CONTEXT, CHARISMA & CONSERVATION: THE INFLUENCE OF WILDLIFE TOURISM ON TOURISTS’ PRO-CONSERVATION BEHAVIORS

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WILDLIFE TOURISM

- Sub-category of nature based tourism
- Sustainable??
- Annual economic impacts may be as high as $155 billion (Higginbottom, 2004)
- 600 million zoo tourists worldwide annually (Higginbottom, 2004)

CHARISMATIC MEGAFAUNA (CMF)

- Predominately large vertebrates
- Backbone of industry and a rallying point for conservationists
- The presence of CMF has been successful as a marketing tool and supporting general conservation efforts (Kerley, Geach, & Vial, 2003; Matt & Aumiller, 2002; Stoinski, Steklis, & Mehlmen, 2008).
CONSERVATION OUTCOMES ATTRIBUTED TO CMF

• Greater visitation
• Stronger support networks
• Greater degree of conservation success (Kerley, et al., 2003; Okello, et al., 2008)
• Connection to nature

SITE BENEFITS

• Financial
• Increased awareness
• Volunteering
• Political activism (Green & Higginbottom, 2000; Higginbottom, et al., 2003; Preston & Fuggle, 1987)

FLAGSHIP SPECIES

Any species used to raise visitors’ awareness and stimulate pro-conservation action (Caro, 2010).
Wildlife Tourists’ Connection to Wildlife

- Viewing animals *in situ* shown to help tourists’ ‘commune with nature’ (Norton, 1996)
- Bird of Prey demonstrations in zoos stimulated emotional arousal in visitors (Smith, Weiler & Ham, 2008)
- Dolphin encounters produced feelings of profound happiness and euphoria in participants (Curtin, 2006)

Visitor Responses

Studies have linked captive and wild viewing of CMF with increases in:

- Satisfaction (Obua & Harding, 1996)
- Understanding (Lukas & Ross, 2005)
- Concern (Bruni, Fraser, & Schultz, 2008)
- Awareness (Peake, Innes, & Dyer, 2009)
GAPS IN CMF RESEARCH

Connection to Wildlife

• Difficult to measure/define for more experienced tourists (Curtin, 2010)
• May be too context specific and not generalizable (Myers et al., 2004)
• No link of connection to a species and behaviors

Visitor Response/Behavior Linkages

• Link between charismatic features and behaviors is unknown
• No link of visitor responses and behaviors
• Simple relationship between knowledge, interest, awareness and behaviors has been challenged (e.g. Waylen, et al., 2009)
CURRENT PROBLEM

Wild and captive wildlife tourism venues rely on charismatic species to stimulate visitors’ connection to wildlife and raise pro-conservation action. However, few studies have directly tested species’ abilities to elicit these responses in situ or ex situ.

Thus, it is unknown if the CMF viewing experience has any affect on tourists’ willingness to perform pro-conservation behaviors. Nor is it known how an emotional connection to wildlife influences pro-conservation behaviors.
STUDY OBJECTIVES

- Investigate how *in situ* and *ex situ* CMF viewing experiences influenced the tourist-based conservation outcomes of awareness (Conservation Caring) and pro-conservation behaviors for a species and biodiversity.

- Identify how individual elements of the viewing experience interacted to influence these outcomes.

- Identify and quantify differences between *in situ* and *ex situ* venues.
OVERARCHING CONCEPTUAL MODEL

Interactional Framework

Existing Connection to Wildlife:
Emotional Connection
Cognitive Connection

Independent Variables:

Species Characteristics:
- Physical
- Ecological
- Biogeographical
- Emotional

Trip Characteristics:
- Authenticity
- Interspecies Interaction
- Interpretation
- Thrill

Dependent Variables:

Conservation Caring:
Care that – cognitive
Care about - affective

Pro-Conservation Behaviors:
Species Oriented
Biodiversity Oriented

Adapted from Powell et al., (2009)
METHODS

SURVEY INSTRUMENT

All factor items Likert type scale 1 – 9
strongly disagree (1)/strongly agree (9); extremely unlikely (1)/extremely likely (9)

Development
Pilot test \( (N = 178) \), Brookfield Zoo summer 2011

Factors – Final Instrument
• Existing Connection to Wildlife (6 items)

Tourists were asked, “what animal did you form the strongest connection with
during your visit?”

Based on this response, tourists were then asked to respond to the remaining
factors.
• Species Characteristics (5 items)
• Trip Characteristics (10 items formative & reflective)
• Conservation Caring (10 items)
• Species Oriented Behavioral Intentions (7 items)
• Biodiversity Oriented Behavioral Intentions (5 items)

RESEARCH SITES
Ex situ sites: Brookfield Zoo, Shedd Aquarium, Zoo Atlanta \( (N = 452, 89\% \text{ response rate}) \)
In situ: Kilimanjaro International Airport, Moshi, Tanzania \( (N = 416, 98\% \text{ response rate}) \)
METHODS

- Data Screening
  - Missing data
  - Outliers ($\pm 3$ S.D./Mahalanobis Distance $c^2_{(43)} = 77.38, p < .001$)
- Structural Equation Modeling
  - Measurement model (CFA analyses)
    - Preliminary configural model
    - Test for invariance across zoo groups ($N = 3$)
    - Test for measurement invariance
    - Test for structural invariance
  - Structural model (Causal relationship analyses)
    - Addition of formative items
    - Test for measurement invariance
    - Test for structural invariance
  - Latent means (relative differences)
Values reported for safari, zoo, respectively; all measurements robust; * p < .05; b = standardized parameter estimates; $R^2$ = explained variance. CFI = .90; NNFI = .89; SRMR = .11; RMSEA = .068; SBc$^2$ (df) = 1869.94 (702), p < .05
Discussion

How does the CMF viewing experience influence tourists’ Conservation Caring & Pro-conservation Behaviors?

Overall significant positive affect on Conservation Caring & pro-conservation behavioral intentions

Conservation Caring

- Valid representation of construct ($R^2 = .42; \lambda’s: .66 - .87$)
- Significant predictor of behavioral intent
- ONLY predictor of species behaviors

Pro-conservation Behaviors

- Model accounts for 42% of variance in species behaviors and 58% of variance in biodiversity behaviors
- Item responses relatively low
- Highest responses for financial contributions and sustainable products
Discussion

Identify how individual elements of the viewing experience interacted to influence these outcomes

Existing Connection to Wildlife
- Moderate predictor of Conservation Caring (β = .35)
- Weak influence on biodiversity behaviors (β = .18)

Trip Characteristics
- Only predicted Conservation Caring (β = .26)
- Only significant for zoo tourists

Species Characteristics
- Only predicted Conservation Caring (β = .32)
Discussion

Identify and quantify differences between in situ and ex situ experiences

No meaningful differences between safari and zoo tourists

- Minor differences in path coefficients most likely due to extraordinary experience of in situ viewing
- Safari tourists scored slightly higher on Species Characteristics (0.93, \( p < .05 \)) & biodiversity oriented behaviors (0.36, \( p < .05 \))
- Venue of viewing experiences not as important as previously thought
Conclusions

- The CMF viewing experience, *in situ* and *ex situ*, has the potential to be a strong influence on stimulating tourist-based conservation outcomes.

- Conservation Caring is a significant outcome and predictor of behavioral intent.

- Tourists’ connection to a species most influenced by emotional components of species characteristics.

- CMF species inspired intentions to act for both the species and biodiversity. Suggests that any of the observed species in this study could be successfully employed as flagship species.
Conclusions

Management Implications

- Create experiences to strengthen emotional connection to a species
- Provide opportunities for immediate action during experience
- Strengthen partnerships between *in situ* and *ex situ* venues to synergistically build on tourists’ intentions
LIMITATIONS

• Responses limited to species observed during experience
• Limited to sampled sites
• Behavioral intentions NOT actual behaviors assessed
• Lack of refinement of items for Conservation Caring
• Lack of refinement of assessment of experience
• Survey only offered in English
• Seasonality of visitation trends
• Social desirability bias
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QUESTIONS

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