Visitor perceptions of captive, endangered Barbary macaques (*Macaca sylvanus*) used as photo props in Jemaa El Fna Square, Marrakech, Morocco.

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Abstract

Visitors to Jemaa El Fna Square can pay to have their photograph taken with Barbary macaques. Our aim was to characterise visitors’ perceptions of such photo props, enabling demand-reducing interventions to be targeted appropriately and destination managers to maintain or enhance the visitor experience. Visitors to Jemaa El Fna (n=513) were surveyed using a 25-item questionnaire including closed and open questions.

Most visitors (88%) neither intended to use macaque photo props nor did; 7% *either intended to* or *did use photo props; while 5% both used photo props and had intended to do so. Moroccans were more likely than foreigners to use macaque photo props or
intend to do so. Among international visitors, those who had their photo taken or intended to were younger, with a lower level of education and lower income than those who neither had their photo taken nor intended to. Visitors who did not use photo props pitied the animals’ treatment, disapproved of captivity or exploitation, had concerns over hygiene or safety and disliked trader harassment. Visitors who did use photo props valued novelty and contact with the animal; although half of them also described negative experiences including trader harassment and animal mistreatment. While 16% felt the presence of macaques makes Marrakech lively and interesting; 40% recognised risks to health and safety and 57% thought Marrakech would be a better place without macaque photo props. Although 66% agreed the practice should be illegal, 80% were unaware that it is illegal. Only 25% correctly identified the Barbary macaque as endangered.

Macaque photo props undermine current conservation objectives and legislation, contribute to Disneyfication of macaques and may threaten the image of the destination; however, their appeal to a minority of visitors indicates a desire to interact with animals, which visitor education might divert towards more responsible tourism.

**Keywords:** attitude; primate; tourism; visitor experience; wildlife trade
Introduction

The Barbary macaque (*Macaca sylvanus, L.*.) is the only primate species endemic to Morocco and Algeria and the only native primate in Europe (Butynski et al., 2008). Morocco holds the largest wild population: an estimated 5,000 animals with the largest stronghold in Ifrane National Park (Camperio Ciani et al., 2005; van Lavieren, 2004) but this has declined by >50% over the last 24 years due to destruction and degradation of habitats (Butynski et al., 2008; Fa, 1984; Ménard & Vallet, 1993; Taub, 1977) and illegal trade in juvenile macaques (Butynski et al., 2008; van Lavieren, 2004; 2008). It is estimated that up to 300 infants are taken annually from Morocco (van Lavieren, 2004), exceeding sustainable offtake by up to 50% per year (Butynski et al., 2008; van Lavieren, 2004).

The Barbary macaque is categorised as endangered in the International Union for Conservation of Nature (IUCN) Red list of threatened species (Butynski et al., 2008). International trade is permitted only in exceptional cases and for non-commercial purposes (CITES, 2016). In 2016, Barbary macaques were upgraded from Appendix II to Appendix I of the Convention on International Trade in Endangered Species (CITES) in recognition of the increasing threat of extinction and enabling stiffer penalties (CITES, 2016). Moroccan Act No 29-05 prohibits the acquisition, holding, display for commercial purposes or use for profit of CITES-listed species without a license.

Despite the restriction, Barbary macaques are used as photo props for tourists – principally in Marrakech (van Lavieren, 2004) although the trade has spread to
Meknes and other Moroccan cities more recently (personal observation, 2017). The term ‘photo prop’ describes the use of animals in the manner of theatrical props; often presented as an opportunity for tourists to interact with the exotic wildlife of the host country (Osterberg & Nekaris, 2015). The practise is opportunistic in that it usually takes place in popular tourist destinations, relying on passing trade, and profitable both by selling photos and as a gateway to sell the animals themselves - this has been reported for slow lorises (*Nycticebus* species, Osterberg & Nekaris, 2015) and white-handed gibbons (*Hylobates lar*, Gray, 2012) in Thailand as well as macaques in Morocco (van Lavieren, 2004). Unwanted or seized macaques – whose owners often reported buying the animal in a Moroccan market – are found in rescue centres in France, Belgium, The Netherlands, Germany, Spain and Italy (van Lavieren, 2004; 2008) despite their import being prohibited by EU Wildlife Trade Regulations including Council Regulation (EC) No 338/97 (1996).

Tourism is an important sector of the economy for Morocco and the government aims to increase tourist arrivals from 4.3 million in 2000 and 9.28 million in 2010 to 20 million in 2020 (Dobruszkes & Mondou, 2013; UNWTO, 2014). Marrakech contains 33% of the country’s tourist accommodation capacity (Ministère du Tourisme du Maroc, 2015) and is one of the principal destinations for international visitors (Dobruszkes & Mondou, 2013). Jemaa El Fna Square in the centre of the medina (old, walled town) in Marrakech is world-renowned, principally for its performing street artistes (Schmitt, 2005) and was in 2001 proclaimed a Masterpiece of the Oral and Intangible Cultural Heritage of Humanity by UNESCO.
Jemaa El Fna Square is one of the principal sites for trade in Barbary macaques (van Lavieren, 2004). Based on daily, informal observations over ten days, an infant macaque might act as a photo prop 18 times per hour (personal observation, March 2013). Some tourists are charged as much as 100 Dirhams for a photo, although there are many Moroccan tourists who pay much less. Assuming an average price of 10 Dirhams and 8-hour working days, the above-mentioned infant could earn the handler the equivalent of the average monthly Moroccan household income (which was MAD 5,300 in 2009 [CMC, 2009]) in 3-4 working days; however, this estimate is highly variable due to the effects of the tourist season, weather and the number of macaques being used at one time.

Non-human primates have a history of popularity in entertainment and photo opportunities (Agoramoorthy & Hsu, 2005; Wich & Marshall, 2016). Increasingly, the photo prop trade is recognised as a threat to primate conservation (Caine, Visalberghi, Schapiro & Leighty, 2011). Osterberg and Nekaris (2015) surveyed the number of slow lorises (*Nycticebus* species) offered as photo props in a Thai resort over a six-month period and used existing reports and confiscations to further quantify the trade. Between 2008 and 2013 there were 1374 reports of wildlife – the majority primates - being used for tourist entertainment, and an average of nine lorises available at any one time.

Incidental observation of the capture in India of slender loris (*Loris lydekkerianus*) for photography enthusiasts led Kanagavel, Sinclair, Sekar and Raghavan (2013) to search a prominent wildlife photography website for instances of slow loris capture.
They found 29 captures in the period 1995-2011, in 16 of which they evaluated the handling of the animal as unethical.

Nekaris, Campbell, Coggins, Rode & Nijman (2013) responded to the popularity of a YouTube video, “tickling slow loris”, by analysing comments of 11,200 commentators from 172 countries (principally North America, Europe, Australia and New Zealand). The most frequent categories of comment mentioned the cuteness of the animal or wanting one as a pet. Over time, after the publication of a Wikipedia page and television documentary, comments mentioning welfare issues and the illegality of trade in lorises became more prevalent.

The public are increasingly cognizant of a moral obligation to minimise the suffering of animals (Agoramoorthy & Hsu, 2005; Hughes, 2001; Kirkwood, 2003) and moral or legal objections to the use of animals in tourist entertainment in Singapore (Agoramoorthy & Hsu, 2005), USA and UK (Hughes, 2001) are documented. Disapprobation of poor animal welfare may negatively affect the visitor experience (Ruiz-Izaguirre & Eilers, 2012), where visitor experience is defined as the visitor’s “immediate or ongoing, subjective and personal response to an activity, setting or event” (Packer & Ballantyne, 2016) and includes the total process of anticipating, making and remembering a visit.

To our knowledge, the present study is the first to evaluate visitor perception of primate photo props in the streets or markets where they are offered.
The aim of this study was to characterise visitors’ perceptions of macaque photo props in Jemaa El Fna in order to: (a) enable information campaigns about welfare, conservation and health/safety issues to be targeted; and (b) provide destination managers with the information to respond appropriately to any negative impacts of the photo prop trade on visitor experience.

Methods

Ethical approval was granted by Edinburgh Napier University Faculty of Health, Life and Social Sciences Research Ethics Committee and a research permit obtained from the Scientific Institute of Rabat. Jemaa El Fna Square was selected as the study site because of the high concentrations of visitors and captive macaques (van Lavieren, 2004).

Respondents were legal adults and gave their informed consent to participate. Visitors were asked their reasons for visiting Morocco, Marrakech and Jemaa El Fna, their country of residence and the length of stay in Morocco; whether they had seen the macaques, had their photo taken with a macaque or intended to. This was followed by open-ended questions about what they enjoyed and did not enjoy about having their photo taken with a macaque or, if they did not have their photo taken, why they did not. There followed questions about whether it is legal in Morocco to offer to take someone’s photograph with a Barbary macaque and whether the species is endangered. Statements about approval for the practice of using animals as photo props, whether the practice should be illegal, whether animals in the market are an
attraction, and whether macaques may be harmful to the health and safety of tourists were then presented with 5-point Likert-format responses (Likert, 1932).

Demographic questions (gender, age group (10-year bands), highest level of education completed and income relative to perceived average income in their home country (lower third/middle third/higher third)) were presented last. The questionnaire was piloted on a sample of ten before translation and data collection: no alterations were made.

Questionnaires and consent forms were translated into French, Dutch, German, Spanish and Arabic and administered by the first author and research assistants (17 Moroccans and 3 Europeans) each of whom was fluent in one or more of these languages and in English. Researcher-administered questionnaires were used to maximise return of completed forms and so that comprehension of the questions could be assisted if necessary. Research assistants were briefed each morning by the first author to ensure uniformity. Scenarios in which mock respondents expressed strong views and interviewers maintained a neutral tone were rehearsed.

The survey took place between 10am and 5pm over eight days between 28th March and 8th April 2013 during an Easter holiday when tourism was at a peak. Visitors to the square were approached on a next-to-pass basis (Veal, 2006) at the main exit points to the market to achieve high encounter rates of visitors who had seen macaques. The survey was introduced to visitors as concerning wildlife tourism in Jemaa El Fna Square. Respondents were allowed to omit any question they did not wish to answer and responses were anonymous to encourage respondents to express
honest views (Cargan, 2007). The number who declined to participate was not
recorded. Each questionnaire took approximately five minutes.

Data analysis

Intention and behaviour of visitors relation to macaque photo props were categorised
as “hot”, “warm” or “cold” in, using the following definitions adapted from Fredline
and Faulkner’s (2001) study of Australia’s wildlife tourism:

“hot” = intended to have their picture taken with a macaque before coming to the
square and did have their picture taken with a macaque.

“warm” = either intended to have their picture taken with a macaque but did not; or
did have their picture taken with a macaque without prior intention to do so.

“cold” = neither intended to have their picture taken with a macaque, nor did so.

Responses to open-ended questions were subjected to thematic analysis as described
in Braun and Clarke (2006), adopting a realist perspective in which the aim was to
report the experiences, meanings and reality of participants rather than to explain the
social discourses giving rise to the construction of those meanings. Once familiar with
the data, we generated codes inductively in response to the data rather than pre-
determining codes from literature. Codes were then criticised, refined, grouped into
themes and the themes criticised and refined. The responses assigned to each code
were then quantified.
Quantitative data were analysed in SPSS® version 20 (IBM, 2011), using non-parametric statistics because data were recorded using ordinal or categorical response formats.

Results

Survey respondents

Of the total 513 respondents to the survey, 271 (53%) were female, 220 (43%) were male and gender was unrecorded for 22 (4%). Median age fell into the 31-40 years category and age ranged from 18 to >80 years.

The majority (400, 78%) were from Europe, with the next largest proportion (n=64, 13%) from Africa. There were 38 different nationalities but the most frequent country of origin was France (n=112, 22%), followed by United Kingdom (n=71, 14%), Germany (n=60, 12%), Morocco (n=51, 10%), Netherlands (n=42, 8%) and Belgium (n=29, 6%).

Are captive Barbary macaques a visitor attraction to Jemaa El Fna Square?

Photo opportunities with Barbary macaques were an attraction prior to visiting Jemaa El Fna Square for only 39 visitors (8%). The majority of those who answered this question (462, 92%) did not intend to have their photograph taken with a macaque prior to visiting the square. Five percent of visitors (n=26) were categorised as “hot”, 7% (n=36) as “warm” and 88% (n=450) as “cold” (one did not answer this question).
The relation between nationality (Moroccan or other) and attractiveness of macaques as photo props (with the categories “hot” and “warm” combined to avoid low expected frequencies) was significant (Chi squared test of independence: $X^2 (df = 1, N = 512) = 47.65, p <0.001$), with macaques proving to be a greater attraction for Moroccans than other nationalities. Among Moroccan visitors, 21 (41%) fell into the “hot” or “warm” category and 30 (59%) into the “cold” category, while of non-Moroccans 420 (92%) were in the “cold” category and 41 (8%) in the “hot” or “warm” categories.

The proportions of each nationality falling into the “hot”, “warm” and “cold” categories are displayed in Figure 1 for countries with the largest numbers of respondents.

International visitors categorised as “hot” or “warm” in relation to macaque photo opportunities were younger (Mann-Whitney test, $U=4515$; hot/warm $n=37$, mean rank 141; cold $n=401$, mean rank 227; $p<0.001$), their highest educational qualification was lower (Mann-Whitney test, $U=4782$; hot/warm $n=37$, mean rank 148; cold $n=387$, mean rank 219; $p<0.001$) and their self-reported income relative to the perceived average income in their home country was lower (Mann-Whitney test, $U=4057$; hot/warm $n=29$, mean rank 155; cold $n=342$, mean rank 189; $p=0.042$) than international visitors in the “cold” category. Of international visitors categorised as “hot” or “warm” ($n=41$), 23 also made negative comments about the experience.
The presence of macaques might be considered an attraction even for visitors who did not wish to have their photo taken, as part of the atmosphere and cultural heritage of the square. Therefore, we asked respondents to list their reasons for visiting Jemaa El Fna. Twelve percent (n=63) listed animal entertainment among their reasons for visiting the square (Figure 2) but for only one was entertainment with animals the sole reason cited.

Visitor experience and attitudes towards macaques in the square

Visitors who had intended to have their picture taken but changed their minds cited reasons including trader harassment, hygiene concerns, mistreatment of macaques and not yet having had the opportunity. The most frequently cited reason for not having a photograph taken with a macaque was concern for the animals’ welfare (n=100, 22% of responses) (Table 1). Finding the practice unacceptable was the most prevalent theme (204 comments) but visitors were also concerned for their own wellbeing (57 comments). No-one specifically mentioned illegality of the practice, even those who expressed disapproval.

Those visitors who did have their photograph taken with a macaque were asked what they enjoyed and did not enjoy. The experience of the interaction was more important than getting the photograph for the majority of visitors (Table 2) although some felt
pressed into it by the macaque handlers, did not enjoy the experience and made no positive comment (Table 3).

[Table 2 near here]  
[Table 3 near here]

Level of agreement with the statements displayed in Figure 3 indicate that the majority of visitors are not positively disposed towards the presence of captive macaques in the square.

[Figure 3 near here]

Although 326 (66% who answered this question) agreed or strongly agreed that it should be illegal to keep macaques for photo opportunities, in answer to the question; “is it legal in Morocco to offer to take someone’s photograph with a Barbary macaque?” 102 (20%) answered “no, it is not legal”, 122 (24%) think it is legal, 276 (54%) answered “don’t know” and 13 (2%) did not answer. Asked; “are Barbary macaques an endangered species?” 315 (61%) answered no, 130 (25%) answered yes and 68 (13%) did not know or did not answer.

Discussion

Are macaques a tourist attraction or a detraction?

The great majority of visitors did not intend to have their photograph taken with a macaque when planning to visit the square and a large majority also omitted to
mention animal entertainment when listing their reasons for visiting Jemaa El Fna. While some consider that the presence of macaques makes Marrakech a more lively and interesting place; a majority think that Marrakech would be a better place if the use of macaques in photo opportunities was banned and that it should be illegal. Two fifths of visitors recognise it as harmful to the health and safety of tourists.

Our results show that the present situation is likely to detract from the experience of Jemaa El Fna Square for many visitors. This is reflected in the attitudes of visitors towards macaques in the square (Figure 3) and in the verbatim responses from visitors who did not want to have their photo taken with a macaque or did not enjoy the experience (Tables 1 and 3). The largest theme among positive responses was about novelty, indicating that other unusual performances or souvenirs could replace macaque photo props in these visitors’ experiences of Jemaa El Fna Square.

The photo prop trade could be stopped without fear of impacting the international tourism market. Moroccan nationals are more interested but the existence of this market cannot be said to represent any benefit for Morocco: revenues gained by unlicensed macaque-handlers are likely to be untaxed and are more than offset by the ecological losses associated with macaque poaching (Butynski et al., 2008).

*Poor animal welfare adversely affects visitor experiences*

Studies consistently report that perception of poor animal welfare contributes to a negative experience or image of the destination for visitors (Godinez, Fernandez &

Plumridge & Fielding, 2003; Ruiz-Izaguirre & Eilers, 2012; Wolf & Tymitz, 1981,
cited in Tribe, 2001). Visitors who did and who did not have their photo taken with a
macaque expressed a negative perception of the animals’ welfare. Much of the
literature relates to zoo and aquarium visitors who have chosen to view captive
animals, as distinct from the respondents in our study who may have had no such
intention. As such, the proportion of visitors who feel antipathy to captivity on
philosophical grounds may be greater in the present study than in other situations.

Woods (2002) found that the most frequently-mentioned feature (48%) of worst
experiences with captive animals was poor husbandry; including confinement,
dissimilarity of the captive environment with a natural one, interpreted distress of the
animal or perceived unhygienic conditions. Poor service for visitors was the next most
frequently mentioned, followed by aggression by the animal (19% and 12% of worst
experiences, respectively). Respondents in our study reported similar themes, with
pity for the animals’ welfare and dislike of trader harassment being mentioned both by
those who did and by those who did not have their photograph taken, although fear
was mentioned only by those who chose not to avail of photo opportunities. Since the
experiences described by visitors to Jemaa El Fna share common themes with the
worst experiences with captive wildlife that respondents in Woods’ (2002) study
could recall in their lifetimes, captive macaques may have substantial negative impact
on the visitor experience of Marrakech.
For six of the 49 visitors who described what they enjoyed about having their photograph taken with a macaque, contact with the animal was the most enjoyable thing; indicating that there is, as reported in other studies (Plumridge & Fielding, 2003; Ruiz-Izaguirre & Eilers, 2010) desire on the part of some visitors to interact with animals. In the main, we did not find the enjoyable interactions that Woods (2002) reported: 53% of visitors who had their photo taken with a macaque found something unpleasant about the experience. Woods’s respondents most often described non-contact interactions with animals as the enjoyable aspect of experiences with captive wildlife, followed by opportunities for learning about the animal.

Moroccan wildlife tourism without macaque photo props

Hughes (2001) uses a case study from the UK to describe how the performance of captive animals for entertainment came to be considered “morally unacceptable, such that the tourism and entertainment industries can no longer incorporate it into its provision” and calls this; “an early sign for the tourism industry of the power of the animal rights and welfare lobby” - as a result of which large UK attractions displaying performing dolphins closed while small businesses offering dolphin-watching tours flourished.

There is opportunity for ecotourism enterprises, if appropriately managed, to provide a better experience for tourists who value animal encounters while also being less damaging to wild macaque populations. The nature-based and ecotourism sector is one of the fastest-growing in the international tourism market (Tisdell, 2003), attracts tourists who stay longer (Menezes, Moniz & Viera, 2008) and spend more (Weaver,
2001) than the average international visitor and are more likely to travel beyond international gateways (Fredline & Faulkner, 2001). Wildlife in non-captive settings are more likely to attract international visitors and provide a more intense, emotional, exciting and engaging experience than most captive wildlife settings (Packer & Ballantyne, 2012).

Although Morocco aims to expand and diversify tourism, the distribution has remained rather constant, with 71% of nights in commercial accommodation spent in Marrakech, Agadir and Casablanca and little international tourism outside the main historical capitals (Dobruszkes & Mondou, 2013). If an ethically driven structural shift similar to that described for the UK by Hughes (2001) were to occur in Morocco, the development of local entrepreneurs at the expense of illegal sole traders and some shift in visitation from the historical capitals to rural areas could be considered highly beneficial for the economic sustainability of Moroccan tourism.

Not all non-captive wildlife tourism is sustainable; however, since visitors may induce stress in animals, disrupt feeding patterns through deliberate or unintentional feeding, otherwise influence animal behaviour or damage habitats (Borg, Majolo, Qarro & Semple, 2014; El Alami, van Lavieren, Rachida & Chait, 2012; Majolo, McFarland, Young & Qarro, 2013; Maréchal et al., 2011; Packer & Ballantyne, 2012).

Macaques in culture
Although Moroccans were more likely to have their photo taken (or to want to), the full spectrum of attitudes towards macaque photo props was manifest among Moroccan visitors: objections to captivity and poor welfare, safety and hygiene concerns, dislike of harassment as well as delight in the unusual. Greater interest from Moroccans may or may not reflect cultural differences in attitudes towards animals. Six (12%) respondents identifying as Moroccan were visiting the country, five of whom had their photo taken with a macaque or intended to. We might speculate that photos of Moroccan sights and fauna serve to strengthen the Moroccan identity of expatriates; however, explaining the reasons for differing interest between groups was beyond the scope of this study.

Activities primarily targeted towards international visitors may represent global influences threatening authenticity because the original cultural heritage leading to the designation of World Heritage Site is about meeting the needs of the community for cultural expression (UNESCO, 2015). Schmitt (2005) regards those actors or elements of performance which “serve above all as decorative models for photographs” as a Disneyfication of the intangible cultural heritage of Jemaa El Fna Square; meaning that which is an “inauthentic, commodified and banalized modernisation or reproduction of cultural forms removed from their original context”.

It could be argued that altering the activities of the square to reflect an animal welfare ethic held most strongly by Western Europeans favours the values of visitors over those of hosts and opens the authors to accusations of neo-colonialism. In the case of animals used as photo props it can be countered that the practice itself is a symptom
of the influence of a Western culture of commodification and over-consumption – the
denial of wildness in animals; the removal of animals from their Moroccan habitat
context for commutation into easily-consumable photographic souvenirs. This
distancing from the natural world and representation of macaques as ‘cute’ are
consistent with the phenomenon of Disneyfication (sensu Baker, 1993 and Inkson &
Minnaert, 2012, p.236) and consistent with the lack of recognition of risks posed by
macaques (discussed below).

Baker (1993) contends that until animals are disentangled from their Disneyfied
representations the animals’ predicaments cannot be clearly seen, consistent with the
finding that only 25% of our sample correctly identified Barbary macaques as an
endangered species. Ross et al. (2008) described this phenomenon for chimpanzees: 95% of zoo visitors surveyed identified gorillas as endangered, 92% identified orang-
utos as endangered but only 69% correctly assigned this status to chimpanzees.
When asked to explain, 35% of people gave the reason that chimps are commonly
seen in the media and can be privately owned, therefore the species must not be in
jeopardy.

Macaques can be harmful to the health and safety of tourists and handlers

Sixty percent of visitors disagreed or were unsure that macaques could be harmful to
the health and safety of tourists, yet physiological similarities among all primates
mean that close contact with non-human primates is considered a high-risk source of
emerging infectious agents with the capacity to transfer between humans. Foreign
tourists are a potential vehicle for global transmission of an emerging infectious agent.
Macaques can carry herpes B virus (Herpesvirus simiae - often asymptomatic in macaques but potentially severe in humans (Huff & Barry, 2003)), simian virus 40, simian foamy virus and simian type D retrovirus, all of which can be transmitted to humans (Conly & Johnston, 2008). Returning French travellers presenting for rabies treatment had in 20% of cases acquired the infection from non-human primates including Barbary macaques in North Africa (Gautret et al., 2010). Monkeys account for 21% of animal-associated injuries to tourists and the majority of injuries to female travellers (Gautret et al., 2007), illustrating the potential for disease transmission due to bites. Lice (*Pedicinus albidus*) also provide a vector (Cohn et al., 2007). The Centre for Disease Control and Prevention (2017) advises that travellers should never touch or feed monkeys.

There are few data on how zoonotic disease affects tourism demand (Donohoe, Pennington-Gray and Omodior, 2015) but if cases are publicised it is reasonable to expect a substantial impact on the image of the destination. Destination management plans should address prevention of disease threats as part of crisis management strategies (Pennington-Gray et al., 2009). Educational intervention (modifying the behaviour of visitors to reduce risk of exposure) is a key component of such prevention (Donohoe, Pennington-Gray and Omodior, 2015).

**Visitor education**

Understanding differences in visitor behaviour between market segments can be used to target informative strategies to specific groups (Brown 1999; Brown, Ham &
Hughes, 2010; Kim & Weiler, 2012). Information campaigns (e.g. distributed by tour
operators and in hotels) should particularly target Moroccans, European Moroccans
and arrivals from France and Spain, although provision of material in German and
English is also important.

Psychosocial determinants of behaviour are: awareness of the problem; attribution of
some responsibility to oneself; feelings of guilt; and perception of the social norms
surrounding the issue. These contribute to the formation of attitudes about the
situation/behaviour; development of a moral norm about what one should do; and a
perception of the control one has over the issue through one’s own behaviour,
together creating the intention to behave in a particular way (Bamberg & Moser,
2007). Ethically-motivated behaviour should occur when individuals are aware of
adverse consequences for other beings and aware of how they personally could avert
those consequences – particularly if the behaviour is easy to carry out (Schwartz,

Here, awareness of the conservation problem is lacking (75% fail to recognise
macaques as endangered); a welfare problem was mentioned by only 22% of visitors
and health risks by 40% so there is scope to improve problem-awareness. Of those
who did have their photo taken with a macaque, 12% most enjoyed contact with the
animal suggesting that this group also feel affinity for macaques and might therefore
readily change their behaviour if they became aware of negative consequences for the
animals.
Laws reflect and express social norms and most visitors (80%) are unaware of the law so here, too, simple informative campaigns could influence a key behavioural determinant. A proportion of visitors already take the view that macaque photo props are unacceptable and reference moral norms such as “animals should not be beaten or chained” and “wild animals should be in the wild”. One’s social networks and role models influence perception of social norms, making social networking sites a useful target for campaigning organisations. Images of celebrities posing with animal photo props are potentially very damaging but also present an opportunity for campaigning organisations to mobilise the sector of society who find this unacceptable to express their view in social media (e.g. Wild Futures, 2015).

In respect of the macaque handlers, the determinants of their behaviour are almost entirely unknown. It is likely that contextual factors (ease of obtaining money and low probability of prosecution), habitual behaviour and low perceived behavioural control (few/no perceived alternative means of earning) are more important determinants of behaviour in such a case than underlying values or attitudes (Steg & Vlek, 2009).

Studies have been conducted into the drivers of hunting for the bushmeat trade (e.g. Lindsey et al., 2013; Nyaki, Gray, Lepczyk, Skibins & Rentsch, 2014) but not for the photo prop trade. Law enforcement is important but also the availability of alternative employment for macaque handlers.

Conclusions and recommendations

Macaques are an attraction for a minority of visitors but overall detract from the visitor experience. This reflects a wider picture shown by previous research: animals
in tourism are a draw but this is easily outweighed by pity for the animals’ plight and disapproval of their conditions. Here, impacts on the visitor experience are particularly negative for international visitors.

Educational interventions have strong potential to reduce demand for macaque photo props. Such interventions should leverage moral norm activation, making visitors aware of negative consequences for macaques.

Destination managers should support restrictions on holding macaques both to improve the international visitor’s experience and to reduce risks of disease with its consequent impacts on destination image.

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