Determinants of travelers' image and desire toward animal tourism

ABSTRACT

This study explores the kinds of travel values that promote participation in animal tourism and discovers the role of animal welfare literacy in the relationships among attitude, satisfaction, image, and desire. This study also identifies optimal configurations and necessary conditions that lead to desire for animal tourism. Excitement is a significant travel value for travelers who enjoy animal-related tourism, and inner and outer directed travel values are determinants of satisfaction. Attitude, satisfaction, and image play a critical role in generating intentions. The results suggest two casual recipes for the desired outcome and indicate the importance of satisfaction and image.

Keywords: animal tourism, inner-directed travel value, outer-directed travel value, attitude, satisfaction, image, desire, animal welfare literacy, value–attitude–behavior framework, complexity theory

Introduction

Many camels worked on the ground during the recent World Cup (The Washington Times, 2022). These animals worked because riding a camel on the rolling dunes offers a unique experience and creates the perfect Instagram moment for many visitors in Qatar. Animal tourism is a major tourism attraction across the globe (Fennell, 2022a; Winter, 2020), and it has long been popular to many travelers in different forms, including animal shows and activities to pose, ride, play, or interact with animals in captivity (Blaer, 2022; Eschner, 2017; Leah, 2022). However, these types of tourism programs/activities have raised widespread concerns for animal ethics, which involves the moral status of animals and our moral support to animals (Winter, 2020).

Claims toward animal welfare are not new, but they have recently led to increasing

attention from the global community as one important way to develop ethical tourism (von Essen, Lindsjö, & Berg, 2020). For example, Wild Welfare in the United Kingdom works to reduce animal cruelty with its mission to "end the suffering of captive wild animals around the world, by uniting the world's leading animal welfare organizations and captive wildlife facilities in providing expert, practical and sustainable solutions to improve animal welfare" (Fennell, 2022b). Several international organizations and travel platforms have taken steps to address animal cruelty, e.g., drawing up guidelines on the treatment of animals for human entertainment and banning unethical animal-based product sales (Font, Bonilla-Priego, & Kantenbacher, 2019; Winter, 2020). These initiatives are also pushed by modern travelers. The Hana Tour, which is a large-scale travel agency in Korea, scrapped all packages and promotions of travel programs in response to the growing awareness of the welfare of captive animals (The Korea Times, 2022). Specifically, they constantly monitored travelers' reviews involving animal-related tourism and ended programs accused of animal cruelty. That is, people today are much more enlightened about animal ethics in tourism and play a crucial role in promoting cruelty-free tourism.

People travel for different reasons. People travel to enjoy natural assets, rest, broaden their horizons, challenge themselves, and so on (Crick-Furman & Prentice, 2000; Gnoth, 1997; Kim & Yang, 2021). Travelers arrange various activities for travel depending on their main travel motives (Li & Zhao, 2021; Manosuthi et al., 2020; Ngah et al., 2021). Individuals who travel for relaxation at an exotic island probably planned a nice spa treatment and a leisurely dinner around the beach. Travelers who wish to experience adventure in a rough natural environment have a high likelihood of participating in animal tourism as an excellent option (Okano & Naoi, 2020). However, such assumption is without empirical evidence. Thus, identifying the specific group of travelers who engage more in animal tourism would be meaningful and helpful in selecting the right audience to influence in terms of ethical

tourism behavior. Values are considered an important notion in the hospitality and tourism domains (Crick-Furman & Prentice, 2000; Hughes, 2001; Lee et al., 2015). In this regard, this study adopted multidimensional travel values to identify what type of travel values encourage individuals to engage in animal-related travel programs/activities.

The value–attitude–behavior (VAB) framework has been frequently used in the extant literature because it successfully predicts consumer behavior (Kim, Chua, & Han, 2021; Kiatkawsin & Han, 2017). Animal tourism does not always result in positive responses, and the comprehension of customer evaluation of animal tourism is necessary. Participation in animal tourism gathers many negative reviews, which are highly related to animal cruelty (Fakrafe et al., 2023; Flower et al., 2021). Therefore, the clear understanding of how travel values associated with animal-based tourism influences travelers' evaluation of animal tourism would extend our knowledge of traveler behavior. Satisfaction and image are constantly validated as essential indicators of consumer assessment that affect future behavior in the tourism context (Al Ansi & Han, 2019; De Vos, Singleton, & Gärling, 2022; Liang & Lai, 2023). Accordingly, we incorporated satisfaction and image into the VAB hierarchy to improve the explanatory power of travelers' future behavior after the animal tourism experience.

The growing public support to animal welfare is evident. For example, the Charities Aid Foundation's (2022) research found that animal welfare is the most popular cause for donating to charities, and the average monthly donation has increased by 67.8 percent over the past six years. Hence, the knowledge of and demand for responsible behavior in animal-based tourism are increasing, and more travelers support animal ethics. Fennell (2022b) introduced the concept of animal welfare literacy. Literacy in animal-related tourism refers to the awareness and knowledge about animal ethics, attitude, competency, and actions with respect to issues faced in animal tourism. Substantially more online and offline communications report animal abuse in tourism and inspire travelers' moral obligation toward animal tourism (Fennell

& Thomsen, 2021; von Essen et al., 2022). The public has become more aware of animal welfare, explaining the global movement toward improved treatment of animals. For instance, the New South Wales government has implemented a regulation under the Biodiversity Conservation Act; now, Australia has only one facility of dolphins in captivity (World Animal Protection, 2021). These accounts are not necessarily from officials but involve ordinary citizens in their social community and networks, suggesting an increasing literacy in animal welfare. However, the role of animal welfare literacy is largely unexplored in the tourism industry. Furthermore, whether many more mature travelers with high literacy still appreciate the current animal tourism programs/activities is unknown.

Although animals have had a considerable effect on the tourism industry, academic efforts toward animal ethics in tourism do not have a long history. Majority of recent studies have discussed ethical considerations toward animal-related tourism (e.g., Fennell & Panah, 2020; Flower et al., 2021; Font et al., 2019; von Essen et al., 2020), and relatively less attention has been given to travelers' perspectives. Specifically, a few studies have explored the kinds of travel values that stimulate travelers' desire to engage in animal tourism and its consequences (Fennell, 2013a; Winter, 2020). In previous literature, travel values (i.e., inner/outer directed travel values) in animal-related tourism were generally presented in qualitative and descriptive modes to a limited extent (Hughes, 2001). Meanwhile, despite the public's growing literacy of animal ethics in tourism, its influencing role in travelers' behavior has seldom been investigated. Therefore, the current study was designed to provide comprehensive insight into travelers' desire to engage in animal tourism by integrating travel values, tourist attitudes, satisfaction, images of animal tourism, and animal welfare literacy into a theoretical framework. Specifically, this study has the following objectives. First, it is to examine what and how travel values promote attitudes toward and satisfaction with animal tourism. Second objective is to investigate the relationships among attitude, satisfaction, image, and desire to engage in animal

tourism. Third is to identify the moderating role of animal welfare literacy among proposed determinants. Fourth is to explore causal recipes and essential conditions that lead to the desire to engage in animal tourism. In order to attain these objectives, this study examines hypotheses based on structural equation modeling analysis, metric invariance tests, fuzzy-set qualitative comparative analysis, and necessary condition analysis. The findings would enhance our knowledge on animal tourism and offer implications to improve travelers' ethical behavior toward animal-related tourism.

Literature review

Animals in the tourism experience

The demand for programs and activities that allow tourists to interact with wildlife and other types of animals is growing (Blaer, 2022). This trend has led to the development of various animal-related travel programs and activities. According to the World Travel & Tourism Council (WTTC, 2019), the economic contribution of animal-related tourism directly contributed US$120.1 billion to the world's GDP in 2018. This sector also sustained 21.8 million jobs, which is equivalent to 6.8% of the total jobs sustained by the global travel segment (WTTC, 2019).

To deliver fun times and valuable experience to tourists, travel operators increasingly attempt to integrate animals into tourism processes in several ways (Blaer, 2022). For example, water buffaloes function as a rice cultivator in a decorated paddy field (Leah, 2022), tigers are used for selfie-taking and petting in an attraction site (Eschner, 2017), and dogs or reindeers are used to transport goods and tourists in snowmobile safaris (Haanpää et al., 2021). On the one hand, the modern tourism industry has facilitated close encounters with animals to enhance tourist experiences with a wide variety of species worldwide. On the other hand, the use of animals in tourism may cause unpleasant conditions that disrupt the quality of life associated

with pain, injury, and mental distress for animals. These unpleasant conditions can be defined as "animal suffering" (Fennell &Thomsen, 2021). Moreover, the unethical use of animal-based tourism products refers to activities or programs that exploit or harm animals for the sake of tourist entertainment or profit. Such activities may involve confining animals in small spaces, forcing them to perform activities, and denying them access to proper nutrition and medical care. These practices can cause physical and emotional suffering to animals, compromising their welfare and living conditions. To ensure responsible and ethical animal tourism, these practices must be minimized or eliminated, and alternatives that prioritize animal welfare and conservation must be promoted.

The topics of animal ethics, rights, and welfare continue to be critical issues in tourism (Fennell & Thomsen, 2021). According to Fennell (2013a), the use of animals in tourism can raise concerns about animal rights, because animals are exploited for human entertainment and are subjected to conditions that restrict their natural habitats and behavior. The animal rights position emphasizes that animals should not be utilized as instruments or commodities for human ends (Fennell, 2013a). The term "welfare" refers to the state of an individual with regard to its environment (Broom, 1991), and Fennell (2013b) considers "animal welfare" as the quality of animal life under human control. Fennell (2013b) has further argued that people should prioritize the rights and welfare of animals over the benefits of humans. Furthermore, efforts should be made to reduce the unethical use of animal-based tourism products to enhance "touranimalscapes," which are defined as "the evolving patterns of animal concern and use by individuals, cultures, regions, and organizations connected with the tourism industry" (Fennell, 2021, p. 259).

Animals have become immensely important to tourism, with captive animals alone contributing approximately 40% of all tourism activities (Moorhouse et al., 2017). Over 250 institutions and animal-related facilities worldwide have been certified by the Association of

Zoos and Aquariums (AZA). These facilities currently hold more than 800,000 wild animals (AZA, 2021). However, the widespread use of animals has sparked concerns about animal rights and welfare, especially regarding their living conditions and human-animal interactions in such settings. Although the environment within tourism practices leads to public criticism on the animal rights and welfare, animal-related travel activities increase in popularity and take place in many settings with different degrees of human-animal encounters (Fennell, 2022a). As the International Union for Conservation of Nature (2021) reported, more than 700 million international tourists visit zoos and aquariums in a normal year. In response to the tourist demand for a more responsible approach to animal tourism, travel businesses are increasingly committing to welfare standards for the adoption of animals for entertainment. For example, Thomas Cook, a renowned British travel company started reviewing animal venues to see whether they met its requirement on the standards of animal welfare. Considering the criteria set by the Association of British Travel Agents, the holiday giant stopped selling tickets to 29 service providers that offer unethical modes of engagement with animals (BBC, 2018).

In the tourism context, animal-related tourism has received an upswing of attention from scholars and practitioners. Scholars have approached responsible and sustainable animal tourism from various philosophical perspectives, such as ecofeminism, which emphasizes moral responsibility, care toward animals, and innovation in sustainability (Bertella, 2019). Additionally, some scholars argue that sustainable animal tourism can have positive socio-economic and environmental impacts, including job creation, conservation promotion, and innovative ways to manage human-animal interactions (Castley, 2016; Weaver & Jin, 2016). To promote sustainable and responsible animal tourism, collaboration among various tourism actors (i.e., public, private, nonprofit sectors) at different management levels (i.e., local, national, international) is essential. While tourism research has experienced a surge in developing a code of conduct on how tourists should morally interact with animals when

visiting an attraction site (Araña & León, 2016), travel operators have increasingly identified more sustainable and responsible alternatives for tourists to participate in animal tourism (e.g., restricting the kinds of animals used in tourism, and arranging volunteering activities at the animal rescue center) (Winter, 2020). According to von Essen et al. (2020), travel firms and destination authorities should strive to provide knowledge on important animal protection issues and enforce a robust policy that avoids imposing physical/mental pains to the animals used in tourism to build ethical awareness and enable valuable experiences for tourists when interacting with a vast range of species.

Theoretical framework and hypothesis development

Travel values

Values are a cognitive representation of one's physiological needs, interpersonal demands, and desires for social interactions (Schwartz & Bilsky, 1987). Rokeach (1973) asserted that values are related to attitudes pertaining to objects/events in which values demonstrate abstract beliefs. Although people may possess manifold attitudes, they possibly hold only a few sets of values. As Li and Cai (2012) stated, compared with attitude, changing values is not easy even across environments.

The term value can either be considered from the perspective of human values or qualities inherent in objects (Schwartz & Bilsky, 1987). As values inform attitude, they become a necessary component for examining individual behavior (Le et al., 2021; Rokeach, 1973). Theoretically, values have a critical role in the relationship between an object and a subject (Alicke, 1983). While the term "object" refers to a physical product (e.g., consumer goods) or philosophical thought (e.g., wisdom, principles, and ideas), the term "subject" denotes a pleasurable feeling or desire associated with the object or in a way that the object arouses (Li & Cai, 2012).

To date, the notion of values has been extensively applied in various disciplines (Wen & Huang, 2019). In behavioral science, values have been used to illuminate a vast range of social phenomena, such as customer behavior and marketing (Weng & Run, 2013). Considering "value theory" or "axiology" in the philosophical context, two schools of thought exist: subjectivity and objectivity. While objectivity principles state that the concept of truth is independent from one's subjectivity (e.g., bias caused by individual perception, feeling, or imagination) and the world consists of things in themselves, subjectivity doctrines hold that reality is associated with the ideas of consciousness (e.g., feelings, beliefs, and desires) (Alicke 1983). These different intellectual perspectives lead to the development of two central domains of value: internal and external values (Kahle, 1983). The former denotes expectation-oriented intentions that are internally directed. By contrast, if values are externally dominant, they are object directed about a goal or an experience. Arguably, external values are signified by an object that is not easy to change (Li & Cai, 2012).

To measure values, Kahle (1983) designed the List of Values (LOV) scale as an improvement of the measurements as established by Rokeach (1973). The LOV comprises nine terminal values, including fun, sense of accomplishment, self-fulfillment, excitement, life satisfaction, bonding with others, self-respect, sense of belonging, security, and gaining respect. While the first six elements are regarded as internally oriented values, the last three values are externally oriented. Although certain aspects of the identified value measurements could be context specific, Kahle (1983) argued that these two-dimensional values are valid and useful. As such, the LOV scale becomes common for determining leisure and tourist behaviors (Crick-Furman & Prentice, 2000).

Recently, the notion of value has been extensively integrated into consumer behavior and tourism. For example, Crick-Furman and Prentice (2000) conducted their study to assess the holiday behavior of tourists using a two-dimensional approach. The results revealed that

tourist values according to their inner direction consist of fun, excitement, self-indulgence, relaxation, getting in touch with the self, and learning new things, whereas outer-directed values contain elements, such as being closer to nature, having quality time with friends and relatives, safety, no hassle, freedom, ego enhancement, and learning about one's own country. Li and Cai (2012) further investigated the relationship between values and travel motivation among Chinese outbound travelers. Interestingly, the findings revealed that internal and external values significantly affect travel motivation.

Relationships among travel values, tourist attitude, satisfaction, image perception, and desire to engage in animal tourism

According to Kiatkawsin and Han (2017), values and attitudes are important constructs in the tourist behavior model. Previous research has indicated that values are significant antecedents of attitude (Milfont, Duckitt, & Wagner, 2010) and customer satisfaction (De Vos et al., 2022; Hansen, Beitelspacher, & Deitz, 2013). Kim, Hall, and Bonn (2021) asserted that attitude is the cognitive assessment of a particular object, quality, or behavior as favorable or unfavorable derived from values.

In hospitality and tourism, the VAB model is often used to predict tourist behaviors (Han, 2015; Kiatkawin & Han, 2017; Liu et al., 2021). For example, in the medical tourism setting, tourists' perceived value was found to highly affect attitudinal constructs, such as satisfaction and behavioral intentions toward hospitals (Prajitmutita, Per´enyi, & Prentice, 2016). To explore tourists' pro-environmental behaviors, Han (2015) declared the significant mediating role of attitude between values and tourists' desire to stay in green accommodations. Moreover, the VAB framework was found to be useful in elucidating tourists' biosecurity practices during COVID-19 (Kim, Hall et al., 2021), tourists' desire to attend ecocruises (Han et al., 2019a), and international tourists' revisit intentions resulting from their internal/external

values, attitudes/satisfaction toward destination attributes, and emotions (Kiatkawsin & Han, 2017).

In Li and Cai's (2012) study, the LOV scale was used to examine tourists' motivation. The results indicated that internal values are associated with novelty and self-development, whereas external values are positively related to prestige and luxury experience, excitement, escape, and self-development. To identify the kinds of travel values that promote participation in animal tourism, the present study classified the value items into inner- and outer-directed travel values according to Kahle's (1983) study. Similar to previous studies (Li & Cai, 2012; Kiatkawsin & Han, 2017; Wen & Huang, 2019), differences in internal and external travel values should promote tourist attitudes and satisfaction toward animal-related travel programs/activities. Consistent with previous research, values are an effective predictor of attitude (Prajitmutita et al., 2016; Rousta & Jamshidi, 2020) and satisfaction (De Vos et al., 2022; Hansen et al., 2013). The following hypotheses are provided:

H1a: Inner-directed travel value promotes attitudes toward animal tourism.

H1b: Inner-directed travel value promotes satisfaction with animal tourism.

H2a: Outer-directed travel value promotes attitudes toward animal tourism.

H2b: Outer-directed travel value promotes satisfaction with animal tourism.

Tourist attitude is a set of emotions, beliefs, and behaviors of tourists when engaged in specific events/actions (Chi & Han, 2020; Schiffman & Kanuk, 1994). Vincent and Thompson (2002) claim that attitude comprises three main components: cognition, affection, and conation. The cognitive component is based on a tourist's evaluation of an object; the affective response is a psychological state of the tourist, including but not limited to feelings or emotions; and the conative component is an indication of the tourist's intention/desire to act toward an object or

a situation (Jalilvand et al., 2012). Some scholars (e.g., Hansen et al., 2013) consider satisfaction as part of a customer's attitude given that satisfaction is an outcome of a customer's cognitive evaluation toward a product/service with regard to the level of contentment. In tourism-related studies, attitude and satisfaction are significant antecedents of tourists' decision to visit an attraction (Han et al., 2019a), and their image perception toward a travel destination or tourist activity (Chi et al., 2022; Han et al., 2019b; Jalilvand et al., 2012). Attitude and satisfaction arouse a tourist to act in a specific way, as presented in studies of travel behavior (Al Ansi & Han, 2019). The model of goal-directed behavior also states that attitude and satisfaction (defined as anticipated emotions) influence a customer's desire/behavioral intention (Perugini & Bagozzi, 2001). Arguably, the more favorable the tourist attitude and/or the higher tourist satisfaction toward a travel destination or attraction site, the stronger a tourist's intention/desire to participate in the tourism program/activity becomes.

In the food destination context, Choe and Kim (2018) found that attitude is dominant in determining destination image and desire to visit a destination. When tourists are satisfied with travel products/services, their image perception toward a destination or a travel firm is possibly enhanced (Fakfare, Lee, & Ryu, 2020). Considering perceived image in the animal-related tourism context, tourists increasingly have an expectation that service organizations, particularly animal-related tourism operators/venues, would prioritize the treatment and commit to the welfare standards of animals (Flower et al., 2021). When travel operators or animal-related venues implement compassionate animal practices, not only can the image of animal tourism be modernized, but tourists' image perception toward travel firms can also be favorably developed because their expectations regarding the standards of animal welfare are fulfilled (Hughes, 2001; von Essen et al., 2020). Accordingly, the relationships between tourists' desire to engage in animal tourism and its direct and indirect predictors can be postulated to be under the effect of travel values, attitude, satisfaction, and image of animal tourism. Hence, the

following hypotheses are postulated in the context of animal tourism:

H3a: Attitudes toward animal tourism promote satisfaction with animal tourism.

H3b: Attitudes toward animal tourism promote the image of animal tourism.

H4a: Satisfaction with animal tourism promotes the image of animal tourism.

H4b: Satisfaction with animal tourism promotes the desire to engage in animal tourism.

H5: Image of animal tourism promotes desire to engage in animal tourism.

Moderating role of animal welfare literacy

Fennell (2022b) stated that focusing on literacy can enhance one's awareness, attitude, and knowledge and allow tourists to decide on which animal-related travel programs/activities to attend. In addition to education, literacy refers to the ability to comprehend complex situations, make rational decisions, and behave toward a particular issue currently facing society (McBride et al., 2013). Recently, Caplow (2021) applied value–belief–norm theory to frame how environmental literacy affects the behavioral intention of tourists across three animal-themed facilities. Interestingly, by analyzing education program content and comparing tourists' commitment to pro-environmental behavior during their pre- and post-visits, Caplow (2021) found that tourists accurately receive value-based messages delivered by animal venues. However, each animal-themed facility activates different pre-existing knowledge and values, which distinctly influence key fundamental domains of the value–belief–norm model.

More recently, Fennell (2022b) developed the animal welfare literacy framework, which includes five primary domains: awareness, knowledge, attitude, skills, and action. He also elaborated that tourists can advance from illiteracy to literacy by considering the model's five fundamental elements. If tourists are literate, then they should understand the extent to

which their behaviors compromise animal welfare (Caplow, 2021; Fennell, 2022b). Arguably, when literate tourists are satisfied with animal-related travel programs/activities and have positive attitudes toward animal welfare standards at animal sites, they may perceive the image of animal tourism as favorable, which in turn affects their desire to engage in animal tourism. Meanwhile, the relationships among the desire to engage in animal tourism, attitude, satisfaction, and perceived image may be altered when tourists have different levels of animal welfare literacy (Fennell, 2022b). Tourists' attitudes, assessments of animal welfare conditions, and decisions can vary according to their literacy backgrounds (Caplow, 2021; Fennell, 2022b). Therefore, the following hypotheses were developed:

H6a: The relationship between attitude and satisfaction is moderated by the level of animal welfare literacy.

H6b: The relationship between attitudes and image is moderated by the level of animal welfare literacy.

H6c: The relationship between satisfaction and image is moderated by the level of animal welfare literacy.

H6d: The relationship between satisfaction and desire is moderated by the level of animal welfare literacy.

H6e: The relationship between image and desire is moderated by the level of animal welfare literacy.

Effect of inner-directed and outer-directed travel values, attitude, satisfaction, and image on the desire to engage in animal tourism

Consumer behaviors are affected by several factors that are interconnected (Manosuthi, Lee, & Han, 2022; Um, Chung, & Stienmetz, 2023). This perspective is supported by complexity

theory, which delineates that individual behavior is formulated by the complex interplay among several independent factors (Choe & Kim, 2021; Kumar et al., 2022). On the basis of this theory, a holistic approach was increasingly adopted in various contexts, and several scholars attempted to comprehend consumers' complex decision-making in the tourism sector. For example, Olya and Mehran (2022) determined how socioeconomic factors interact to increase outbound tourism expenditure. Yu et al. (2022) confirmed six causal recipes based on value and attachment factors that lead to purchase intention toward tourism live streaming programs. These studies indicate that travelers' behaviors are better explained through the interactions among multiple antecedents. Therefore, as a remedy of the symmetrical approach, this study applies a configurational combination of proposed antecedents that stimulate the desire to engage in animal tourism. Hypothesis 7 was drafted to describe this complex decision-making.

H7: Inner-directed and outer-directed travel values, attitude, satisfaction, and image have an optimum combined impact on the desire to engage in animal tourism.

The above discussion outlines the research model of this study (Figure 1), which involves 15 hypotheses.

(Insert Figure 1)

Methods

Measurement and survey design

The measurement items for the study variables (i.e., travel values, attitude, satisfaction, image, desire, and animal welfare literacy) were cited from the literature. A total of 12 travel values categorized into inner and outer director travel values were adopted from Crick-Furman and

Prentice (2000) and Li and Cai (2012). Attitude, satisfaction, image, and desire were each measured by three items borrowed from Ajzen (1991), Han (2015), and Han et al. (2019b). These measurements were adjusted to fit the animal tourism context. The moderating variable, animal welfare literacy, was measured by 10 items that are directly cited from Fennell (2022b). Similarly, we utilized the measures to capture respondents' awareness, knowledge, attitude, skills, and actions associated with animal welfare. For example, the respondents were requested to estimate the degree of "I am aware of threats to the lives of animals due to the commercial exploitation actions," "I am open to challenge moral standpoint on animal-related tourism," and "I support those operators who take a responsible approach to animals specifically." We structured all measurement values into seven-point Likert scales.

The questionnaires were composed of three sections. First, the purpose of the survey was addressed with the subject of study and general information, such as an anticipated time to complete the survey. Specifically, animal tourism was explained using several images that exemplify it (see Appendix). A screening question was then followed to restrict the survey participants who had experienced animal tourism within the last five years. Then, the survey began with questions that recall participants' memory of their experience related to animal tourism. We asked the respondents to indicate the frequency of their participation in animal tourism in the past five years. They were also requested to answer the most recent time when they joined the animal tourism and the name of the country or city where they traveled for a holiday/vacation associated with animal-related tourism. The next part of the survey encompasses all the measurements we developed to estimate the study variables. The last section was mapped out to identify individuals' profiles, which include information on gender, age, income, and education.

Data collection

We hired an online research company that has a reputation for web-based data collection in Korea. A total of 513 people who have experienced animal tourism activities within the last five years participated the survey. However, we captured incomplete responses, and untrustworthy responses that were completed with one answer to all questionnaires and responses that were completed within a relatively short time. Thus, these responses were excluded. We then assessed the Mahalanobis distance and removed 34 multivariate outliers. Finally, a total of 382 responses were retained for the rest of the analyses.

Data analysis procedure

Frequency analysis was conducted to examine the respondents' characteristics and to evaluate their travel values. Next, this study adopted a two-step approach according to the guidelines from Anderson and Gerbing (1988). The measurement model was assessed by descriptive statistics, and nine hypotheses were examined using structural equation modeling (SEM). In addition, an invariance test was conducted to identify the moderating effect of animal welfare literacy on attitudes, satisfaction, image, and desire. We then used fuzzy-set qualitative comparative analysis (fsQCA) and necessary condition analysis (NCA) to explore optimal configurations with proposed antecedents and discover essential antecedents for the desired outcome (Dul, 2016; Fiss, 2011). All data analyses in this study were conducted using SPSS, AMOS, and fsQCA statistical software.

Results

Respondents' profile

Among the 382 respondents, 192 were males and 190 were females. Their average age was 44.38, and 20.9% were in their thirties, whereas 20.2% were in their fifties. With respect to their monthly income, 22.0% earned between 2,500 and 3,999 US dollars, 18.3% earned

between 4,000 and 5,499 US dollars, and 17.3% earned between 5,500 and 6,999 US dollars. Majority of them, which accounted for 61.8%, graduated from a university.

Regarding the question on the frequency of participating in animal tourism in the past five years, 52.6% indicated that they enjoyed animal tourism two to three times, 24.9% answered once, and 15.4% indicated four to five times. Furthermore, 21.2% indicated that the most recent time they joined animal-related tourism was within a year, followed by 13.9% within six months and within three years, and 16.0% within three months. Jeju Island in Korea and Thailand were found to be frequently traveled destinations that are associated with animal tourism.

Travel values

According to the frequency analysis, a safe place to spend the holiday was rated as a salient value for travelers who participated in animal-based tourism products/activities (Figure 2-1). To determine the distinctive travel value for travelers who enjoy animal tourism, we divided respondents who had experienced animal tourism only once ($N = 95$) and more than twice ($N = 287$) in the past five years. We regarded the former as entirely ad hoc and the latter as recurrent behavior as their preference. As shown in Figure 2-2, excitement value was significantly strong for travelers who frequently enjoyed animal-related tourism.

(Insert Figure 2-1)

(Insert Figure 2-2)

Measurement model

We evaluated the quality of the measurement model using confirmatory factor analysis (CFA)

based on the maximum likelihood estimation. Some of the items showed low standardized factor loadings, which are "to learn something interesting," "to be closer to nature," "no hassle," "somewhere well-known so I can tell my friends," and "sense of belonging." After removing these items, the results generated an appropriate fit, which is $\chi^2 = 336.282$, df = 137, $p < 0.001$, $\chi^2/df = 2.455$, IFI = 0.974, CFI = 0.974, TLI = 0.967, RMSEA = 0.062. Table 1 tabulates the detailed results of a CFA.

(Insert Table 1)

In addition, convergent validity and discriminant validity were assessed. We first computed the average variance extracted (AVE) values and the composite reliability (CR) values associated with each study construct. The AVE values ranged between 0.508 and 0.824, and the CR values ranged between 0.773 and 0.933, which were greater than the suggested thresholds of 0.50 and 0.70, respectively (Fornell & Larcker, 1981; Hair et al., 2006). Therefore, convergent validity was evident. Then, following the guidelines of Bagozzi and Yi (1988), we compared the squares of the correlations between each study variable with the AVE values. The AVE value for each variable was overall greater than the square of the correlation between each pair of constructs, confirming discriminant validity. Table 2 shows the outcomes of the measurement model evaluation.

(Insert Table 2)

Structural equation modeling

This study performed SEM analysis to examine the relationships among the study variables (Table 3). The results generated an acceptable level of the goodness-of-fit statistics: χ^2 =

336.880, df = 140, χ^2/df = 2.406, $p < 0.001$, IFI = 0.974, CFI = 0.974, TLI = 0.969, and RMSEA =.061. Inner-directed travel value did not influence attitude toward animal tourism, whereas it positively affected satisfaction with animal tourism. Thus, Hypothesis 1a was rejected, and Hypothesis 1b ($\beta = 0.333$, $t = 2.666$, $p < 0.05$) was supported. Outer-directed travel value did not exert an influence on attitude, whereas it adversely affected satisfaction. Thus, Hypothesis 2a was not supported, and Hypothesis 2b ($\beta = -0.265$, $t = -2.120$, $p < 0.05$) was accepted. The effects of attitude toward animal tourism on satisfaction with animal tourism and image of animal tourism were statistically significant. Therefore, Hypothesis 3a ($\beta = 0.670$, $t = 13.700$, $p < 0.001$) and Hypothesis 3b ($\beta = 0.295$, $t = 7.130$, $p < 0.001$) were accepted. Satisfaction was a strong determinant of the image of animal tourism (Hypothesis 4a: $\beta = 0.648$, $t = 15.634$, $p < 0.001$) and the desire to engage in animal tourism (Hypothesis 4b: $\beta = 0.329$, $t = 6.628$, $p < 0.001$). Last, image significantly increased desire, confirming Hypothesis 5 ($\beta = 0.614$, $t = 12.185$, $p < 0.001$).

(Insert Table 3)

Moderating role of animal welfare literacy

This study conducted a metric invariance test to examine the moderating effect of animal welfare literacy. First, we divided the group using the mean value of animal welfare literacy and classified the low group ($N = 198$) and high group ($N = 184$). The goodness-of-fit statistics of the freely estimated model were $\chi^2 = 520.298$, df = 284, χ^2/df = 1.832, $p < 0.001$, IFI = 0.969, CFI = 0.968, TLI = 0.962, and RMSEA = 0.047. Next, this study tested the moderating impact of animal welfare literacy on each relationship among attitude, satisfaction, image, and desire (Table 4). A moderating role of animal welfare literacy was found in the path between satisfaction and image ($\Delta\chi^2$ [1] = 8.173 and $p < 0.05$), thus confirming Hypothesis 6c. In further

detail, the effect of satisfaction with animal tourism on the image of animal tourism was more prominent for the group with high animal welfare literacy ($\beta = 0.741$, $t = 12.617$, $p < 0.001$) than for the group with low animal welfare literacy ($\beta = 0.544$, $t = 8.839$, $p < 0.001$). However, the moderating effect of the animal welfare literacy group was not statistically supported for the rest of the relationship, resulting in the rejection of Hypotheses 6a, 6b, 6d, and 6e.

(Insert Table 4)

Sufficient and necessary conditions

We conducted the fsQCA to explore optimal combinations of inner-directed and outer-directed travel values, tourist attitude, satisfaction, and image perception on the desire to engage in animal tourism. The results of the truth table analysis suggested two casual recipes that lead to the desire to engage in animal tourism (coverage: 0.722, consistency: 0.936), which provided positive evidence for Hypothesis 7. As shown in Table 5, model 1 indicated the combination of low outer-directed travel value, high attitude, satisfaction, and image. Alternatively, model 2 suggested that the desire to engage in animal tourism is achieved when travelers have a high level of inner-directed travel value, high attitude, satisfaction, and image. Furthermore, we identified attitude, satisfaction, and image as core conditions and inner-directed and outer-directed travel values as peripheral conditions based on the intermediate and parsimonious solutions (Fiss, 2011). Meanwhile, the results of NCA confirmed that satisfaction (consistency: 0.900) and image (consistency: 0.917) are essential antecedents for the desire to engage in animal tourism (Table 6).

(Insert Table 5)

(Insert Table 6)

Conclusion

Discussion

The present study assessed the travel values that are driving forces behind animal-related travel programs/activities and tested fourteen hypotheses regarding the relations among travel values, attitude, satisfaction, image, desire, and animal welfare literacy to understand the development of travelers' intentions toward animal tourism. The analysis results generate several discussions. First, the findings related to travel value suggest a specific traveler who is most likely to participate in animal tourism. Concretely, excitement is the salient travel value for individuals who participate in animal tourism. This result can be explained by the fact that animal-based tourism offers exceptional experiences involving circuses, elephant rides, and wild animal selfies that travelers do not normally experience in their daily lives.

Inner-directed and outer-directed travel values did not exert an effect on attitudes toward animal tourism. This outcome contradicts the value–attitude association that has been largely supported in the tourism literature (Kiatkawsin & Han, 2017; Prajitmutita et al., 2016). Animal-related activities, such as watching a dolphin show, are one of the many travel programs on a journey and may not be the main motive for travel. Thus, travel values, which are closely related to the purpose of travel, do not necessarily have a direct influence on forming travelers' attitudes toward animal tourism. Meanwhile, satisfaction with animal tourism was significantly affected by inner- and outer-directed travel values. This finding means that travelers' experience associated with animal-related activities is sufficient to fulfill their travel values. It also explains why animal-based programs are popular in the tourism industry. However, the results revealed an adverse effect of outer-directed travel value on satisfaction. Outer-directed travel values are generally connected with cognition dominance, which is based on knowledge about the experience and object (Crick-Furman & Prentice, 2000; Gnoth, 1997).

The use of animals for entertainment has been debatable, and people now have increased knowledge about animal ethics in tourism (Fennell, 2022b). This phenomenon may be a cause of the negative impact of outer-directed travel value on satisfaction with animal tourism.

Prior studies that attempted to predict travelers' behavior have documented that attitude exerts positive influences on satisfaction and image, which in turn induce behavioral intentions (Choe & Kim, 2018; Han et al., 2019a; Jalilvand et al., 2012). This study validated these existing significant relationships in animal tourism. Although this study was not designed to capture whether those survey participants have experienced ethical or unethical animal tourism activities, the findings suggest that attitude, satisfaction, and image associated with animal tourism have profound value to promote future behavior.

This study provides evidence of the essential role of animal welfare literacy in the link between satisfaction and image. Specifically, travelers' satisfaction with the image of animal tourism was strengthened for the group that possesses a high level of animal welfare literacy. This result implies that travelers satisfied with animal tourism that promotes ethical practice tend to have a more favorable image of animal-based tourism. However, contrary to our expectation, animal welfare literacy did not moderate the effect of attitude on satisfaction and image. The potential reason for these insignificant moderating impacts is that travelers' attitudes toward animal tourism may differ depending on their animal welfare literacy, and people with a greater degree of animal welfare literacy may not have a positive attitude toward animal tourism. Furthermore, relationships between satisfaction and desire and between image and desire were not moderated by animal welfare literacy. This finding indicates that animal welfare literacy does not directly determine participation in animal tourism.

Finally, the fsQCA results unearthed optimal configurations of travel values, attitude, satisfaction, and image to increase the desire to engage in animal tourism. This result is consistent with prior studies (e.g., Manosuthi et al., 2022; Olya & Mehran, 2022) that supported

the complexity behind consumer behavior in the tourism industry. In other words, our findings based on asymmetric approaches provided the evidence of interconnectedness of travel values, attitude, satisfaction, and image in the animal tourism context. Specifically, model 2 associated with inner-directed travel value explained 65.3% of the desire to engage in animal tourism, which is greater than that of model 1. This result is also in line with the findings that excitement, one of the inner-directed travel values, stimulates travelers to engage in animal-related tourism. Meanwhile, the result of the NCA discovered the essential roles of image and satisfaction for the desire to engage in animal tourism. This indicates that actual experiences of animal tourism in creating positive image and great satisfaction are of utmost importance for travelers' future behavior.

Theoretical implications

To our knowledge, this study is the first attempt to examine travel values associated with animal tourism. The findings, denoting the salient value of excitement for travelers who enjoy animal-based tourism, contribute to advancing our current knowledge. That is, the study provides evidence that excitement stimulates the willingness to participate in animal tourism. By classifying travel values into inner- and outer-directed travel values, this study also revealed the significance of how satisfaction with animal tourism is distinctly affected by inner-directed travel value versus outer-directed travel value. Limited research has addressed travel values and tourists' behavioral intentions in attending special-interest travel programs/activities, and few attempts have been made to explore these causal relationships in the animal tourism context. Therefore, this study addresses this gap by identifying the kinds of travel values that promote animal tourism, followed by examining the effect of travel values (i.e., inner/outer-directed values) on tourists' attitudes and satisfaction toward animal tourism, which also affect their image perception and desire to engage in animal-related travel.

Adopting the VAB model, this study incorporated satisfaction and image to comprehend travelers' desire to engage in animal tourism in the future. The outcome of this study indicates that values do not contribute to building an attitude but affect satisfaction, which determines image and behavioral intentions. Although our findings did not support the VAB sequential framework, we observed that whether travelers are satisfied or not is crucial to animal tourism. In addition, on the basis of the empirical evidence about the moderating effect of animal welfare literacy in the relationship between satisfaction and image, this study emphasizes the importance of animal tourism, which follows ethical practice. Travelers have a higher chance of gaining satisfaction with ethical animal tourism, and they consequently hold a positive image with animal-related activities/programs. This specific relationship is strengthened for travelers with a greater degree of animal welfare literacy. For the first time, this study evaluated animal welfare literacy as a moderator in the development of travelers' behavior, which is one of its notable differences from previous studies.

Our study documented the significance of the interconnectedness of proposed indicators for the desired outcome by using asymmetrical modeling (i.e., fsQCA). The findings underlined the complex nature of travelers' intention in the animal tourism sector and supported the notion of complexity theory. In addition, determinations of core and peripheral conditions for optimal configurations to lead to the desire to engage in animal tourism and necessary conditions for the desired outcome offer novel insights that differ from earlier studies.

Managerial implications

The findings of this study indicate that travelers who highly value excitement for traveling have an increased likelihood of participating in animal tourism. Travelers commonly seek programs/activities via online channels. Travel agencies and tourism-related online platforms should utilize their websites to educate about ethical obligations toward animals. Moreover,

online channel operators are advised to monitor individuals' frequently used keywords in searching for travel products/services. This extra step would be helpful to capture travelers who place greater value on excitement and directly influence this specific traveler segment by delivering messages about ethical tourism. For example, one of the popular social networks worldwide is Instagram, and the company introduced a feature: a pop-up warning message appearing for users searching dozens of hashtags related to potential animal abuse tourism products, such as #tigercubeselfie (National Geographic, 2017). Similarly, data analysis regarding traveler behaviors on these travel websites and target marketing of ethical animal tourism depending on travel values could effectively discourage behaviors that adversely affect animal welfare.

Travelers' satisfaction with animal tourism is crucial to leading continuous participation in animal-based tourism. Once travelers are satisfied with their experience in animal tourism, they hold a positive image and desire to engage in animal tourism in the future. Meanwhile, the outward-directed travel value negatively affects satisfaction, which implies that travelers' general knowledge and evaluation of animal tourism is one of the determining factors. Accordingly, this study suggests that animal-related tourism should be conducted on the basis of a high standard of animal ethics. In addition, animal tourism suppliers may organize a mini-session to inform how their operations align with the general guidelines to maintain animal welfare and useful information for travelers to promote awareness of ways to minimize harmful impacts before travelers engage in animal tourism. Alternatively, a video clip that shows *must not* depending on the type of animal and the kind of travel program could be useful.

The findings of this study support the influencing role of animal welfare literacy as a positive moderator to enhance the image of animal tourism, therefore necessitating efforts to improve animal welfare literacy. Campaigns to increase awareness and knowledge about animal exploitation and the welfare of captive animals should be actively conducted.

Substantially more communications emerge on social media. Initiatives on various social networks contribute to forming travelers' beliefs, thoughts, and attitudes. People for the Ethical Treatment of Animals, which is the largest animal rights organization in the world, recognizes tourism operators who promote animal-friendly experiences (Forbes, 2020). This approach could be an excellent example not only to help tourism operators nurture a moral obligation to protect animals but also to inspire the public to consider the ethical problems of animal tourism. Authorities may devise a certification process of ethical animal-related tourism through an assessment system and offer certain incentives to these operators. This kind of new policy would stimulate extra efforts for the protection of animals in the tourism sector. Another suggestion is to tighten the regulations related to the treatment of animals, specifically domesticated animals, including constricting rules for abolishing the forced labor of captive and domesticated animals for entertainment. In addition, closely working with organizations devoted to animal rights and animal advocacy groups is necessary to monitor practices in the tourism industry constantly and take necessary actions to ensure ethics in animal tourism.

Last, practitioners in the animal tourism sector should be aware that travelers' satisfaction with animal tourism and image perception toward animal tourism are of the utmost importance. They are recommended to ensure travelers' satisfaction with animal tourism by collecting immediate feedback that allows them to resolve complaints and deal with unsatisfactory situations. Additionally, advertisements for animal tourism must be natural and harmonious so that travelers have a more positive image of animal tourism. These endeavors would contribute to a stronger desire to engage in animal tourism.

Limitations

We have not identified whether our survey respondents have experienced ethical or unethical

animal tourism, which might affect the results of the proposed hypotheses. Moreover, animal tourism occurs in various settings, and the degree of human–animal interaction varies considerably depending on the forms of animal tourism (von Essen et al., 2020). Case studies may be necessary to overcome this specific limitation. A few attempts were made to identify the visitors' profile in the animal tourism context. For example, Flower et al. (2021) used a geographical source to understand visitors' profiles, and they found that young and well-educated females from Europe and America enjoy elephant tourism. Future studies are suggested to extend the data collection by considering demographic profiles.

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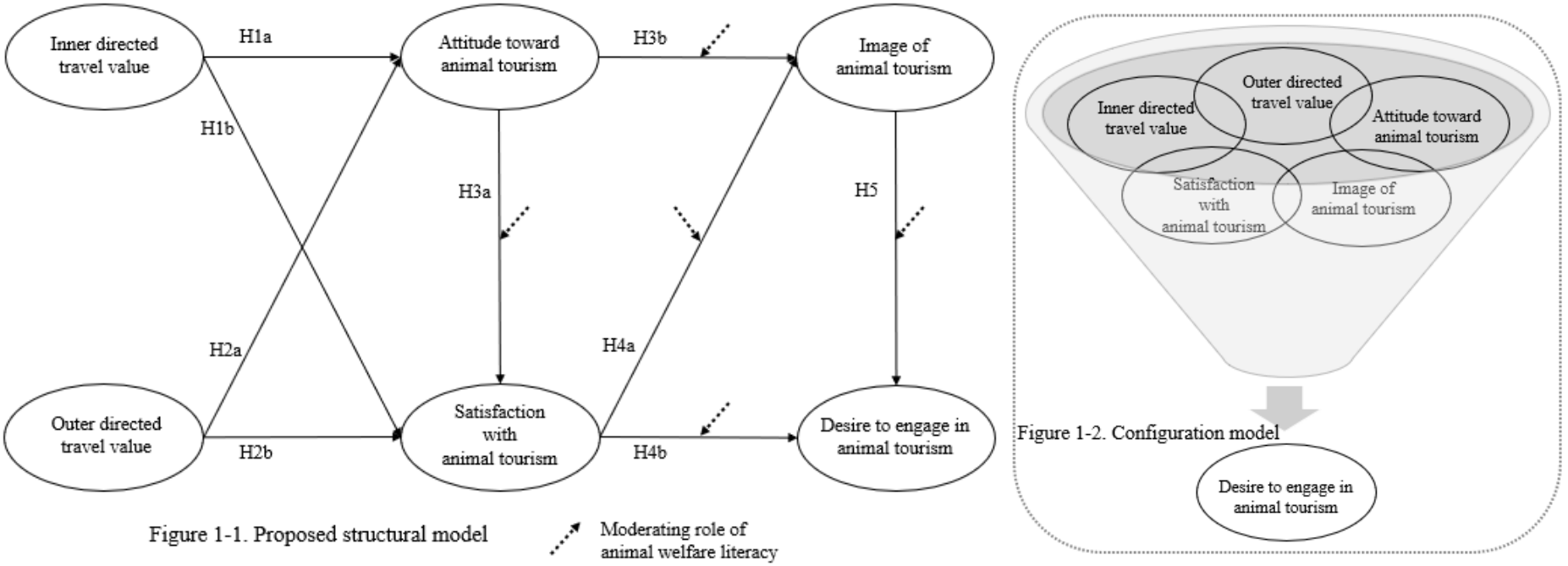


Figure 1 Caption: Proposed theoretical framework

Figure 1 Alt Text: On the left side, a structural model displaying the relationships among inner directed and outer directed travel values, attitude, satisfaction, image, and desire in the animal tourism context. Each construct in the shape of a circle is connected by solid arrows indicating the influencing relationship among them. Animal welfare literacy as a moderating variable is shown by dotted line arrows in the relationships among attitude, satisfaction, image, and desire. On the right side, a configuration model illustrated by a funnel in which inner directed and outer directed travel values, attitude, satisfaction, and image are interconnected, leading to the desire to engage in animal tourism.

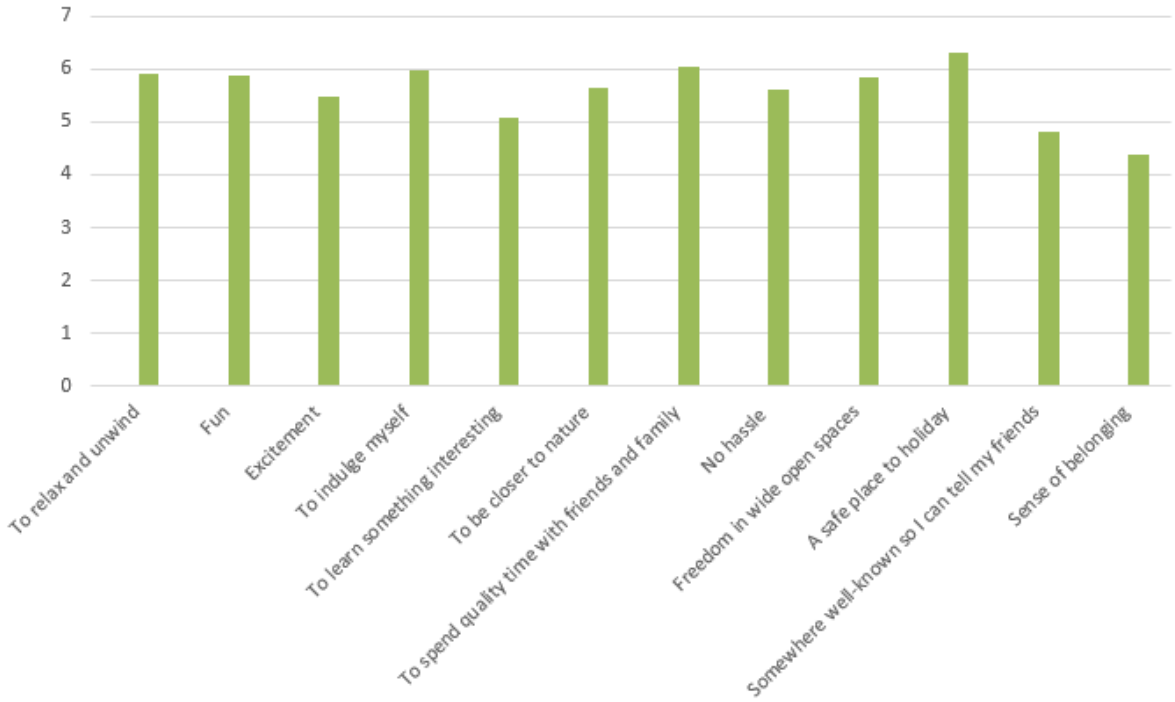
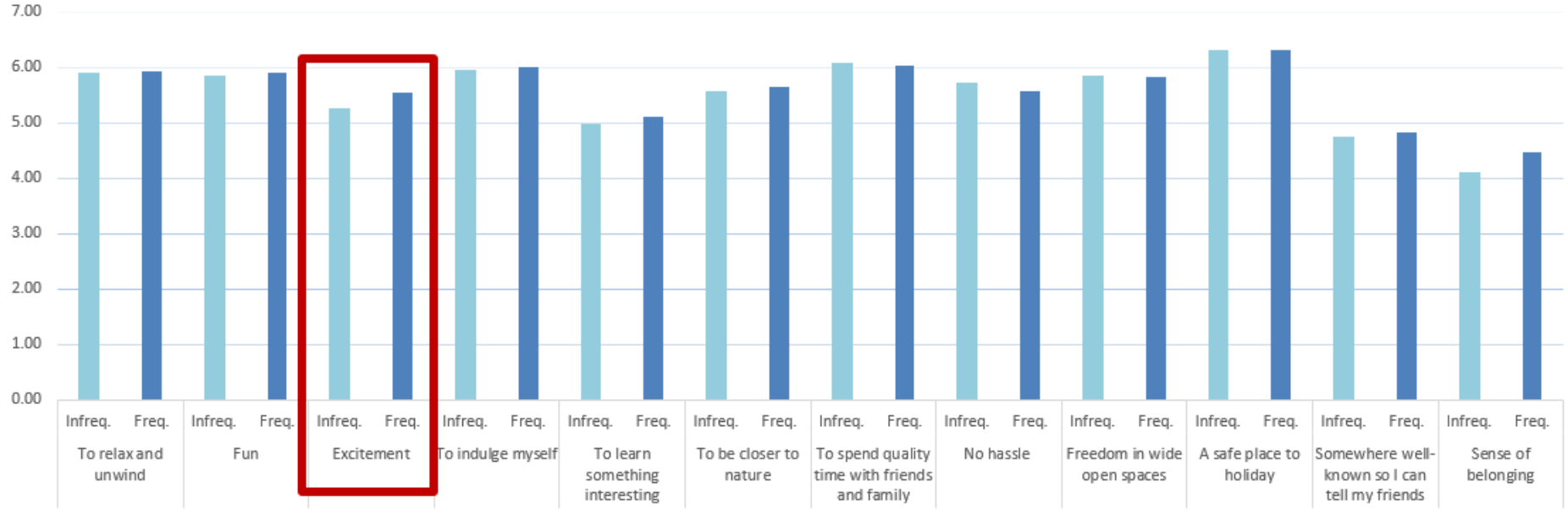


Figure 2-1 Caption: Travel values of travelers who participate in animal tourism
Figure 2-1 Alt Text: A bar graph depicts the level of twelve travel values of travelers who participated in animal-based tourism. Each travel value is plotted on the x axis, the level rated from zero (extremely low) to seven (extremely high) on the y axis.



Notes 1. Infreq. = Infrequent travelers, Freq. = Frequent travelers
Notes 2. Red box is significant at $p < 0.05$

Figure 2-2 Caption: Comparison of travel value of travelers who participate in animal tourism infreuently versus frequently
Figure 2-2 Alt Text: A bar graph depicts the level of twelve travel values by comparing travelers who participated in animal-based tourism infrequently and frequently. Each travel value comparing infrequent and frequent travelers is plotted on the x axis, the level rated from zero (extremely low) to seven (extremely high) on the y axis. Excitement value stands out as being more significant for frequent travelers than infrequent travelers who participate in animal tourism.

Table 1. Results of confirmatory factor analysis: Items and loadings.

Construct and scale item	Standardized loading[a]
Inner directed travel values	
To relax and unwind	0.657
Fun	0.782
Excitement	0.621
To indulge myself	0.709
Outer directed travel values	
To spend quality time with friends and family	0.661
Freedom in wide open spaces	0.673
A safe place to holiday	0.778
Attitude toward animal tourism	
For me, participating in animal tourism is	
Harmful – Beneficial	0.825
Unpleasant – Pleasant	0.909
Bad – Good	0.939
Satisfaction with animal tourism	
Overall, I am satisfied with the animal tourism.	0.948
My decision to participate in the animal tourism was a wise one.	0.947
As a whole, I really enjoyed myself while participating the animal tourism.	0.931
Image of animal tourism	
My overall image about the animal tourism is positive.	0.961
The overall image I have about the animal tourism is favorable.	0.968
Overall, I have a good image of the animal tourism.	0.953
Desire to engage in animal tourism	
I desire to participate in the animal tourism when traveling next time.	0.948
My desire to participate in the animal tourism when traveling next time is strong.	0.964
I want to participate in the animal tourism when traveling next time.	0.967
Goodness-of-fit statistics: $\chi^2 = 336.282$, df = 137, $p < 0.001$, $\chi 2/df = 2.455$, IFI = 0.974, CFI = 0.974, TLI = 0.967, RMSEA = 0.062	

Notes 1. [a] All factors loadings are significant at $p < .001$

Notes 2. NFI = normed fit index, IFI = incremental fit index, CFI = comparative fit index, TLI = Tucker-Lewis index, and RMSEA = root mean square error of approximation

Table 2. Results of measurement model: Correlations, AVE, CR, mean, and SD.

	Mean (SD)	AVE	(1)	(2)	(3)	(4)	(5)	(6)
(1) Inner directed travel value	5.821 (0.733)	0.508	**0.804** [a]	0.680	0.060	0.147	0.109	0.059
(2) Outer directed travel value	6.064 (0.750)	0.533	0.462 [c]	**0.773**	0.061	0.060	0.090	0.003
(3) Attitude	4.709 (1.472)	0.612	0.004	0.004	**0.825**	0.647	0.708	0.667
(4) Satisfaction	4.594 (1.361)	0.798	0.022	0.004	0.419	**0.922**	0.819	0.823
(5) Image	4.464 (1.558)	0.824	0.012	0.000	0.677	0.671	**0.933**	0.873
(6) Desire	4.161 (1.647)	0.804	0.003	0.000	0.000	0.677	0.762	**0.925**

Notes 1. SD = Standard Deviation, AVE = Average Variance Extracted

Notes 2. [a] composite reliabilities are along the diagonal, [b] Correlations are above the diagonal, [c] Squared correlations are below the diagonal

Table 3. Results of structural model evaluation.

	Path			β	*t*-value	Status
H1a	Inner directed travel value	→	Attitude	0.020	0.131	Not supported
H1b	Inner directed travel value	→	Satisfaction	0.333	2.666*	Supported
H2a	Outer directed travel value	→	Attitude	0.057	0.368	Not supported
H2b	Outer directed travel value	→	Satisfaction	-0.265	-2.120*	Supported
H3a	Attitude	→	Satisfaction	0.670	13.700**	Supported
H3b	Attitude	→	Image	0.295	7.130**	Supported
H4a	Satisfaction	→	Image	0.648	15.634**	Supported
H4b	Satisfaction	→	Desire	0.329	6.628**	Supported
H5	Image	→	Desire	0.614	12.185**	Supported

Goodness-of-fit statistics: $\chi^2 = 336.880$, df = 140, $\chi^2/df = 2.406$, $p < 0.001$, IFI = 0.974, CFI = 0.974, TLI = 0.969, and RMSEA = .061

Note. *$p < 0.05$, **$p < 0.001$.

Table 4. Results of the invariance test.

	Path		Low animal welfare literacy group (n = 198)		High animal welfare literacy group (n = 184)		Baseline model (Freely estimated)	Nested model (Equally constrained)
			β	t-values	β	t-values		
H6a	Attitude	→ Satisfaction	0.542	5.945**	0.774	12.617**	χ^2 (284) = 520.298[a]	χ^2 (285) = 521.519
H6b	Attitude	→ Image	0.329	5.232**	0.229	4.011**	χ^2 (284) = 520.298[b]	χ^2 (285) = 522.027
H6c	Satisfaction	→ Image	0.544	8.839**	0.741	12.617**	χ^2 (284) = 520.298[c]	χ^2 (285) = 528.471
H6d	Satisfaction	→ Desire	0.307	5.078**	0.389	4.333**	χ^2 (284) = 520.298[d]	χ^2 (285) = 521.202
H6e	Image	→ Desire	0.624	10.015**	0.563	6.262**	χ^2 (284) = 520.298[e]	χ^2 (285) = 520.693

Chi-square difference test:
[a] $\Delta\chi^2$ (1) = 1.221, p > .05 (H6ac: Not supported)
[b] $\Delta\chi^2$ (1) = 1.729, p > .05 (H6b: Not supported)
[c] $\Delta\chi^2$ (1) = 8.173, p < .05 (H6c: Supported)
[d] $\Delta\chi^2$ (1) = 0.904, p > .05 (H6d: Not supported)
[e] $\Delta\chi^2$ (1) = 0.395, p > .05 (H6e: Not supported)

Goodness-of-fit statistics for the baseline model: χ^2 = 520.298, df = 284, χ^2/df = 1.832, p < 0.001, IFI = 0.969, CFI = 0.968, TLI = 0.962, and RMSEA = 0.047

Goodness-of-fit statistics for the constrained model: χ^2 = 531.039, df = 289, χ^2/df = 1.838, p < 0.001, IFI = 0.968, CFI = 0.968, TLI = 0.962, and RMSEA = 0.047

Note. **p < .001.

Table 5. Configurations of antecedents leading to the desire to engage in animal tourism.

Conditions	Configuration	
	Model 1	Model 2
Inner directed travel value		◉
Outer directed travel value	◎	
Attitude	●	●
Satisfaction	●	●
Image	●	●
Consistency	0.947	0.937
Raw coverage	0.468	0.653
Unique coverage	0.069	0.254
Solution consistency	0.936	
Solution coverage	0.722	

Note. ● indicates presence and core conditions; ◉ indicates presence and peripheral conditions; ◎ indicates absence and peripheral conditions; a blank space indicates an attribute is unnecessary for that configuration.

Table 6. Necessary conditions of antecedents leading to the desire to engage in animal tourism.

Antecedent condition	Desire to engage in animal tourism	
	Consistency	Coverage
Inner directed travel value	0.757	0.696
~Inner directed travel value	0.601	0.723
Outer directed travel value	0.747	0.661
~Outer directed travel value	0.569	0.722
Attitude	0.867	0.819
~Attitude	0.506	0.588
Satisfaction	0.900	0.867
~Satisfaction	0.501	0.569
Image	0.917	0.886
~Image	0.474	0.537

Note. ~ indicates negation condition.