and the daily treatment of each individual elephant by venue staff and tourists.

The researcher practiced participant observation, undertaking all activities and transportation to and from the venue with the participants. Participants were recruited using convenience sampling as this method allowed for flexibility in the field and ease of access to potential participants to maximise sampling size. Potential participants were approached during transit to the venue and asked if they would be willing to participate. Participants were requested to provide their initials and year of birth on both the pre- and post-visit questionnaires. This enabled their responses for both questionnaires to be later paired for

analysis. The name of each elephant tourism venue was recorded on all questionnaires prior to distribution to enable comparisons between venues. Over the sampling period, 132 completed paired questionnaires were returned.

## 2.3. Data analyses

All statistical analyses were performed using the statistical software R, version 3.6.1 (R Core Team, 2019). The classification tree is a non-parametric model frequently used as a data mining technique and employed here for its abilities regarding prediction and classification problems (Chang & Wang, 2006). Due to the relatively small sample size, data was not divided into two training and testing subsets but was instead tested as a whole. The classification tree analysed individual participant demographic data (gender, age, education level, and home location) to predict the type of elephant tourism venue future tourists may visit. Elephant tourism venues were separated into different 'types' which were determined by each venue's management practice and welfare standards for their captive elephants (Table 1).

Cumulative link mixed models for ordinal regression with repeated measures (using the ordinal package in R) were performed to determine significant effects on the pre- and post-visit questionnaire responses in relation to participants' demographic data. Prior to analyses, the data were screened per statement to remove participants who did not respond to a statement (either pre- or post-visit). Regression analyses were performed for each statement (totalling 19). The participants' level of agreement to a statement on a 5-point scale was the response variable and the explanatory variables were the demographic data (gender, age, education level, and home location) and the welfare standards observed at the elephant tourism venue. Due to low counts in some categories, the Age and Education variables were merged to create two broader, yet representative, categories per variable (Age categories: '18 to 29' and '30+'; Education categories: 'high school and below' and 'higher education'). Table 2 outlines the baseline categories for all variables that all other categories were compared against in the ordinal regression analyses. The classification tree uses the same categories for the Gender and Home Location variables; however, did not require categories in the Age and Education variables to be merged (see Table 3 for these categories).

## 3. Results

This study 1) predicted the type of elephant tourism venue that future tourists may visit based on their demographic information and 2) compared participant attitudes towards captive Thai elephants and their welfare pre- and post-visit to an elephant tourism venue. Usable paired (pre- and post-visit) questionnaires were obtained from 132 participants. Table 3 summarises the participants' demographic data. Of the participants surveyed, 60.6% were female, 18 to 29-year-olds were the largest age group (61.4%), 84.9% completed education courses above a

**Table 1**

Sample size and venue type of the twelve elephant tourism venues visited, listed from highest to lowest welfare standard.

Welfare Standard	Elephant tourism venue type	Sample size (n = 132)
Highest	Non-riding*	7
Higher	Non-riding	33
Higher	Non-riding*	3
Lower	Non-riding	19
Lower	Non-riding	8
Lower	Bareback riding*	6
Lower	Bareback riding	6
Lowest	Non-riding*	36
Lowest	Bareback riding	5
Lowest	Bareback riding*	4
Lowest	Seated riding*	3
Lowest	Bareback riding	2

\* Denotes the venues that were visited once.

**Table 2**  
Study variables and the baseline categories for assessing the significant effects on the pre- and post-visit questionnaire responses.

Categories	Variables				
	Age	Gender	Education	Home Location	Venue Welfare Standard
18–29*	Male*	High school and below*	Asia*	Highest*	
30+	Female	Higher education	The Americas Europe Oceania	Higher Lower Lowest	

\* Indicates the baseline category, per variable, that all other categories were compared against.

**Table 3**  
Summary of participant socio-demographic profiles (n = 132).

Variables	Categories	n	%
Gender (n = 132)	Male	52	39.4
	Female	80	60.6
Age (n = 128)	18–29	81	61.4
	30–39	20	22.7
	40–49	9	6.8
	50–59	1	0.8
	60–69	11	8.3
Education (n = 132)	Less than high school	1	0.8
	High school	19	14.4
	College diploma/TAFE certificate	45	34.1
	Undergraduate degree	34	25.8
	Masters/Honours degree	28	21.2
Home Location (n = 132)	Doctorate	5	3.8
	Asia	5	3.8
	The Americas	55	41.7
	Europe	65	49.2
	Oceania	7	5.3

high school level, and 50.8% of participants completed an undergraduate degree or higher. Most participants resided in Europe (49.2%) or the Americas (41.7%). While demographic data from all participants was used to produce the classification tree, participants who did not respond to one or more statements reduced the sample size for the ordinal regression analyses (Table 4).

### 3.1. Who visits elephant tourism venues?

A classification tree model was produced to predict which type of elephant tourism venue a tourist may visit based on their demographic information (Fig. 2). Descriptive analyses included a participant's gender, age, level of education achieved, and home location. The most important variable separating participants was Age, with those aged between 60 and 69 visiting elephant tourism venues with higher welfare standards. All other age groups were separated by the Education variable whereby those who had completed high school or a Masters/Honours degree visited elephant tourism venues with lower welfare standards. This differed from participants who did not graduate high school, achieved a TAFE qualification, or held an undergraduate degree or doctorate. These aforementioned participants were separated once more by Age whereby those aged 18 to 29 and 40 to 49 visited elephant tourism venues with higher welfare standards and those aged 30 to 39 and 50 to 59 underwent further separation via the Home Location variable; participants from Europe and Oceania visited elephant tourism venues with higher welfare standards and participants from Asia and the Americas visited elephant tourism venues with lower welfare standards.

**Table 4**  
Participant response to identical statements regarding animal and elephant welfare pre- and post-visit to an elephant tourism venue.

Statement	n	Variable	Category	Odds ratio	p-Value	
3. I would like to learn more about the Asian elephant	126	Gender	Female	4.17 <sup>^</sup>	0.0068 <sup>**</sup>	
4. I enjoy watching elephants perform tricks	118	Gender	Female	5.02 <sup>^^</sup>	0.0326 <sup>*</sup>	
5. I would like to volunteer with organisations back home that advocate and protect animal rights (i.e., a shelter)	125	Home Location	The Americas	383.60 <sup>^^</sup>	0.0023 <sup>**</sup>	
		Home Location	Europe	833.39 <sup>^^</sup>	<0.001 <sup>***</sup>	
		Home Location	Oceania	7310.01 <sup>^^</sup>	<0.001 <sup>***</sup>	
		Home Location	Welfare Standard	Lowest	64.44 <sup>^^</sup>	0.0156 <sup>*</sup>
6. I would like to donate money to animal conservation organisations	123	Home Location	Europe	194.05 <sup>^^</sup>	0.0052 <sup>**</sup>	
		Home Location	Oceania	3070.82 <sup>^^</sup>	<0.001 <sup>***</sup>	
		Home Location	Welfare Standard	Lower	54.28 <sup>^^</sup>	0.0186 <sup>*</sup>
		Home Location	Welfare Standard	Lowest	757.18 <sup>^^</sup>	<0.001 <sup>***</sup>
8. I am aware of the conservation issues associated with elephants in Thailand	124	Home Location	Oceania	3852.20 <sup>^^</sup>	0.0438 <sup>*</sup>	
9. I am aware of the laws, regulations, and policies that govern elephant rights in Thailand	124	Home Location	The Americas	88.83 <sup>^^</sup>	0.0041 <sup>**</sup>	
		Home Location	Oceania	380.55 <sup>^^</sup>	0.0017 <sup>**</sup>	
		Home Location				
10. I would <u>not</u> change the current policies governing elephants in Thailand	99	Home Location	The Americas	78.24 <sup>^^</sup>	0.0084 <sup>**</sup>	
		Home Location	Europe	80.47 <sup>^^</sup>	0.0092 <sup>**</sup>	
		Home Location	Gender	Female	6.27 <sup>^^</sup>	0.004 <sup>*</sup>
11. I feel that elephants are treated humanely in Thailand	112	Home Location	The Americas	28.03 <sup>^^</sup>	0.0139 <sup>*</sup>	
		Home Location	Gender	Female	2.94 <sup>^^</sup>	0.0258 <sup>*</sup>
		Home Location	Welfare Standard	Higher	15.50 <sup>^</sup>	0.0131 <sup>*</sup>
		Home Location	Welfare Standard	Lower	11.02 <sup>^</sup>	0.0299 <sup>*</sup>
		Home Location	Welfare Standard	Lowest	16.13 <sup>^</sup>	0.0314 <sup>*</sup>
12. I would like to volunteer at an elephant park	120	Home Location	Oceania	75.88 <sup>^^</sup>	0.0326 <sup>*</sup>	
		Home Location	Gender	Female	5.11 <sup>^</sup>	0.0067 <sup>**</sup>
		Home Location	Age	30+	3.62 <sup>^^</sup>	0.0441 <sup>*</sup>
		Home Location	Welfare Standard	Lowest	121.07 <sup>^^</sup>	0.0049 <sup>**</sup>
<u>Identify how important these factors are for elephant conservation:</u>						
14. Fundraising	116	Home Location	Oceania	4951.92 <sup>^^</sup>	0.003 <sup>**</sup>	
		Home Location	Welfare Standard	Lowest	163.97 <sup>^^</sup>	0.0208 <sup>*</sup>
17. Non-Governmental Organisations	117	Welfare Standard	Lowest	145.79 <sup>^^</sup>	0.0413 <sup>*</sup>	
19. Volunteers	117	Education	Higher Education	8.96 <sup>^^</sup>	0.0466 <sup>*</sup>	

<sup>^</sup> Positively signed, <sup>^^</sup> Negatively signed, <sup>\*</sup> Significant at the 0.05 level, <sup>\*\*</sup> Significant at the 0.01 level, <sup>\*\*\*</sup> Significant at the 0.001 level. Note: Based on a five-point scale where higher scores reflect more agreement. Only significant variables and their categories are shown.

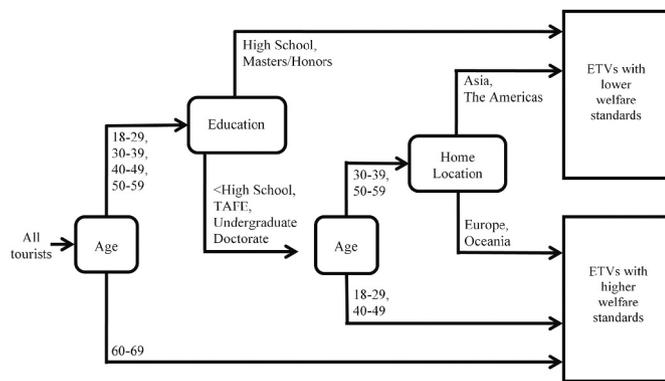


Fig. 2. Classification tree generated using participant demographic data to predict the type of elephant tourism venue a tourist may visit ( $n = 132$ ).

### 3.2. Do participant attitudes towards the treatment and welfare of elephants change after visiting an elephant tourism venue?

Ordinal regressions using participants' demographic data and elephant tourism venue welfare standards were used to identify significant effects on pre- and post-visit questionnaire responses. Findings revealed that participants' attitudes towards elephant welfare varied following their experience at an elephant tourism venue depending on their demographic data and the welfare standards at the elephant tourism venue visited. Twelve of the 19 statements had statistically significant responses (Table 4). All subsequent significant effects on participant response occurred following their experience at an elephant tourism venue and result from comparisons to the baseline categories (see Table 1). More female participants reportedly wanted to learn more about Asian elephants ( $p = 0.007$ , Statement 3) and fewer female participants enjoyed watching elephants perform tricks ( $p = 0.033$ , Statement 4). Participants from the Americas, Europe, and Oceania ( $p = 0.002$ ,  $p < 0.001$ , and  $p < 0.001$ , respectively), and those who visited elephant tourism venues with the lowest observed welfare standards reported less desire to volunteer with organisations that advocate for and protect animal rights ( $p = 0.016$ , Statement 5). Fewer participants from Europe and Oceania ( $p = 0.005$  and  $p < 0.001$  respectively), and those who visited elephant tourism venues with the lower and lowest observed welfare standards reportedly wanted to donate money to animal conservation organisations ( $p = 0.019$  and  $p < 0.001$  respectively, Statement 6).

Fewer participants from Oceania were aware of the conservation issues associated with elephants in Thailand ( $p = 0.044$ , Statement 8). Similarly, fewer participants from the Americas and Oceania were aware of the laws, regulations, and policies governing elephant rights in Thailand ( $p = 0.004$  and  $p = 0.002$  respectively, Statement 9). Therefore, fewer female participants ( $p = 0.004$ ) and those from the Americas and Europe wanted to change current policies governing elephants in Thailand ( $p = 0.008$  and  $p = 0.009$  respectively, Statement 10). A higher number of female participants and those from the Americas did not agree that elephants are treated humanely in Thailand ( $p = 0.014$  and  $p = 0.026$  respectively), although, more participants who visited elephant tourism venues with the higher, lower, and lowest observed welfare standards felt that elephants are treated humanely in Thailand ( $p = 0.013$ ,  $p = 0.03$  and  $p = 0.031$  respectively, Statement 11).

More female participants reportedly wanted to volunteer at an elephant park ( $p = 0.007$ ); however, fewer participants from Oceania ( $p = 0.033$ ), those aged 30 and above ( $p = 0.044$ ), and those who visited elephant tourism venues with the lowest observed welfare standards wanted to volunteer ( $p = 0.005$ , Statement 12). Fewer participants from Oceania ( $p = 0.003$ ) and those who visited elephant tourism venues with the lowest observed welfare standards reported fundraising as important for elephant conservation ( $p = 0.021$ , Statement 14). Fewer participants

who visited elephant tourism venues with the lowest observed welfare standards reported non-governmental organisations as important for elephant conservation ( $p = 0.041$ , Statement 17). Finally, a lower prevalence of participants with a higher education reported volunteers as important for elephant conservation ( $p = 0.047$ , Statement 19).

## 4. Discussion

### 4.1. Who visits elephant tourism venues?

Typical participants in this study were, in summary, young, well-educated females from either Europe or the Americas. This supports other profiles of people visiting elephant tourism venues (Kontogeorgopoulos, 2009b; Rattan, Eagles, & Mair, 2011), but also of people who visit wildlife tourism from many locations around the world (Amuquandoh, 2017; Catlin & Jones, 2009).

The classification tree (Fig. 2) showed the demographic profiles of tourists most likely to visit venues with lower and higher elephant welfare standards. Different tourists visit different elephant tourism venue types; therefore, demographic information was used to predict the type of tourist likely to visit elephant tourism venues with lower welfare. The clearest indicator of the type of venue a participant was likely to visit was age. Participants aged 60 to 69 were more likely to visit elephant tourism venues with higher welfare standards. These venues are typically more expensive to visit than venues with lower welfare standards and older participants are more likely to be able to afford these fees. Younger participants dominated the tour groups, with 18 to 29-year-olds representing over 60% of those surveyed, supporting other studies' findings (Amuquandoh, 2017; Rattan et al., 2011). Participants' highest level of education was the next most significant variable and separated all other age groups. These results somewhat contradict Pol-yapipat and Loh (2015) whose study participants were also highly educated but for whom education level was positively linked with a greater understanding of, and affection for, captive elephants in tourism. As age and education level can hold significant influence over a person's attitude and knowledge base (Kang & Moscardo, 2006), this inconsistency suggests the need for more extensive research regarding this topic.

Participants from Europe and Oceania were more likely to visit elephant tourism venues with higher welfare standards and participants from Asia and the Americas were more likely to visit elephant tourism venues with lower welfare standards. This is consistent with Phillips and McCulloch (2005) who found that tourists from Asian countries appeared to exhibit less concern regarding animal welfare than tourists from European countries. Participants from the Americas and Europe overwhelmingly dominated this variable, comprising over 90% of the sample, which could be due to a common travel motivator: the desire to escape winter conditions in the northern hemisphere (Scott, McBoyle, & Schwartztruber, 2004).

These findings have the potential to inform educational programs targeting tourists who visit elephant tourism venues with lower or the lowest welfare standards (for example, programs based on this study could target tourists from the Americas and Asia; Fig. 2). The key aim of these programs would be to educate target groups about ethical alternatives to popular elephant tourism attractions, such as observing or walking beside an elephant instead of riding, prior to visitation and addressing the specific misperceptions of animal welfare that tourists from different countries hold (see Worwag et al., 2019). Educational programs are an essential element of conservation operations, with multiple studies reporting positive attitude change following the application of such initiatives (for example, Bexell et al., 2013; Collins et al., 2019; Makecha & Ghosal, 2017; Orams & Hill, 1998; Sherwen et al., 2014). By educating tourists before their visit to an elephant tourism venue, fewer tourists may visit venues with lower welfare standards which could encourage venue owners to improve the standards of living for the elephants. Simply put, "if you want to influence how a person feels and acts toward a thing, you need to influence what they believe

about it" (Ham & Weiler, 2002, p. 39). Our study suggests a foundation for a potential educational strategy by highlighting a core issue associated with the treatment of elephants in elephant tourism venues that many tourists are unfamiliar with (for example, knowledge of the policies governing captive Thai elephants) and planning educational programs around this matter. Educational programs have the ability to incite long-term change in tourist attitudes and behaviour (Hughes, Packer, & Ballantyne, 2011; Orams & Hill, 1998) because informal educational environments, like those in elephant tourism venues, allow tourists to engage with the environment and explore and construct their knowledge and attitudes in personally meaningful ways that are seldom possible in more formal situations (Ballantyne & Packer, 2005).

#### 4.2. Do participant attitudes towards the treatment and welfare of elephants change after visiting an elephant tourism venue?

Because participants were surveyed twice on the same day, before and after their visit to an elephant tourism venue, changes in attitudes were attributed to their experience at the individual elephant tourism venue. This follows Ajzen's (1991) proposition that the acquirement of new information has the potential to lead to a change in attitude and, ultimately, actual behaviour. Participants' attitudes towards the treatment and welfare of elephants varied following their experience at an elephant tourism venue based on tourist demographics and venue welfare standards. This supports findings by Kontogeorgopoulos (2009b) who reported that elephant tourism venues reflect either anthropocentric or ecocentric principles, which was also mirrored in the worldview of the tourists who visited each venue. Participants' home location (13 instances) and the welfare standards at the elephant tourism venue they visited (9) had the greatest effect on overall attitudes post-visit. Gender associated with the largest difference in post-visit response regarding tourist-elephant interactions, as more female participants expressed a desire to learn about Asian elephants and fewer females reported enjoying watching elephants perform tricks. This is consistent with female tourists displaying higher agreement scores for positive attitude statements (Kang & Moscardo, 2006) and suggests positive future behaviour intentions. Further research into participants' attitudes towards welfare statements (for example, whether they enjoy watching elephants perform tricks) may be a suitable starting point to determine the antecedents to social behaviour change that can benefit animal welfare.

The participants' home location had the greatest effect on their altruistic behaviour, followed by the welfare standards at the elephant tourism venue they visited (Statements 5 and 6). These results indicate that participants who visited elephant tourism venues with the highest observed welfare standards were more concerned about animal welfare and protection than all other participants, a finding also reported by Kontogeorgopoulos (2009b), and were more likely to volunteer and donate money than participants who visited elephant tourism venues with the lowest observed welfare standards. More female participants reported that animal welfare and protection is important to them; thus, they also displayed an increased desire to volunteer at elephant parks and with organisations that advocate for and protect animal rights (Statements 3 & 4). This supports Powell and Ham's (2008) finding that ecotourism experiences can increase advocacy for conservation organisations and suggests that these tourists – who reported that animal welfare and protection is important to them or would donate/volunteer with animal organisations – may translate their attitudes towards these activities into positive animal welfare behaviours. Fewer participants aged 30 and above reported that they would like to volunteer at an elephant park, suggesting that the experience at an elephant tourism venue may influence younger tourists' willingness to engage in future animal-friendly wildlife tourism activities (Statement 12).

The role of animal welfare in wildlife tourists' experiences at elephant tourism venues is significant and should be explored further. The results from this study support similar research in other wildlife

tourism attractions, highlighting the positive impacts of wildlife tourism on visitors' knowledge and attitudes (Ballantyne, Packer, & Falk, 2011) by increasing awareness of the issues within elephant tourism, providing visitors with a reason to care (Hughes et al., 2011), and promoting appreciation for elephants and positive animal welfare attitudes and behaviours (Skibins et al., 2013). The close encounters with elephants that elephant tourism venues provide may explain why tourists' attitudes are changing (Skibins et al., 2013). Tourists can witness first-hand the impacts of their, and others', behaviour on individual elephants and provide an opportunity for reflection and possible behaviour change post-visit (Hughes et al., 2011). Negative experiences at elephant tourism venues can drive tourist demand for increased welfare standards which could encourage the tourism industry to respond with tougher restrictions for captive elephant organisations and improve both the quality of establishments and living conditions for the elephants.

Participant's home location and the welfare standards at the elephant tourism venue visited had the largest impact on their attitudes towards the management of elephants in Thailand (Statements 8–11). These results likely reflect an ignorance of specific management issues associated with captive elephants in Asia, such as ineffective and underenforced regulations; however, they indicate that some tourists are somewhat familiar with the broader welfare issues and express a desire to change the management and treatment of captive elephants in the tourism industry. Conversely, some self-reported an awareness of the laws governing elephants in Thailand; thus, fewer of these participants expressed a desire to change these regulations. Results further indicate that those participants who visited elephant tourism venues with the highest observed welfare standards were less likely to believe that elephants are treated humanely in Thailand.

A participant's home location, education level, and the observed welfare standard at the elephant tourism venue visited all affected attitudes towards the importance of three factors concerning elephant conservation: fundraising, non-governmental organisations, and volunteers (Statements 14, 17 & 19). These results support previous research that found education level and national culture (home location) can influence a person's attitude towards animal welfare (Kang & Moscardo, 2006).

Less than 10% of the participants had visited an elephant tourism venue prior to partaking in this study; therefore, for most participants, any prior knowledge about elephants in tourism could only have been gained indirectly. The few who had previously visited an elephant tourism venue mostly visited venues with higher or the highest welfare standards when this study took place. This venue choice may indicate that these participants had already undergone an attitude change due to their previous venue experience and is consistent with expectations of the Theory of Planned Behaviour model (Ajzen, 1991), whereby attitude towards, and intention to engage in, elephant-friendly behaviour translated into their actual engagement in the behaviour. This study assumes that results reflect knowledge gained through direct experiences. To better understand whether tourists' attitude change following an experience at an elephant tourism venue is occurring, future research should investigate whether those attitudes translate into intentions and, in turn, behaviour and/or value change.

#### 4.3. Limitations and recommendations

We acknowledge several limitations of this study. Although the study was undertaken during the tourist high season (November to February) and respondents originated from a variety of locations, limiting data collection to a four-week period influenced the sample size. In addition, having the questionnaire only available in one language may have affected the representation of different nationalities. As such, future research should obtain a larger sample size by including multiple sampling periods throughout the year over longer periods of time and distributing questionnaires in multiple languages. This study included fewer participants at elephant tourism venues with lower welfare

standards as many of these venues declined, or did not respond to, our request to conduct research on their premises. Venues with entry fees above AUD\$250 per day were not included due to budget constraints for this research. Changes in attitudes were attributed to the participants' experience at the elephant tourism venues and, as discussed, participants who had previously visited an elephant tourism venue may have already undergone this change. We were unable to capture a large Chinese or, more broadly, Asian participant pool. Tourists from these locations should be targeted in subsequent research as they have demonstrated a preference for activities provided at elephant tourism venues with lower welfare standards (Long, 2019) and hold a vast and growing influence over the elephant tourism industry. While the study occurred prior to the Covid-19 pandemic, the findings remain relevant as these activities are likely to resume when the pandemic is over.

## 5. Conclusion

This study involved surveying 132 tourists before and after they visited an elephant tourism venue in Thailand to determine whether the experience made a difference to their attitudes. We found that participant age was the clearest indicator for the type of venue that tourists visited (which could be used as a predictor for the venue type future tourists may visit), and that participants' home location and elephant tourism venue welfare standards had the greatest effect on attitudes post-visit. When exploring tourist attitudes towards elephants in elephant tourism venues, participants' attitudes varied towards the treatment and welfare of elephants following their experience at an elephant tourism venue. This suggests that the participants may have been influenced by their experience at the venue. The role of elephant welfare in wildlife tourists' experiences at elephant tourism venues is significant. Therefore, efforts should be made to increase public awareness of the issues within elephant tourism and promote appreciation for elephants which could lead to future positive attitudes and behaviour intentions.

Experiences at elephant tourism venues can drive tourist demand for increased welfare standards (although, for some, a gap between attitudes and behaviour may remain; Moorhouse et al., 2017), which could encourage the tourism industry to respond with tougher restrictions for captive elephant organisations and improve both the quality of establishments and living conditions for the elephants. Similarly, this feedback mechanism has broader implications for all animal-based attractions within the wildlife tourism industry. In elephant tourism, improved conditions could involve, for example, further mahout training regarding the appropriate use of a hook (where, as traditionally intended, it is used as a guiding tool and not used to physically punish an elephant), removal of unnatural behaviours or tricks performed by elephants for tourists' entertainment, and the reduction or removal of elephant rides. This study found that an experience at an elephant tourism venue can make a difference to tourist attitudes pre- and post-visit, particularly regarding the many facets concerning captive animal welfare. This study contributes to an important area of wildlife tourism literature requiring further research.

## Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

## Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.annale.2021.100025>.

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