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RESEARCH NOTE

ECOTOURISM PARTICIPATION INTENTION IN AUSTRALIA: MEDIATING INFLUENCE OF SOCIAL INTERACTIONS

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This study investigates the mediating role of social interactions between the ecotourism attitude and ecotourism participation intention of tourism students in Australia. It also examines the moderating influence of gender and length of career relationship on social interactions. Data analysis results from partial least squares–based structural equation modeling confirm a positive relationship among environmental knowledge, ecotourism attitude, landscape likability, and ecotourism participation intention. Findings also reveal that the mediating influence is further moderated by gender difference but not by the relationship length of the student’s tourism career. These findings have important implications for tourism education providers in designing sustainability-related learning materials.

Key words: Ecotourism participation; Environmental knowledge; Social interactions; Structural equation modeling (SEM)

Introduction

Emerging from nature-based and wildlife tourism, the term “ecotourism” is today described as an exemplar of sustainable use (Okech, 2011). Ecotourism’s significance in the tourism literature is evidenced by the large amount of research with themes such as environmental conservation, nature-focused tourism, and expansion and

preservation of local resources (Okech, 2011; Zhang & Lei, 2012). Because the successful development of ecotourism programs and activities largely depends on the cooperation, participation, and interaction of tourism students, tourists, local residents, and governing bodies, social interactions have received considerable attention in recent literature (Wu, Zhang, & Chikaraishi, 2013).

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As previous studies have indicated, social interactions are a tool that helps to revise learning behavior, altering the nature of the cognitive process, facilitating feedback (Sharpley & Jepson, 2011), and having impact on proenvironmental behaviors (Choo & Petrick, 2014). Surprisingly, the influence of tourism students' and real tourists' social interactions on students' ecotourism participation intention has yet to be empirically explored. Understanding this impact is important because these social interactions enable opportunities in which a wide breadth of information can be exchanged between the two parties, thus changing attitudes (Olli, Grendstad, & Wollebaek, 2001). Social interactions also tend to increase students' awareness and motivation to participate in long-term ecotourism programs (Choo & Petrick, 2014). Although social interactions could mediate between ecotourism attitude and ecotourism

participation intention, this mediation could be subject to gender and the length of tourism career relationship, with this remaining an unexplored phenomenon in the ecotourism literature. The study aims, first, to understand the mediating role of social interactions between ecotourism attitude and ecotourism participation intention and, second, to investigate whether this mediation is further moderated by gender and length of career relationship (see Fig. 1).

Literature Review

Direct Effects

In accordance with the theory of planned behavior (TPB; Ajzen, 1991), environmental knowledge and ecotourism attitude both have predictive power in explaining ecotourism behavioral intentions

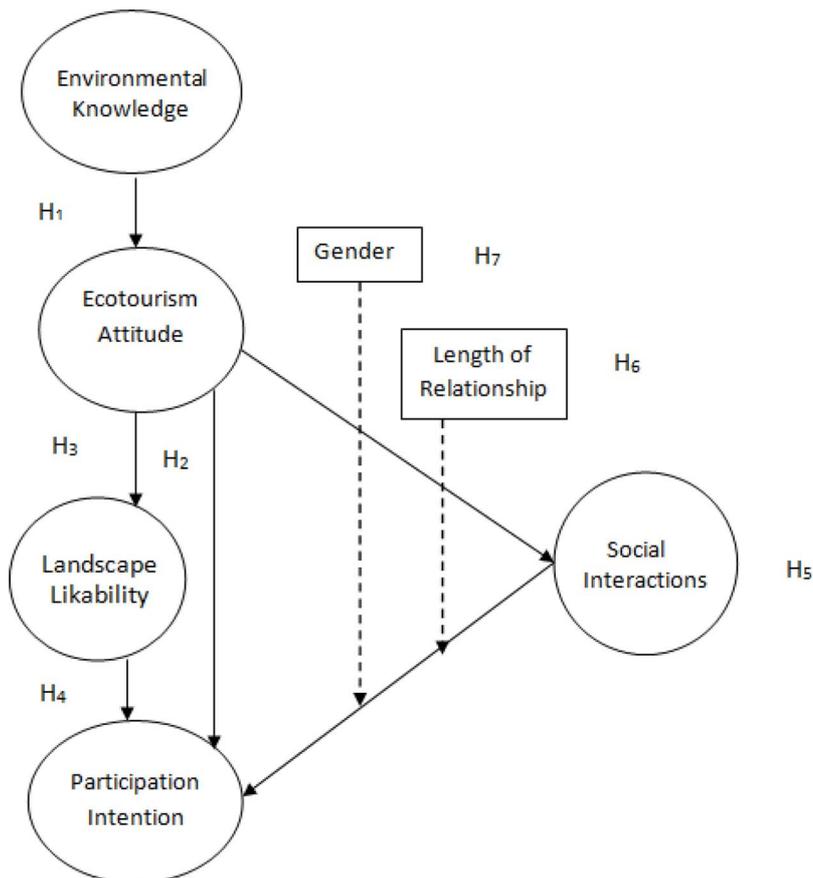


Figure 1. Theoretical model. Dashed lines are moderate mediation lines.

(Fielding, McDonald, & Louis, 2008). Environmental knowledge inspires students to protect local tourism resources, increasing their sense of responsibility toward ecotourism activities (Fielding et al., 2008). Furthermore, the attitude toward ecotourism determines an individual's ecotourism behavioral intention because these two constructs are correlated (Sharpley & Jepson, 2011). Accordingly, students with more positive ecotourism attitudes have a stronger intention to participate in ecotourism activities.

Research has noted that the individual's perception of a particular landscape's likability affects his or her decision to support ecotourism activities (Simon & Klandermans, 2001). *Landscape* is defined as "a particular physical place or countryside that may symbolize multiple sites, each of which is grounded in the cultural definitions of those who come upon that place" (Greider & Garkovich, 1994, p. 2). When people are fascinated by a landscape destination, they form a positive attitude toward the place. They are naturally motivated to care for it through environmentally friendly behaviors such as donating money, voting for green political nominees, and undertaking water conservation measures (Zhang & Lei, 2012). An individual's preference for a particular landscape and his or her participation in ecotourism activities develop from shared bonds as well as a positive attitude (Sharpley & Jepson, 2011; Zhang & Lei, 2012). Arguably, increased environmental knowledge will have a positive impact on students' attitudes toward ecotourism and, eventually, will increase students' interest in landscapes and ecotourism programs. This is formally hypothesized as follows:

- H1:** Environmental knowledge positively influences ecotourism attitude.
- H2:** Ecotourism attitude positively influences ecotourism participation intention.
- H3:** Ecotourism attitude positively influences landscape likability.
- H4:** Landscape likability positively influences ecotourism participation intention.

Mediation Effect

As the TPB model (Fielding et al., 2008) allows for new variables to be added, the current study has added "social interactions." Social interactions are conceptualized as a state in which behaviors

are recognized and influenced by others' behavior, thus helping to develop an explicit viewpoint for a particular object or issue (Simon & Klandermans, 2001). An individual's social interactions and social network are vital in shaping his or her proenvironmental attitudes and actions (McDonald, 2014). Students' attitudes and behavior toward environmentally friendly activities develop when they actively engage and interact with family, friends, peers, and tourists (Olli et al., 2001). Social interactions with tourists may therefore intervene in the relationship between students' ecotourism attitude and ecotourism participation intention. Hypothetically, this is stated as follows:

- H5:** Social interactions with tourists mediate the relationship between ecotourism attitude and ecotourism participation intention.

Moderated Mediation Effects

However, ecotourism participation intention may be different for men and women or depending on the length of one's tourism career relationship. As argued in gender schema theory, men and women adopt different social behaviors due to their unique gender-based schematic processing and different in-group interaction styles (Meinhold & Malkus, 2005). The present study assumes that gender has a moderating role on the mediating influence of social interactions between ecotourism attitude and ecotourism participation intention. In considering the moderating role, a relationship of longer length between two parties achieves more positive results than a shorter relationship (Gounaris & Karin, 2002). Formally, this is proposed as follows:

- H6:** Gender moderates the mediation effect of social interactions between ecotourism attitude and ecotourism participation intention.
- H7:** Career relationship length moderates the mediation effect of social interactions between ecotourism attitude and ecotourism participation intention.

Method

To test the above hypotheses, a questionnaire was developed, piloted, and distributed to tourism

students at a renowned tourism residential education institution in the Blue Mountains, Australia. Located to the west of Sydney, the Blue Mountains area comprises 143,000 hectares of land, providing a natural habitat for more than 400 species of birds, animals, and rare plants. In 2014, the Blue Mountains attracted 808,000 domestic and 85,400 international overnight tourists, resulting in earnings of \$515 million (Destination New South Wales, 2014).

A random sample of students ($n = 236$) from bachelor's degree programs in tourism and hospitality were invited to participate voluntarily in this study. Of this sample, there were 173 usable responses (78.63% response rate). The study used 5-point Likert-type scales where, for all opinion constructs, 1 = *strongly agree*, 5 = *strongly disagree*, and 3 = *neutral*. Environmental knowledge was measured using three items modified from Zhang and Lei (2012), an example being "Blue Mountains is land that refers to a range of sandstone as a geological structure." Multi-item scales were used to measure three constructs, namely, ecotourism attitudes (5), landscape likability (5), and participation intention (3), likewise modified from Zhang and Lei's study, with "I would like to attend discussion meetings for Blue Mountains tourism development issues" being an example from participation intention (3). Lastly, the construct social interactions was measured with five items modified from Teye, Sonmez, and Sirakaya (2002), an example being "I enjoy interacting with tourists." Demographic data provided the length of tourism career relationship and gender.

Results

In the respondent sample, 71 (41%) were male, and 102 (59%) were female. Respondents were 16–23 years of age (87.9%) and 24–31 years of age (12.1%). Most respondents (60.7%) had a tourism career relationship of more than 1 year, whereas for 39.3% of the respondents, the relationship was less than 1 year.

To test the theoretical model, partial least squares (PLS)-based structural equation modeling (SEM; Ringle, Wende, & Will, 2005) was chosen for its distribution and independence, suitability in analyzing relationships with multiple mediators and moderators, and exploratory power (Henseler,

Table 1
Descriptive Statistics, Reliability, and Validity Measures

| Constructs | AVE | Composite Reliability | R^2 | Cronbach's α | M | SD | Ecotourism Attitude | Environmental Knowledge | Landscape Likability | Participation Intention | Social Interaction |
|----------------------------|-------|-----------------------|-------|---------------------|------|------|---------------------|-------------------------|----------------------|-------------------------|--------------------|
| 1. Ecotourism attitude | 0.639 | 0.898 | 0.217 | 0.857 | 2.02 | 0.87 | 0.799 ^a | | | | |
| 2. Environmental knowledge | 0.582 | 0.802 | | 0.649 | 2.40 | 0.88 | 0.466 | 0.763 ^a | | | |
| 3. Landscape likability | 0.640 | 0.899 | 0.325 | 0.858 | 2.14 | 0.89 | 0.570 | 0.500 | 0.80 ^a | | |
| 4. Participation intention | 0.784 | 0.916 | 0.253 | 0.862 | 2.60 | 0.99 | 0.386 | 0.378 | 0.443 | 0.885 ^a | |
| 5. Social interaction | 0.735 | 0.933 | 0.319 | 0.909 | 1.88 | 0.85 | 0.566 | 0.423 | 0.604 | 0.442 | 0.857 ^a |

Note. AVE, average variance extracted.

^aSquare root of the AVE is presented on the diagonal.

Table 2
PLS Output

| Hypotheses | PLS Output | | | Results |
|------------|------------------|-------|----------|-----------|
| | Path Coefficient | SE | <i>t</i> | |
| H1 | 0.466 | 0.088 | 5.301 | Supported |
| H2 | 0.570 | 0.079 | 7.216 | Supported |
| H3 | 0.233 | 0.093 | 2.514 | Supported |
| H4 | 0.121 | 0.088 | 1.378 | Supported |

Note. PLS, partial least squares.

Ringle, & Sinkovics, 2009). The sample size of the present study was appropriate with the five latent constructs, exceeding the cutoff rule of 10–20 cases for each latent construct (Henseler et al., 2009). The descriptive statistics, average variance extracted (AVE), composite reliability (CR), inter-correlations, discriminant validity, and Cronbach's alpha are shown in Table 1. All constructs confirmed a satisfactory level of reliability and validity (Nunnally, 1978).

Hypotheses Testing: Direct Effects, Mediation Effect, and Moderated Mediation Effects

Related critical ratios (*t* values) were used to test the significance of the hypotheses. The results shown in Table 2 indicate a significant positive linear relationship of environmental knowledge, ecotourism attitude, and landscape likability with ecotourism participation intention, thus supporting

H1–H4 (*t* values are 5.67, 7.11, 6.08, and 2.31, respectively).

To test the mediation effect (H5), a bootstrapping method using Preacher and Hayes's (2004) indirect script was adopted. The total effect of social interactions on ecotourism participation intention is significant (ab path coefficient = 0.2349; $p < 0.001$; and upper–lower limits have values excluding zero with positive signs, 0.1186 and 0.3873, respectively). In addition, direct path *c* (ecotourism attitude to ecotourism participation intention) and total path (abc coefficient = 0.1118) are also positive and significant ($p < 0.001$). Therefore, social interactions have a complementary mediation effect between ecotourism attitude and ecotourism participation intention: H5 is supported. With an adjusted R^2 of 0.2088, indirect effect is 23.50%.

To test the moderation effects of gender and career relationship length on social interactions, subgroup analysis was conducted using the PLS output. As shown in Table 3, gender has a significant influence on the mediation effect of social interactions ($t = 2.61$, $p < 0.01$), supporting H6. However, the mediation effect of social interactions is not likely to be varied by the length of tourism career relationship ($t = 0.284$, $p = 0.7768$), thus rejecting H7.

Discussion

The findings of this study show that environmental knowledge positively influences the formation

Table 3
t-Value Analysis Output

| Sample | Sample Size | Total Effects From Ecotourism Attitude to Ecotourism Participation Intention | | <i>t</i> ^a | <i>p</i> ^a | Results |
|------------------|-------------|--|-----------|-----------------------|-----------------------|---------------|
| | | <i>M</i> | <i>SE</i> | | | |
| Gender | | | | 2.6130 | 0.0098 | Supported |
| Male | 71 | 0.5427 | 0.0722 | | | |
| Female | 102 | 0.2377 | 0.0840 | | | |
| Career length | | | | 0.2840 | 0.7768 | Not supported |
| Less than a year | 68 | 0.3741 | 0.0929 | | | |
| More than a year | 105 | 0.4114 | 0.0875 | | | |

^aTwo-tailed.

of attitudes toward ecotourism programs (H1), therefore, supporting the role of environmental knowledge as a key antecedent in predicting attitude toward ecotourism activities (Meinhold & Malkus, 2005). The results reveal that a positive attitude toward ecotourism helps students to participate in environmentally friendly activities (H2). Consistent with the literature, ecotourism attitude is shown to positively influence preference for a particular landscape (H3; Zhang & Lei, 2012), with students' ecotourism participation intention positively influenced by their enhanced landscape likability (H4). The mediation effect of social interactions between ecotourism attitude and ecotourism participation intention (H5) is empirically supported, demonstrating the importance of tourist–student interactions in influencing students' participation in ecotourism activities. In addition, being male had a more influential moderation impact ($M = 0.543$) on social interactions than being female, thus signifying that men are more comfortable with outdoor activities and socialization. The length of respondents' tourism career relationship, however, was not significant, possibly because tourism students have already established an attitude of extensive interaction with tourists.

Conclusions and Limitations

With the theory of planned behavior (TPB) as its theoretical framework, this study contributes to the ecotourism literature in several ways. The study is significant because it focuses on social interactions from the tourism student's perspective, which is new and original in the ecotourism literature. The study also provides new and valuable insights regarding the moderating influence of gender on the mediation effect of social interactions between ecotourism attitude and ecotourism participation intention.

The findings have several practical implications. They highlight that tourism education providers and government agencies should attempt to increase environmental knowledge among tourism students by including environmental and sustainability-related subject materials in course curriculums. For tourism education providers, the findings emphasize the importance of initiatives that enhance the likability of landscapes among students by describing these landscapes, discussing their historical

importance and the necessity for their conservation. The influence of social interactions as a mediator between ecotourism attitude and ecotourism participation intention suggests the need for more student field trips and training sessions with increased opportunities to interact with “real” tourists. Care should be taken during practical training sessions and field trips because social interactions are influenced by differences in gender. Allowing male and female students to interact with tourists in accordance with their own preferences and styles will maximize the benefits of social interactions.

The study acknowledges some limitations, although the study's exploratory nature means that these can be overcome with further research. First, the study has considered only the Blue Mountains region and is thus limited by the sample size. Second, the influence of contextual factors, such as behavioral control, normative beliefs, and analysis of situational constraints, is not considered. Future research could consider a larger number of item scales or could undertake a longitudinal study of the same students.

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