Chinese and Australian tourists’ attitudes to nature, animals and environmental issues: implications for the design of nature-based tourism experiences


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Acknowledgements

The authors are grateful to David James and Vera Zhou of Tangalooma Island Resort for facilitating this project, and to research assistants Mengyha Shu and Jian Yu for collecting, translating and entering data. Thanks also to Peiyi Ding for assistance with translation.

Abstract

This study investigated the differences and similarities between Chinese and Australian visitors’ attitudes toward nature, animals and environmental issues, in order to inform the design of visitor experiences and interpretive programs that address the needs and interests of Chinese visitors to Australia. Questionnaires were completed by a total of 267 Chinese and 258 Australian visitors to a nature-based island resort in Queensland, Australia. Results indicate that Chinese visitors had a greater sense of connection with, but more anthropocentric view of nature than Australian visitors; had less experience with, and a greater fear or dislike of animals; and were more aware of, interested in, and concerned about environmental issues. Recommendations are made for the design of interpretive experiences that are relevant and effective for Chinese visitors.

1. Introduction

Australia has numerous globally-recognised nature-based visitor attractions, ranging from icons such as Uluru, the Great Barrier Reef and the Bungle Bungles to unique and varied captive and non-captive wildlife tourism experiences. National parks, protected areas and nature-based experiences are widely regarded as key attractions for both domestic and international tourists (Tourism and Transport Forum, 2007), and not surprisingly, feature strongly in Australia’s tourism marketing campaigns. Nature-based tourism is also estimated
to contribute $23 billion annually to the country’s economy (Tourism and Transport Forum, 2013).

Previous research (Li and Carr, 2004) has demonstrated that Australia’s unique natural attractions, wildlife and environments are particularly appealing to Chinese tourists – considered the most important emerging tourist market by the Australian tourism industry (Sparks and Pan, 2009). Since being granted Approved Destination Status (ADS) by the Chinese government in 1999, Australia has hosted an increasing number of Chinese visitors and in the year ending September 2012, China became Australia’s second-largest source of international visitors. By 2020, China is forecast to be Australia’s biggest tourist source market and is expected to contribute between $4.6B and $6.3B to the national economy (Tourism Research Australia, 2012).

Chinese visitors rate “viewing natural landscapes” as one of the experiences they would most like to have when visiting Australia (Hughes, Wang and Shu, 2013; Packer, Ritchie and Ballantyne, 2011). This may reflect the importance placed on natural environments in Australia’s tourism marketing strategies or the strong appeal of the Australian environment for international tourists. Li (2008) suggests, however, that there is a distinctive ‘Chinese tourist gaze’ and that Chinese tourists have very different expectations and perceptions of nature-based tourism than Western tourists. The Chinese view of both nature and tourism, Li argues, is informed by zhonghua wenhua (Chinese common knowledge), which includes shared knowledge of Chinese philosophies, history, religion and cultural heritage, and results in a unique Chinese approach to tourism development in general, and nature-based tourism in particular.

Chinese interest in, attitudes towards and approaches to nature are influenced by ancient traditions, cultural values, religious and philosophical beliefs. Taoist philosophies are ecocentric in that they consider that people are an integral part of nature. The Chinese traditionally place considerable emphasis on living in harmony with nature (Chan, 2001), however their worldview is often characterised as anthropocentric or instrumental (the environment exists for the benefit of people) and anthropomorphic (animals, plants and natural features are given human characteristics) (Sofield and Li, 2007). Thus the environmental attitudes of Chinese people have been described as “ambiguous” (Harris, 2008).

Rapid economic growth in China has raised the wealth of individuals, but has been accompanied by severe environmental problems that have become a major source of social unrest and a vital interest for those seeking better living standards. Indeed, there is growing recognition among some sections of Chinese society that environmental deterioration is having a hazardous effect on their well-being (Chan, 2001). Despite the influence of the religious and philosophical approaches to nature discussed above, Harris (2008, p.166) concludes that most people in China “prioritize economic growth over environmental protection”, and that “aesthetic and ethical valuations of the environment and nature are surprisingly low among the Chinese” (p. 175). Factors shaping Chinese environmental attitudes, according to Harris (2008) include educational level, age (younger people tending to be more environmentally aware than older people), standard of living (people with higher standards of living tend to have higher expectations of environmental quality), personal experiences and access to information.

A study comparing the environmental values and attitudes of Chinese-Canadians and Anglo-Canadians found no differences between the two groups in biospheric values, i.e.,
appreciation of human harmony with nature, although there were differences on some measures of environmental attitudes (Deng, Walker and Swinnerton, 2006). The authors attribute the absence of the expected difference in biospheric values to both an increase in environmental awareness in Canada, and a decrease in the importance of the traditional human-nature relationship in China. Chinese-Canadians were, however, less likely than Anglo-Canadians to recognise limits to growth and more likely to support human domination of nature. Deng et al. note the need for further comparative research with Chinese living in mainland China.

Not only are there likely to be cultural differences in the environmental values and attitudes of Chinese and western tourists, but differences in approaches to tourism and travel may also result in different ways of appreciating nature-based attractions. According to Xu, Ding and Packer (2008), being close to or part of nature is a common theme in Chinese tourism, with both Confucian and Taoist teachings emphasising the importance of travel as a means of learning, moral improvement and enlightenment. Chinese tourists tend to view natural places in terms of their cultural meanings and significance, and consequently, their interpretation of landscapes may differ from those of Western tourists (Sofield and Li, 1998). For many Chinese, sites such as the Guilin mountains are attractive because they feature strongly in poems and artworks (Petersen, 1995). Chinese thinking and writing is often figurative or metaphorical (Li and Sofield, 2008) and thus mountains and features of the landscape tend to be described in terms of the animals they resemble (Xu, Cui, Ballantyne and Packer, 2013). As humans are always perceived as part of nature, evidence of human intervention, such as the construction of temples, carvings, concrete paths, artificial lakes and gardens in natural environments, adds to rather than detracts from Chinese tourists’ appreciation of the natural landscape (Winter, 2009).

Sofield and Li (1998, p.367) explain that “without having been nurtured in the Chinese cultural milieu, it is difficult for foreign visitors to enter Chinese places with the same experiential understanding”. The converse may also be true – Chinese tourists may have difficulty understanding and relating to Western places and spaces, where cultural meanings are either absent or very different. Clearly, in both situations, international tourists need assistance to understand the importance or significance of the site they are visiting, from the perspective of both cultures – the host and the tourist. This is arguably the role of interpretation, which according to Moscardo (2007, p. 57) is “a term used to describe activities related to the presentation of natural and cultural heritage to visitors”.

There are few studies exploring the impact of different cultural worldviews on visitors’ needs in relation to the provision of interpretation. One exception is a study by Weiler and Yu (2007) which explored the role of tour guides in cultural mediation. Another is a recent study by Ballantyne, Hughes, Ding and Liu (2013) that explored differences between Chinese and Western visitors’ expectations, preferences and perceptions of five key heritage sites in Beijing, China. The authors call for more research in this area, particularly in relation to the interpretive needs of Chinese visitors in non-Chinese contexts.

In the light of the increasing numbers of Chinese tourists to Australia, and their attraction to the country’s nature-based and wildlife tourism experiences, further research is needed to understand their interpretive needs and interests, to ensure that the visitor experience lives up to or exceeds their expectations. Literature in the area of visitor interpretation recognises that an individual’s experience of a particular site or attraction is largely dependent upon what they bring with them in terms of motives, prior knowledge, expectations and previous experiences (Ballantyne, Packer and Falk, 2011; Falk and Dierking, 2000). It is therefore
important to explore the ways in which Chinese visitors’ perspectives on nature and wildlife differ from those of Australian visitors, in order to inform the design of nature-based and wildlife tourism experiences that meet the needs of both cultural groups. Accordingly, this paper investigates similarities and differences between Chinese and Australian visitors’ perspectives on nature, animals and environmental issues at a nature-based tourism site. Such differences are likely to have an impact on Chinese visitors’ expectations and enjoyment of nature-based experiences in Australia, which are largely designed to meet the needs of Western visitors.

2. Method

2.1 Procedure

The research was conducted in cooperation with the Tangalooma Island Resort on Moreton Island, the most visited ecotourism destination for Chinese tourists in the Brisbane region. Chinese tourists currently account for approximately 12% of the resort’s total market, with the numbers of Chinese guests growing by 30-40% each year. The resort has over 300 rooms including luxury apartments, houses and resort suites. It has a range of cafes, bars and restaurants and a wide variety of visitor activities including sand dune tobogganing, quad biking, kayaking, whale watching cruises, fish feeding, parasailing, scuba diving, 4WD hire, helicopter flights, desert safari tours, and dolphin feeding. As interactions with wild dolphins are a unique feature of this particular resort (its name in Chinese is Hai Tun Dao, which translates as “Dolphin Island”), Chinese attitudes to animals and nature are likely to influence their experience of the island. An understanding of these attitudes will thus inform the design and marketing of experiences that are attractive to Chinese visitors. Further, as the provision of environmental education is an integral aspect of ecotourism, a knowledge of Chinese visitors’ pre-existing attitudes and orientations towards the environment will help to inform the design of educational and interpretive programs.

Two bilingual Chinese research assistants approached tourists as they travelled by boat to the island. A screening question to ensure they were either Chinese or Australian was followed by an invitation to participate in the study. Respondents were asked to self-complete the questionnaire in their own language and return it to a collection point on the boat. However, the research assistants were available to assist visitors to complete the questionnaires or to answer questions as required.

2.2 Instrument

The questionnaire focused on Chinese and Australian visitors’ attitudes toward animals, nature and environmental issues. It consisted of the following sets of items.

- **9 items measuring attitudes towards animals based on Kellert’s (1984) typology.** Kellert (1984) presented a typology of nine basic attitudes towards animals and nature derived from extensive interviews with American respondents. The 9 items were adapted from Kellert’s one-sentence definitions of the attitudes. For example, a “naturalistic” attitude was defined by Kellert as “Primary interest and affection for wildlife and the outdoors” (1984, p. 213). This was included in the questionnaire as the statement “I have an interest in and affection for wildlife and the outdoors”, and respondents were asked to indicate their agreement or disagreement using a six-point Likert-type rating scale.

- **4 items measuring visitors’ sense of connection with animals and nature.** These items were drawn from previous research with zoo visitors (J. Luebke, personal communication) and adapted to be consistent with the format of other items. They
included “I often feel a sense of connection with nature”; “I spend as much time as I can in natural setting such as forests, mountains or lakes”; “I have knowledge and experience in looking after animals”; and “I believe animals have emotions”.

- **5 items measuring interest in environmental issues and conservation activities.** These items were drawn from the authors’ previous research on the factors influencing visitor learning in wildlife tourism contexts (Ballantyne, Packer and Falk, 2011).

- **9 items measuring interest in various aspects of experiencing animals and nature.** These items were designed to ascertain how respondents wanted to experience animals and nature, and were also based loosely on Kellert’s (1984) typology. Respondents were asked to indicate the extent to which they were interested in various aspects of observing or interacting with animals. For example, Kellert’s “naturalistic” attitude was included in this section as the statement “I am interested in seeing how animals live in the wild”. Again, respondents were asked to indicate their agreement or disagreement using a six-point Likert-type rating scale.

- **15 items measuring attitudes towards the environment taken from Dunlap, Van Liere, Mertig and Jones’s (2000) New Ecological Paradigm.** The New Ecological Paradigm has been used extensively in previous research as a measure of environmental attitudes. The 15 items are intended to represent five discernible, but interrelated, facets of an ecological worldview: (a) the reality of limits to growth, (b) rejecting human domination over nature (anti-anthropocentrism), (c) the fragility of nature’s balance, (d) the possibility of an ecocrisis and (e) rejection of exemptionalism (the idea that humans are exempt from environmental forces).

- **9 items assessing attitudes toward global warming based on research by Leiserowitz, Maibach, Roser-Renouf and Smith (2011).** Leiserowitz et al. (2011) presented the results of an extensive study of Americans’ interpretations of and responses to climate change. On the basis of their findings, the American public was segmented into six “audiences” according to their level of concern regarding, and degree of engagement with climate change issues. These ranged “from the Alarmed, who are convinced of the reality and danger of climate change, and who are highly supportive of personal and political actions to mitigate the threat, to the Dismissive, who are equally convinced that climate change is not occurring and that no response should be made” (p. 5). Between these extremes were the Concerned, Cautious, Disengaged and Doubtful.

- **4 items relating to respondents’ age, gender, education and home town.**

All questionnaires were translated from English into Mandarin, and the translation checked by a second native Mandarin-speaker.

### 2.3 Respondents

A total of 525 questionnaires (267 Chinese and 258 Australian) were returned. Participation rates (the percentage of approached visitors who accepted and completed a questionnaire) were higher for Australian visitors (approximately 80%) than for Chinese visitors (approximately 60%). In general, Chinese respondents were more highly educated than Australian respondents (50% with a university degree compared with 42%). This is not surprising considering the cost of international travel and the strong association between education and income. It is also possible, however, that highly educated Chinese visitors may be over-represented in the sample as those with lower levels of education may have been less likely to agree to participate. It was also found that education had a larger influence on Chinese visitors’ responses than on Australian visitors’ responses. Harris (2008) also reported
that educational level is a major influence on environmental awareness in China. Thus, in comparing Chinese and Australian visitors’ attitudes toward animals and the environment, the effect of education was statistically controlled by entering education as a covariate.

There were no significant differences in gender (57% female respondents in both groups) or mean age (mean age of 34-35), although the Australian respondents were more likely to be in the extremes of the age groupings (22% of Australians were under 20 or over 60, compared with 7% of Chinese).

3. Results

3.1 Attitudes toward animals
Mean scores on the items measuring visitors’ attitudes towards animals using Kellert’s (1984) typology, together with statistical comparisons between Chinese and Australian visitors are presented in Table 1. The largest difference between Chinese and Australian visitors was in relation to humanistic attitudes (“I have an interest in and affection for individual animals, e.g., pets”). Australian visitors were much more likely than Chinese visitors to endorse this item. Australian visitors were also significantly more likely to hold moralistic attitudes toward animals (“I am concerned regarding the right and wrong treatment of animals”) and aesthetic attitudes (“I find beauty and meaning in wildlife and nature”), although these items were rated highly by both groups. Chinese visitors were significantly more likely than Australian visitors to hold ecologistic attitudes (“I am concerned for the environment as a system, for the interrelationships between wildlife and natural habitats”) and scientistic attitudes (“I am interested in scientific information about animals”). Chinese visitors were also significantly more likely than Australian visitors to have a negativistic attitude (“I dislike or feel afraid of animals in the wild”), although fewer than half of the visitors in each group agreed with this item (48% of Chinese and 34% of Australians).
<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Mean score Chinese</th>
<th>Mean score Australian</th>
<th>Test of Between groups effect</th>
<th>Effect size (Group)</th>
<th>Effect size (Education)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecologistic attitude</td>
<td>5.45</td>
<td>4.93</td>
<td>$F(1, 521) = 47.46, p &lt; .001$</td>
<td>.083</td>
<td>.014</td>
</tr>
<tr>
<td>Naturalistic attitude</td>
<td>5.09</td>
<td>5.23</td>
<td>NS</td>
<td>.007</td>
<td>.000</td>
</tr>
<tr>
<td>Moralistic attitude</td>
<td>4.94</td>
<td>5.43</td>
<td>$F(1, 520) = 37.24, p &lt; .001$</td>
<td>.067</td>
<td>.005</td>
</tr>
<tr>
<td>Utilitarian attitude</td>
<td>4.90</td>
<td>5.15</td>
<td>$F(1, 521) = 9.50, p = .002$</td>
<td>.018</td>
<td>.003</td>
</tr>
<tr>
<td>Aesthetic attitude</td>
<td>4.82</td>
<td>5.20</td>
<td>$F(1, 521) = 23.62, p &lt; .001$</td>
<td>.043</td>
<td>.011</td>
</tr>
<tr>
<td>Scientistic attitude</td>
<td>4.74</td>
<td>4.28</td>
<td>$F(1, 521) = 20.40, p &lt; .001$</td>
<td>.038</td>
<td>.011</td>
</tr>
<tr>
<td>Humanistic attitude</td>
<td>4.42</td>
<td>5.24</td>
<td>$F(1, 520) = 72.77, p &lt; .001$</td>
<td>.123</td>
<td>.001</td>
</tr>
<tr>
<td>Negativistic attitude</td>
<td>3.45</td>
<td>2.84</td>
<td>$F(1, 520) = 22.41, p &lt; .001$</td>
<td>.041</td>
<td>.002</td>
</tr>
<tr>
<td>Dominionistic attitude</td>
<td>3.16</td>
<td>3.24</td>
<td>NS</td>
<td>.000</td>
<td>.005</td>
</tr>
</tbody>
</table>

Table 1. Differences between Chinese and Australian visitors’ attitudes toward animals (ordered by level of agreement by Chinese visitors), with Education entered as a covariate. Differences with effect sizes > .03 are highlighted.

Note. Effect size is considered medium where partial eta squared > .06 and large where partial eta squared > .14 (Cohen, 1988).
3.2 Attitudes toward the environment
Chinese visitors were significantly more likely than Australian visitors to recognise limits to growth (e.g., “We are approaching the limit of the number of people the earth can support”, see Table 2), but they were also more likely to endorse human domination of nature (e.g., “Humans have the right to modify the natural environment to suit their needs”), thus demonstrating the “ambiguous” environmental attitudes noted by Harris (2008). The effect size in relation to recognising limits to growth was particularly large (see note to Table 2).

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Mean score Chinese</th>
<th>Mean score Australian</th>
<th>Test of Between groups effect</th>
<th>Effect size (Group)</th>
<th>Effect size (Education)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fragility of nature’s balance</td>
<td>4.82</td>
<td>4.60</td>
<td>$F(1, 521) = 7.03, p = .008$</td>
<td>.013</td>
<td>.015</td>
</tr>
<tr>
<td>Possibility of an eco-crisis</td>
<td>4.50</td>
<td>4.32</td>
<td>$F(1, 521) = 4.06, p = .044$</td>
<td>.008</td>
<td>.008</td>
</tr>
<tr>
<td>Recognising limits to growth</td>
<td>4.50</td>
<td>3.47</td>
<td>$F(1, 521) = 162.85, p &lt; .001$</td>
<td>.238</td>
<td>.014</td>
</tr>
<tr>
<td>Rejection of exemptionalism</td>
<td>4.36</td>
<td>4.11</td>
<td>$F(1, 521) = 7.25, p = .007$</td>
<td>.014</td>
<td>.024</td>
</tr>
<tr>
<td>Rejecting human domination</td>
<td>3.98</td>
<td>4.40</td>
<td>$F(1, 521) = 18.66, p &lt; .001$</td>
<td>.035</td>
<td>.017</td>
</tr>
</tbody>
</table>

Table 2. Differences between Chinese and Australian visitors’ attitudes toward the environment (ordered by level of agreement by Chinese visitors), with Education entered as a covariate. Differences with effect sizes > .03 are highlighted.
Note. Effect size is considered medium where partial eta squared > .06 and large where partial eta squared > .14 (Cohen, 1988).

3.3 Attitudes toward global warming
Chinese visitors were much more likely to be convinced that global warming is happening than Australian visitors, $\chi^2(\text{df}=2, n=524) = 48.74, p < .001$. Fifty-two per cent of Chinese visitors compared with 21% of Australian visitors were “extremely sure that global warming is happening”; while 2% of Chinese visitors compared with 22% of Australian visitors either believed it wasn’t happening or didn’t know. Thus on average, Chinese visitors were similar to Leiserowitz et al.’s (2011) “alarmed” segment, while Australian visitors on average were similar to their “cautious” segment. (The six segments were: “dismissive”, “doubtful”, “disengaged”, “cautious”, “concerned” and “alarmed”).

Chinese visitors were more convinced that global warming is caused by human activities, with 87% of Chinese compared with 63% of Australian visitors agreeing that global warming was “caused mostly by human activities”, $\chi^2(\text{df}=3, n=525) = 42.28, p < .001$. The Chinese respondents were also more worried about global warming (36% of Chinese visitors compared with 13% of Australian visitors were “very worried” about global warming; 11%
of Chinese visitors compared with 34% of Australian visitors were either “not very” or “not at all worried”, $\chi^2$ (df=3, n=525) = 59.57, p < .001.

3.4 Interest in environmental issues and conservation activities
Chinese visitors reported a higher level of interest in environmental issues and conservation activities, when level of education was taken into account. In particular, they were much more likely than Australian visitors to report that “I tend to support conservation organizations, e.g., by volunteering time, making a donation, signing a petition” (25% of Chinese visitors strongly agreed with this statement compared with 8% of Australian visitors, $\chi^2$ (df=5, n=802) = 144.87, p < .001). This finding might be partly explained by a greater desire to provide a “socially acceptable” response among Chinese visitors, however it should be noted that the percentages of visitors who strongly agreed with the statement “I have a good understanding of wildlife conservation issues” were 10% of Chinese visitors and 9% of Australian visitors. In fact, 28% of both Chinese and Australian respondents disagreed with this statement.

3.5 Sense of connection with animals and nature
Chinese visitors expressed a greater sense of connection with nature, were more likely to agree that animals have emotions, and were more likely to agree that they spend as much time as they can in natural settings than Australian visitors (Table 3). The desire to spend time in nature was particularly strong among Chinese visitors, with 45% strongly agreeing with the statement “I spend as much time as I can in natural settings such as forests, mountains or lakes”, compared with 12% of Australian visitors.

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Mean score Chinese</th>
<th>Mean score Australian</th>
<th>Test of Between groups effect</th>
<th>Effect size (Group)</th>
<th>Effect size (Education)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I spend as much time as I can in natural settings such as forests, mountains or lakes</td>
<td>5.11</td>
<td>4.12</td>
<td>$F (1, 521) = 106.83, p &lt; .001$</td>
<td>.170</td>
<td>.004</td>
</tr>
<tr>
<td>I believe animals have emotions</td>
<td>5.51</td>
<td>4.98</td>
<td>$F (1, 521) = 50.40, p &lt; .001$</td>
<td>.088</td>
<td>.001</td>
</tr>
<tr>
<td>I often feel a sense of connection with nature</td>
<td>5.13</td>
<td>4.55</td>
<td>$F (1, 521) = 46.57, p &lt; .001$</td>
<td>.082</td>
<td>.016</td>
</tr>
</tbody>
</table>

Table 3. Differences between Chinese and Australian visitors’ sense of connection with animals and nature, with Education entered as a covariate. Differences with effect sizes > .03 are highlighted.

Note. Effect size is considered medium where partial eta squared > .06 and large where partial eta squared > .14 (Cohen, 1988).
3.6 Interest in various aspects of experiencing animals and nature

In terms of how they wanted to experience animals and nature, Chinese and Australian visitors both placed the highest priority on “Making sure people don’t mistreat animals” and “Enjoying animals’ beauty”. Chinese visitors were more interested than Australian visitors in “Knowing more about animal biology” and “Finding out how animals can be used to produce food or other products”. They were less interested than Australian visitors in “Seeing how animals live in the wild” (Table 4).
<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Mean score Chinese</th>
<th>Mean score Australian</th>
<th>Test of Between groups effect</th>
<th>Effect size (Group)</th>
<th>Effect size (Education)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Making sure people don’t mistreat animals</td>
<td>5.21</td>
<td>5.40</td>
<td>$F (1, 521) = 5.46, p = .020$</td>
<td>.010</td>
<td>.002</td>
</tr>
<tr>
<td>Enjoying animals’ beauty</td>
<td>5.14</td>
<td>5.02</td>
<td>NS</td>
<td>.004</td>
<td>.000</td>
</tr>
<tr>
<td>Understanding how different parts of the ecosystem work together</td>
<td>4.85</td>
<td>4.52</td>
<td>$F (1, 520) = 12.52, p &lt; .001$</td>
<td>.024</td>
<td>.003</td>
</tr>
<tr>
<td>Thinking about what animals and nature mean to me personally</td>
<td>4.72</td>
<td>4.35</td>
<td>$F (1, 521) = 15.01, p &lt; .001$</td>
<td>.028</td>
<td>.002</td>
</tr>
<tr>
<td>Knowing more about animal biology</td>
<td>4.67</td>
<td>3.94</td>
<td>$F (1, 521) = 57.83, p &lt; .001$</td>
<td>.100</td>
<td>.000</td>
</tr>
<tr>
<td>Seeing how animals live in the wild</td>
<td>4.54</td>
<td>4.94</td>
<td>$F (1, 520) = 20.41, p &lt; .001$</td>
<td>.038</td>
<td>.000</td>
</tr>
<tr>
<td>Finding out how animals can be used to produce food or other products</td>
<td>4.29</td>
<td>3.33</td>
<td>$F (1, 520) = 39.42, p &lt; .001$</td>
<td>.070</td>
<td>.005</td>
</tr>
<tr>
<td>Touching or feeding animals in the wild</td>
<td>4.26</td>
<td>4.19</td>
<td>NS</td>
<td>.001</td>
<td>.008</td>
</tr>
<tr>
<td>Keeping animals as pets</td>
<td>4.09</td>
<td>4.48</td>
<td>$F (1, 520) = 10.14, p = .002$</td>
<td>.019</td>
<td>.001</td>
</tr>
</tbody>
</table>

Table 4. Differences between Chinese and Australian visitors’ interest in aspects of experiencing animals and nature (ordered by level of agreement by Chinese visitors), with Education entered as a covariate. Differences with effect sizes > .03 are highlighted. Note. Effect size is considered medium where partial eta squared > .06 and large where partial eta squared > .14 (Cohen, 1988).
4. Discussion

This research revealed that in general, Chinese visitors to Tangalooma were more aware of, interested in, and concerned about environmental issues than Australian visitors. This environmental concern was replicated over a range of measures. In particular, Chinese visitors were more likely than Australian visitors to:

- hold *ecologist* attitudes, expressing a concern for the environment as a system and for interrelationships between wildlife and natural habitats;
- report being more interested in *scientific information* and animal biology;
- express a greater *sense of connection with nature*;
- place greater importance on *spending time in nature*;
- be aware of the *limits to growth*; and
- be alarmed about effects of *global warming*.

Some of these findings are perhaps an expression of the Chinese view of humans and nature as one entity (Li and Sofield, 2008), and the Confucian and Taoist teachings that emphasise the importance of immersing oneself in nature to gain enlightenment (Xu et al., 2008). They may also reflect the fact that Chinese tourists who choose Australian destinations are particularly interested in natural environments. Chinese awareness of limits to growth and their level of alarm in relation to global warming are most likely the result of the increasing evidence of pollution and environmental degradation that those residing in China must face on a daily basis. This conclusion is supported by the fact that Chinese-Canadians living in Canada were *less* likely than Anglo-Canadians to recognise limits to growth (Deng et al, 2006).

These findings suggest that interpretation targeting Chinese visitors does not need to raise awareness of global environmental issues as they are already very aware. Rather, it needs to build on their existing concern by discussing ways of mitigating and preventing the potential negative impacts of human activity. It is well known that environmental concerns and knowledge do not necessarily translate into pro-environmental behaviours, especially in China (Harris, 2008). However, nature-based tourism has been shown to have some impact on individual behaviour, even if only for a minority of visitors (Ballantyne, Packer and Falk, 2011; Ballantyne, Packer and Sutherland, 2011). In this regard, interpretation could make reference to the environmental problems that are clearly and visibly impacting on China in a way that is not yet evident in Australia. Drawing such comparisons between the two countries will help ensure the relevance of the topic for visitors from both cultures and should encourage Australians to contemplate how their current actions might be contributing to future degradation of the Australian environment. Interpreters could also draw on the religious and philosophical values of harmony between humans and nature that are familiar and important to Chinese visitors, build on the Chinese sense of connection with nature, and offer activities that allow Chinese visitors to spend more time in, and experience a sense of immersion in nature. The provision of scientific information should also not be neglected.

Despite the greater levels of environmental awareness and concern reported by Chinese visitors, there were other findings that suggest ways in which the interests, experiences and prior knowledge of Chinese visitors differ from Australian visitors, in a way that may impact on their response to wildlife tourism experiences. In this regard, it should be noted that in comparison with Australian visitors, Chinese visitors were:

- less likely to have *experience with a pet*;
• more likely to report having a *dislike for or fear of animals in the wild*;
• less likely to hold *moralistic* attitudes, i.e., less likely to express concern about the right and wrong treatment of animals;
• less likely to hold *aesthetic* attitudes, i.e., less likely to find beauty and meaning in wildlife and nature;
• more likely to have an *instrumental* or anthropocentric view of nature, i.e., that the environment exists for the benefit of people;
• more likely to agree that *animals have emotions*; and
• less likely to want to see *animals in the wild*.

Chinese visitors’ lack of experience with, and fear or dislike of animals needs to be taken into consideration by wildlife tourism operators, especially when activities involve seeing animals in the wild. When such experiences are designed for Chinese visitors, adequate safeguards need to be taken to ensure that they feel comfortable and safe. Interpretation that helps Chinese visitors overcome their fear and thus feel more comfortable in nature could be valuable for many Chinese visitors.

The finding in this study that Chinese visitors had a more instrumental or anthropocentric view of nature is consistent with previous research by Harris (2008) and Deng et al. (2006) and reflects the Chinese anthropocentric worldview which sees humans as dominant over nature (Winter, 2009) and the anthropomorphic view which assigns human characteristics to animals, plants and natural features (Li and Sofield, 2008). This was also expressed as a lower level of concern for the ethical treatment of animals and a belief that humans have the right to modify the natural environment to suit their needs. In the Chinese culture, modifications to improve access to ‘scenic spots’ (e.g., concrete paths, steps, observation towers, decorative lighting, neon signage) are considered good management practice (Sofield and Li, 2007; Winter, 2009), therefore it may be necessary to explain to Chinese visitors why such facilities may not be provided at western ecotourism sites. Harris (2006) suggests that it may also be possible to capitalise on Chinese people’s instrumental views by pointing out that their wealth and health depend on looking after the environment. In this regard, recommendations from research with Western visitors that interpretation should focus on the negative impacts of human activity on wildlife and wildlife habitats (Ballantyne and Hughes, 2006; Ballantyne, Packer and Hughes, 2009) may need to be re-visited. In particular, the design of interpretive materials for Chinese visitors needs to take into account their philosophical orientation towards nature, animals and the environment.

The lower levels of moralistic and aesthetic attitudes among Chinese visitors found in this study are also consistent with Harris’s (2006, 2008) findings that ethical and aesthetic valuations of the environment and nature are low among most Chinese. It should be noted, however, that when asked about their interests, both Chinese and Australian visitors expressed an interest in these aspects (i.e., making sure people don’t mistreat animals, and enjoying animals’ beauty). These are thus aspects that interpreters could focus on that would resonate with both groups of visitors.

It is important to note that multiple factors may underlie reported differences between Chinese and Australian respondents, as there are more than cultural differences between Chinese and Australian visitors in this study. Chinese visitors had made an expensive long-haul flight to a foreign country, while Australian visitors were taking a much shorter trip in a familiar culture. Chinese visitors were on average more highly educated and arguably more affluent than the Australian visitors. Chinese visitors were almost all part of a tour group, while Australian visitors were mostly independent travellers. They may thus have received...
different pre-tour information, which may in turn have influenced their self-reported attitudes. Differences introduced through translation may also have had an impact on responses which was not able to be accounted for. Thus although the findings of this study should be valuable in helping tourism operators in Australia understand the inbound Chinese tourism market, care should be taken in attributing differences between Chinese and Australian visitors to culture alone.

5. Conclusion

This study provides an insight into differences between Chinese and Australian tourists in relation to their attitudes towards animals and the natural environment. It highlights the fact that the design of visitor interpretation at Australian ecotourism sites needs to take into account these cultural differences in prior knowledge, experiences and attitudes. Indeed, one of the key principles of interpretation is that it should build upon what visitors already know – it should be relevant in some way to the audience (Ham, 1992; Moscardo, Ballantyne and Hughes, 2007; Tilden, 1977; Xu et. al., 2013). Tapping into the mindset of visitors in terms of their interests, experiences and prior knowledge allows interpreters to present new information in a way that enables visitors to make meaningful connections with what they already know.

The nature and extent of the differences in Chinese and Australian prior knowledge, experiences and perceptions of animals and nature are such that it is unlikely that similar interpretive experiences will meet the needs of both groups. It is argued that the common approach of designing ‘one size fits all’ ecotourism visitor experiences, then translating them for use with a Chinese audience, is unlikely to be effective. Instead, it is suggested that interpretive experiences for Chinese visitors should be designed separately and delivered in their native language.

The findings of this study provide insights into the type of nature-based information, experiences and messages that could be used by interpreters to help connect and engage Chinese tourists with environmental and conservation issues. In this regard, it is suggested that ecotourism experiences designed for Chinese visitors to Australia should aim to be less concerned with raising awareness of environmental issues – after all, Chinese are living with the effects of pollution on a daily basis – and more about providing examples and strategies to convert awareness and concern into environmental action in their everyday lives. A variety of approaches and techniques that build on Chinese visitors’ existing concern for, and interest in, animals and the environment could be provided including:

- experiences that encourage reflection on current environmental issues and how human actions are exacerbating the problem;
- specific suggestions and modelling of ways in which they can undertake environmentally sustainable behaviour in their home, work and leisure environments;
- ‘soft’ ecotourism experiences that allow them to engage with nature in a safe, supported and non-threatening environment so as to foster identification with, and concern for, animals – experiences that optimise their sense of immersion in nature without compromising their sense of security; and
- off-site experiences (e.g., websites; ‘take home’ educational materials) that reinforce on-site ecotourism messages and highlight the inter-dependence of humans and the natural environment as well as the likely impacts of their (in)activity on the future health of the planet and thus personal health and well-being.
Finally, further research is needed to design, test and refine ecotourism experiences and interpretive messages tailored specifically to the Chinese visitor’s worldview. The impact of these on Chinese tourists’ willingness and capacity to take appropriate environmental actions on return to their home country also needs to be assessed. This is critical, as the development of research-based ecotourism experiences and materials for Chinese travellers who, according to Harris (2006) represent the more affluent middle classes whose behaviours have the greatest environmental impact in their home country, could play a significant role in facilitating Chinese adoption of environmentally sustainable behaviour.

6. References


