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Cover Page Footnote

The authors would like to acknowledge all of those participants, especially the businesses of Half Moon Bay, California, in assisting in the completion of our research.

INTRODUCTION

Integrating nature-based activities in the tourist experience is vital to creating environmental awareness among tourists. Ecotourism providers create environmental awareness among tourists by engaging them in the natural environment of their destination and educating them about the environmentally conscious practices adopted by a given business. In ecotourism, the natural environment is the main attraction and tourism providers should follow environmentally conscious principles and practices where the visitor interactions focus on nature-based activities with an educational component (Weaver & Lawton, 2007).

Ecotourism is a fast growing industry, which continues to draw interest from tourists around the world. Ecotourism is projected to have an annual growth rate of 5% worldwide, representing 6% of the world gross domestic product and 11% of all consumers spending (Honey & Krantz, 2007). Additionally, the largest markets for ecotourism include the United States, the United Kingdom, Germany, Canada, France, and Australia (Eagles & Higgins, 1998; Weaver, 2001). For the past decades, ecotourism has made a significant impact on the value of the tourism industry and has “become a powerful market force, ranging from 5% to 10% of the global travel market place” (Epler-Wood, 2010). With organizations such as The International Ecotourism Society (TIES) promoting ecotourism, businesses are using TIES concepts to integrate this trend into their daily operations. One of the main concepts of ecotourism is interpretation. Interpretation enhances tourists’ experiences with education and environmental awareness, and develops tourists’ appreciation for nature, the local community, and the culture (TIES, 2012).

Past tourism studies have begun to investigate the attitudinal and behavioral components of tourists while engaging in the interpretation concept of ecotourism and nature-based tourism (Kim, Airey, & Szivas, 2011; Lee & Moscardo, 2005; Orams, 1997; Powell & Ham, 2008; Tubb, 2003). In order for tourism businesses to successfully integrate the interpretation concept into their business practice, it is essential for the businesses to assess tourists’ environmental attitudes, preference for environmental practices, and their behavioral intentions to participate in the businesses offerings. Although significant research has been conducted on environmental attitudes and behaviors, the research studies have focused on specific tourism businesses and locations making the findings difficult to generalize to the overall tourism industry. As a result, more research needs to be conducted in different businesses and locations in order to identify specific environmental attitudes and behaviors within certain tourist populations. Even in the lodging industry where numerous research studies have been conducted, Lee et al. (2005) states “very few published studies provide evidence of the positive

effects of experiencing an ecotourism resort on tourists' environmental attitudes and behaviors" (p. 547). One tourism destination in California, USA that has been understudied is Half Moon Bay, whose natural environment is one of the main tourist attractions. The city of Half Moon Bay has heretofore not conducted tourist research that focuses on the environment.

While studies have investigated the environmental attitude and behaviors of tourists, they have failed to address the gender perspective of tourists in the nature-based tourism context (Meng & Uysal, 2008). Although there has been research on the differences in gender based on leisure and travel patterns, tourist behavior, importance of nature-based travel (Meng et al., 2008), and environmental attitude (Lee et al., 2005), it has been limited and in need of further research. It is integral for the tourism industry to acknowledge gender perspectives, "as failure to recognize and integrate gender perspectives with the design and marketing of tourist products would lead to gender-blind marketing and consumer dissatisfaction" (Westwood, Pritchard, & Morgan, 2000). In order to develop ecotourism programs, it would be beneficial for the tourism providers to understand all aspects of their potential consumers, including gender perspectives. This study aimed to fill the gap in literature between gender perspectives and the environment and the link between tourism providers and tourists' attitudes and behaviors.

Therefore, the purpose of this study was to examine visitors to the coastal community of Half Moon Bay, California, to better understand their demographic profile, attitudes, and behaviors toward the environment and local ecotourism providers and assess the effectiveness of Half Moon Bay's Ecotours Program. Specifically, this study applied the Theory of Planned Behavior and tested the following hypotheses:

Hypothesis 1: There are no significant differences between males and females on environmental attitudes.

Hypothesis 2: There are no significant differences in environmental behavior based on the preference level of tourists in environmentally responsible tourism.

The results of the study informed Half Moon Bay businesses about their consumers' profile and environmental attitudes and behaviors in order to assist the local community in developing future marketing strategies and services in regards to ecotourism. Additionally, the results of the study advanced the knowledge of ecotourism experiences and programming provided by Half Moon Bay businesses.

LITERATURE REVIEW

With the advent of mass tourism in the early years of the twentieth century and with the expansion of people's wealth and interests in travel, the tourism industry began to expand offerings in the travel experience. By the 1970s with the Environmental Movement, tourism providers began to offer travel experiences that focused on the natural environment, incorporated ecology themes, and promoted conservation efforts (TIES, 2012). This created a shift in mass tourism to a more holistic approach that brought awareness of the environmental and cultural issues during the travel experience in the form of sustainable tourism and ecotourism. In this way, consumers are becoming knowledgeable about environmental practices of travel destinations and are investigating these practices during their travel. Research conducted by Travel Industry Association of America profiled tourists by their attitudes, behaviors, and travel habits and found that the majority of the respondents agreed that learning about the destinations' environment and culture improved their overall travel experience (Dolnicar, Crouch, & Long, 2008). The desire for tourists to have a travel experience immersed in the natural environment has resulted in the increase in popularity of a category of tourism, called ecotourism (Parks, Parks, & Allen, 2009).

In the 1980s, the term "ecotourism" was presented by Hector Ceballos-Lascurain and was used to describe nature-based travel to relatively undisturbed areas with a focus on environmental education (Parks et al., 2009). The basic elements that define ecotourism are: nature based; active participation; interpretation of natural environments; social and cultural components; involvement and return for the local community; and managed to be ecologically and environmentally sustainable (Parks et al., 2009). Additionally, the concepts of ecotourism have been incorporated in the planning, developing, and management of sustainable tourism products and services (Parks et al., 2009). In order to assess these concepts, it is essential to investigate tourists' relationship with ecotourism. Past research has focused on assessing environmental attitudes (Fairweather, Maslin, & Simmons, 2005), environmental preferences (Lee & Moscardo, 2005; Tierney, Hunt, & Latkova, 2011), and visitor participation (Orams, 1997; Tubb, 2003). Previous studies that have examined environmental attitudes and behaviors failed to investigate the psychological and behavioral effects of ecotourism participation and the link between the characteristics of the tour operators and positive changes on tourists' knowledge, attitudes, and behaviors (Powell & Ham, 2008).

This connection between the tourism provider and the tourist can be created by *interpretation*, a key component of ecotourism, which "refers to a specific form of environmental education, namely on-site education through

communication while people engage in a nature-based activity” (Jacobs & Harms, 2014, p.123). In regards to tourism businesses, interpretation can be viewed in two ways. According to Dolnicar, Crouch, and Long (2008), the *demand-side approach* to tourism is where the level of tourists’ environmental involvement during their visit is based on their personal pro-environmental characteristics. Alternatively, the *supply-side approach* is when general tourists arrive at a destination that employs nature-conserving practices and the tourists’ behavior tries to be modified based on the exposure to the practices at the destination (Dolnicar, 2006). In this way, the practices of the destination can initiate the education of tourists and stimulate pro-environmental behavior (Dolnicar et al., 2008). During the interpretation experience, tourists express their environmental attitudes and engaging in the destination can potentially alter tourist’s travel behaviors to be more sustainable (Lee et al., 2005; Orams, 1997; Tierney et al., 2011; Tubb, 2003). Therefore, an essential part of understanding the interpretation concept is indentifying the connection between the tourists’ characteristics and the businesses’ interpretative practices.

THEORETICAL PERSPECTIVE

The Theory of Planned Behavior first theorized by Dr. Icek Ajzen in the mid-1980s is a theoretical perspective that represents the connection between attitudes and behaviors. The theory states that an individual’s behavior is constructed by attitude, subjective norms, and perceived behavioral control; and attitude is transformed into behavior through the intention to act (Kleiber, Walker, & Mannell, 2011). Dr. Ajzen’s findings on behavioral intention have been used in multiple research studies to understand an individual’s leisure participation. This theory can be applied to the tourism industry since tourists take part in each step of the model as they engage in tourism. In the case of selecting a travel destination, a tourists’ attitude toward the destination is formed by their perceived attributes of that destination” (Lam & Hsu, 2006). Once at the destination, the interpretive programs offered should target tourists’ attitudes and produce behavioral intentions that are consistent (Powell & Ham, 2008). In order to access the effectiveness of interpretation, it is essential to understand the consumer variables which interpretation depends on, attitude and behavior (Kim, Airey, & Szivas, 2011). The behavior aspect of the *Theory of Planned Behavior* investigates the behavior modifications, since this can make a substantial contribution to the sustainability of the tourism industry as it attempts to prompt behavior change (Tubb, 2003) and should motivate the tourist into immediate or future thought or action (Sharpe, 1982). This literature review will investigate the three constructs of this theory: attitude, intention to act, and behavior.

ENVIRONMENTAL ATTITUDES, INTENTION, AND BEHAVIOR

Environmental attitude research conducted by Tierney et al. (2011) investigated the current attitudes of tourists from the general population and found that many tourists support green and environmentally responsible practices in the tourism industry. The research was conducted with a sample of visitors to the California Welcome Center at Pier 39 in San Francisco and found that 83% of participants felt that it was imperative that the tourism industry use green practices, 25% of participants had used a green travel provider in the last year because of the providers support for green practices, and 65% of participants showed a strong personal commitment to supporting green practices (Tierney et al., 2011). Additionally a study that examined the importance of green travel practices for general United States travelers in Washington, it was found that 44% of travelers were interested in discovering their environmental impacts and looked for ways to minimize these impacts through their travel choices (PhoCus Wright, 2009). In sum, research shows that tourists are considering environmental components when choosing their travel destinations. Therefore, it is imperative for tourism businesses to examine tourists to better understand their level of commitment to the environment prior to developing ecotourism products and services.

The intention to act construct has been one of the largest studied areas of ecotourism. A study investigating intentions at an Australian eco-resort was conducted by Lee and Moscardo (2005), which used pre and post-visit surveys to determine the guests' preference and involvement in the resort's environmental practices and interpretative programs, and their impact on tourists' environmental attitudes and behaviors. In the pre-visit surveys, participants were asked to rate their level of support for environmental practices in their daily lives (such as recycling, water and energy conservation, and use of eco-friendly products), and their overall environmental knowledge and awareness. In the pre-visit survey, participants expressed a high level of support for the items stated above, especially in terms of using green practices within their household. In the post-visit survey participants were asked about their satisfaction with the programs and to rate their level of environmental knowledge and awareness after participating. The interpretation concept of the eco-tour was effective in this setting as the results found that participants expressed a higher level of environmental knowledge, awareness of environmentally responsible behavior, and greater satisfaction after participating in the resorts practices and programs (Lee & Moscardo 2005).

Although Lee et al. examined tourists at a resort, similar findings were presented by Tubb (2003) who studied tourists' environmental knowledge and awareness pre and post-visit to Dartmoor National Park in England. Additionally,

the research focused on the effects of the interpretative signage throughout the Park and the aim of Dartmoor National Park was for tourists to develop empathy during their visit and leave with an inclination to engage in environmentally responsible behavior (Tubb, 2003). The study was found that 55% of visitors interacted with the Park exhibits and expressed that this made a contribution to their environmental knowledge and awareness since they learned that their actions could negatively impact the future of the environment (Tubb, 2003). In the post-visit results for attitude change, there was no significant change in attitudes toward the environment, which may have been because all agreed in the pre-visit survey that the Park was a special and significant natural environment (Tubb, 2003). In the post-visit results for behavior modifications the greatest finding was that after interpretation at the Park, tourists were “encouraged to see *how* they could change their behavior to be more respectful of the natural environment” (Tubb, 2003, p. 476). In this research, interpretation was used as an effective management strategy since the Park focused on developing sustainable tourism and properly conveyed environmental material to the visitors in order to heighten the visitors’ environmentally responsible behavior (Tubb, 2003).

The effectiveness of the interpretation concept is directly related to the last construct of the *Theory of Planned Behavior*, “behavior”. Environmental behavior was researched by Orams (1997) at the Australian resort of Tangalooma, which is home to a wild dolphin habitat. The resort implemented structured education programming for tourists to interact with the wild dolphins. In order for the resort to develop an education program, management considered the following five techniques: 1) Curiosity - allowing tourists to be interested in learning about the environment; 2) Affective domain – giving tourists the chance to internalize the learning and form an emotional connection; 3) Creating motivation to act – outlining specific environmental issues and inform tourists of how they can make a difference; 4) Giving opportunities to act – during the program, tourists should be prompted to engage in environmental behaviors; and 5) Evaluation and Feedback – managers should assess the effectiveness of the program based on the feedback to aid in future planning. The managers at the Australian resort were able to successfully implement their programs by offering tourists a chance to have an interactive learning experience with nature. As a result, tourists expressed an increase in their level of enjoyment, and environmental knowledge and attitude; however, the results did not prove a direct intention to change the tourists’ behaviors, but a slight change may have occurred following their participation (Orams, 1997). In order for tourism businesses to apply the ecotourism principles and create programs with an eye toward environmental knowledge and awareness, it is essential for the businesses’ to carefully design and implement these interpretative programs in order for them to positively impact behavioral intentions.

It is apparent that the movement of the tourism industry is to become more environmentally aware and integrate further green practices into their businesses. Tourists have already expressed their interest and support for the industry to move in this direction. However, as the tourism industry continues to evolve in contemporary society, it is necessary for leisure providers to assess tourists' behavioral intentions to engage in ecotourism and use this information for their future ecotourism efforts.

METHOD

STUDY AREA

Half Moon Bay area is located along the California Pacific Coastline, south of San Francisco, and is broken into four sub-regions offering unique natural environments. The North Coast region features Pillar Point Harbor, which is a protected harbor for marine life such as harbor seals and the California Gray whales. The South Coast region is abundant in agricultural farmlands and marsh natural preserves, while the nearby Redwood region is home to many California redwood groves. The fourth region is Main Street showcasing the history and culture of the oldest settlement in San Mateo County established in 1840, with rich Spanish and Ohlone Native American tribe history (Visit Half Moon Bay, 2014).

The Half Moon Bay Chamber of Commerce and Visitors Bureau, also known as Half Moon Bay Coastside, has launched California's first broad based ecotourism program for visitors traveling from around the world. Tourism is the second largest industry for the city of Half Moon Bay, with over 88% of all visitors seeking a leisure experience (San Mateo County, 2009). Located in Half Moon Bay are lodging facilities ranging from bed and breakfasts to resorts, and numerous leisure providers from kayaking to horseback riding (San Mateo County, 2011). In 2009, the visitor population to the coast was estimated to be 2,685,000, with 155,595 visitors staying overnight in Half Moon Bay lodging (McHugh, 2009). With the strong presence of the natural environment and visitors' interest Half Moon Bay Coastside has developed a tourism campaign "Coastside Ecotourism", which is described as "responsible travel to natural areas and directly related cultural resources that conserve the environment, provide extensive opportunities to learn and sustain the well being of local people" (Visit Half Moon Bay, 2014).

In order to create a more sustainable tourism economy for Half Moon Bay, Half Moon Bay Coastside has gathered together over 30 participating businesses from resorts to farms to wineries and created an "Ecotourism Map" featuring a list

of activities for guests to engage in the Coast's ecological offerings. By outlining activities for tourists on an easy to read map, tourists have the opportunity to comprehensively explore the regions of the Half Moon Bay Coastside and visit the various businesses in each region. Through connecting businesses in this way, Half Moon Bay created a regional tourism campaign toward ecotourism and continues to grow a sustainable tourism industry. Additionally, all businesses participating in the Ecotourism program have pledged to abide by four environmental Coastside standards: 1) conform to environmental regulations and preserve natural resources, 2) protect the cultural heritage, 3) promote learning opportunities through hands-on experiences and active participation, and 4) promote local economic opportunities (Visit Half Moon Bay, 2014).

Since the Ecotourism program is a recent campaign in Half Moon Bay, an assessment of this program is necessary for the further development and future implementation of the campaign. Researching the consumer profile along with environmental attitudes and behaviors will provide a significant contribution to the city's efforts to learn more about their current visitors, their environmental perceptions, and the future opportunities for interpretation in the city's ecotourism programs.

POPULATION AND DATA COLLECTION

The population studied comprised of visitors traveling to Half Moon Bay, either as day-trippers or overnight guests. The intent of the study was to examine visitors' demographics, environmental attitudes, and behaviors. A questionnaire was developed to collect data from these visitors traveling to Half Moon Bay. The sample of visitors was a judgment sample. The researcher choose to have visitors complete the questionnaire who had visited a business/agency/site that was a member of the Half Moon Bay Ecotourism program as these visitors could express both their environmental viewpoint and speak to the city's ecotourism efforts. In total eleven Ecotourism businesses allowed for the collection of visitor e-mails for the researcher to distribute online surveys to collect the data. The businesses included: Point Montara Lighthouse & Hostel; Oceano Hotel & Spa; Half Moon Bay Kayak Company; Blue Sky Farms; Coastside Inn; Half Moon Bay Lodge; Half Moon Bay Coastside; La Nebbia Winery; Harley Farms Goat Dairy; Pigeon Point Lighthouse & Hostel; and Camerons RV Park & Campground.

Questionnaires were obtained from visitors traveling to Half Moon Bay during the months of March 2014 to August 2014, and who participated in a business/agency/site associated with the Ecotourism program. E-mail addresses for survey distribution were gathered in three ways: 1) presenting visitors with a sign-in sheet for them to complete with their e-mail address at the information

desk of the participating businesses, 2) leaving information cards in the guestrooms of the participating hotels for guests to write their e-mail address and bring to the front desk at check out, and 3) sending a monthly e-mail blast to recent guests staying at a participating hotel. Two weeks after the visitor's trip, online survey links were distributed through e-mail by the researcher to all participants. The questionnaires were quantitative and self-administered and assessed the visitors: demographic and trip characteristics, preference for environmentally conscious tourism providers, and level of environmental behavioral intentions following their engagement in ecotourism.

Reminder e-mails were sent one-two weeks later to those who had not completed the survey to increase the response rate. A total of 2,256 e-mail addresses were collected; however some e-mail addresses were deemed undeliverable, leaving 415 surveys returned and completed for a response rate of 19.78%. Although 415 surveys were completed, one response was deleted for the analysis as it was considered not usable. For the analysis, all 414 responses will be considered usable; however not all respondents completed every section of the questionnaire. All completed responses were exported into SPSS Statistics 22 for further analysis.

SURVEY INSTRUMENT

The questionnaire consisted of scales based on the *Theory of Planned Behavior* framework's three constructs: attitude, intention to act, and behavior (Ajzen, 2006).

Attitude Construct. A seven-item measurement scale with four positive attitudinal environmental statements and three negative attitudinal environmental statements were used to measure attitude (Lee & Moscardo, 2005). These items are a modified version of the well-known and well-documented New Environmental Paradigm Scale, which is based on The New Environmental Paradigm (NEP). The NEP was first theorized by Dunlap and Van Liere in 1978 as a response to the growing interest in pro-environmental attitudes and the relationship between the environment and humans.

Intention to Act Construct. A seven-item measurement, presented by Lee and Moscardo (2005), was used to measure the intention to act construct through the visitors' preference for environmentally conscious businesses. The scale consisted of four statements about selecting and choosing businesses based on their environmental practices and three statements were concerning the visitor's involvement to participate in the environmental actions of the businesses. An additional item focused directly on asking respondents to specify the ecotourism activities they participated in during their trip to Half Moon Bay.

Behavior Construct. An eight-item measurement scale, pretested by Kim et al. (2011), was used to measure general environmental behavior and environmental activism, which would be outcomes of an effective Interpretation concept in Ecotourism. This Scale used multiple-act criteria for responsible environmental behavior, which was developed from statements used in previous studies by Beaumont 2001, Monroe 2003, and Orams 1997 (Kim et al., 2011).

RELIABILITY TEST

To test the consistency of scales, reliability was conducted using Cronbach's alpha coefficient and corrected item-to-total correlation. Two of the scales met the Cronbach's alpha coefficient requirement of .70 (Cronbach, 1951). For the attitude construct, the test resulted in a Cronbach's alpha coefficient of .80, which suggested a positive internal consistency. All items reflected a positive correlation, which further indicated that the scale was measuring the same characteristics. Additionally, the average attitude for each participant was calculated and used in further analysis of this construct. Additionally, the behavior construct test resulted in a Cronbach's alpha coefficient of .87, which suggested a positive internal consistency and showed a positive correlation. The items measured the same characteristics of the behavior construct and the items were then transformed by calculating the average scores for each participant. These averages were used in the analysis of this construct.

The exception was the intention to act construct as a reliability test resulted in a Cronbach's alpha coefficient of .69, which suggested a low internal consistency. The item: "I would participate in environmental actions in a business/agency, if it does not require too much effort" had a corrected item-to-total correlation lower than .30 (Cronbach, 1951) and was deleted, which increased the Cronbach's alpha coefficient to .75, offering a more positive internal consistency and reflected a positive correlation. The average for preference was calculated and used in the analysis of this construct.

DATA ANALYSIS

This analysis was built on research conducted by Lee and Moscardo. (2005), who used descriptive statistics to create a visitor profile and conducted an independent sample t-test to investigate respondents' perceptions of the environmental impacts of their different actions based on individuals' profiles on their pre and post visit stay. Additionally, Lee and Moscardo (2005) created involvement groups for environmental tourists based on their responses to the items regarding their preference. This analysis also built on research by Kim et al. (2011), which conducted analysis of tourists' environmental behavior with

ANOVA tests and investigated tourists' behavior based on their attitudes in relation to visiting an interpretative visitor center.

In this study, the data were analyzed using the following three steps: First, descriptive statistics were calculated for each item regarding demographics and trip characteristics (Table 1). Second, an independent t-test was used to determine differences between males and females based on their environmental attitudes as a pre and post visit survey was not available with the population being studied. Third, participants were investigated based on their level of preference for participating in environmentally responsible tourism in Half Moon Bay similar to analysis used by Lee et al. (2005). The preference groups were: low preference, moderate preference, and high preference and presented a better framework due to the large number of participants who participated in the ecotourism program. A one-way ANOVA test was then conducted to find the significant differences between the groups in regards to their behavioral intention, which was the test used by Kim et al. (2011).

RESULTS

PARTICIPANT PROFILE

The total of 311 participants completed the demographic questions. The breakdown of gender was 41.5% male and 58.2% female with .3% identifying as other, with the average age of participants being 52. The majority of the sample had completed higher education with 37.3% having graduated college and 35.4% having completed graduate school (n=311). For the participants (n=310), 27.4% had a household income in the range of \$150,000 or more and 23.5% claimed a household income of \$100,000-\$149,999. These participants were mainly from the United States with 96.8% (Table 1).

Only 26.6% (n= 414) of the visitors considered their trip a first time visit, with the majority (73.4%) being return visitors. Additionally, 75.6% (n=410) of the participants were overnight guests and stayed between one-two nights, with 7.1% being day-trip only visitors. These participants also indicated that pleasure and vacation was the main purpose of the visit with 76.8% and 62.9% of respondents (n=414) were traveling in a group size of two (Table 1).

In regards to ecotourism, the participants who answered the related questions 91.8% (n=414) of participants engaged in more than one ecotourism activity; however, only 11.8% (n=407) of participants were aware of the official Half Moon Bay Coastside Ecotourism Program (Table 1).

Table 1- Sociodemographic & Trip Characteristics of Half Moon Bay Tourists

Sociodemographic/Trip Characteristics	Half Moon Bay Tourists (%)
Education (n= 311)	
Some High School	0.6
High School	3.9
Technical Training	4.2
Some College	17.4
College Graduate	37.3
Graduate School	35.4
Decline to state	1.3
Income (n = 310)	
Under 24,999	2.3
25,000-49,999	3.9
50,000 - 74,999	12.6
75,000 - 99,999	10
100,000 - 149,999	23.5
150,000 or more	27.4
Decline to State	20.3
Residence (n= 311)	
Domestic	96.8
International	3.2
Gender (n= 311)	
Male	41.5
Female	58.2
Other	0.3
Length of Stay (n= 410)	
Less than one hour	0.5
One Day	7.1
One Night	43
Two Nights	32.4
Three Nights	8.8
Over Three Nights	8
Group Size (n= 410)	
One Person	6.6
Two People	62.9
Three People	10.5

Four People	9.8
Over Four People	10.2
Visit (n= 414)	
First Time Visitors	26.6
Travelled Previously	73.4
Purpose for Travel (n= 414)	
Business/Conference	5.3
Pleasure/Vacation	76.8
Family/Personal Business	17.4
Other	0.5
Ecotourism Program Awareness (n=407)	
Yes	11.8
No	88.2

ASSESSMENT OF VISITORS ENVIRONMENTAL ATTITUDES

Hypothesis 1 examined the differences between males and females on environmental attitudes. To test hypothesis 1, an independent t-test was performed where an independent t-test was used to compare the average attitude scores and individual attitudinal items for males and females. In the sample, there were 124 males and 173 females that participated in the ecotourism program. For the scoring of quantitative items, a 5-point Likert-scale was used where 1 equaled *strongly agree* and 5 equaled *strongly disagree*. There was a significant difference between males and females regarding attitude toward the environment for males (M=1.97, SD=.661) and females, M=1.73, SD=.509; $t(295) = 3.463$, $p=.001$ (2-tailed). The magnitude of the differences in the mean scores equaled .246 with a 95% CI: .106 to .385 and a medium effect size using Cohen's d of ($d = .4$). (Table 2)

Table 2 Descriptive statistics for Average Environmental Attitude and Gender

	Gender	Mean	Standard Deviation
<i>Average Environmental Attitude</i>	Male	1.97	.661
	Female	1.73	.509

To further explore the environmental attitudes difference between males and females, each attitudinal statement was investigated independently. Table 3 shows the descriptive statistics and Table 4 shows the independent t-test results for each attitudinal item for males and females.

Table 3 Descriptive Statistics for Gender Attitudinal Items

	Gender	Mean	Standard Deviations
<i>The balance of nature is very delicate and easily upset</i>	Male	2.00	.946
	Female	1.78	.791
<i>The present generation should ensure that the environment is maintained or enhanced for the benefit of future generations.</i>	Male	1.54	.667
	Female	1.34	.497
<i>Humans need not adapt to the natural environment because they can remake it to suit their needs.</i>	Male	2.08	1.064
	Female	1.82	.997
<i>Humans must live in harmony with nature in order to survive.</i>	Male	1.88	.898
	Female	1.54	.678
<i>Humans have the right to modify the natural environment to suit their needs.</i>	Male	2.54	1.077
	Female	2.20	.913
<i>Nature can have value beyond the social, economic, or cultural values held by humans.</i>	Male	1.67	.804
	Female	1.39	.513
<i>Plants and animals exist primarily to be used by humans.</i>	Male	2.09	1.067
	Female	2.02	1.009

Table 4 Independent t-test results for Gender Attitudinal items

	t	Sig. (2 Tailed)	Mean Difference	Cohen's d
<i>The balance of nature is very delicate and easily upset</i>	2.173	0.031	0.220	0.4
<i>The present generation should ensure that the environment is maintained or enhanced for the benefit of future generations.</i>	2.893	0.044	0.205	0.3
<i>Humans need not adapt to the natural environment because they can remake it to suit their needs.</i>	2.226	0.027	0.266	0.3
<i>Humans must live in harmony with nature in order to survive.</i>	3.734	.000	0.341	0.4
<i>Humans have the right to modify the natural environment to suit their</i>	2.887	0.004	0.344	0.3

<i>needs.</i>				
<i>Nature can have value beyond the social, economic, or cultural values held by humans.</i>	3.368	0.001	0.276	0.4
<i>Plants and animals exist primarily to be used by humans.</i>	0.587	0.558	0.071	0.06

It is worth noting significant differences in environmental attitudes scores for males and females were found with regards to the following items: 1) “Humans must live in harmony with nature in order to survive”, scores for males ($M=1.88$, $SD=.898$) and females, $M=1.54$, $SD=.678$; $t(295) = 3.734$, $p=.000$ (2-tailed). The magnitude of the differences in the means (mean difference=.341, 95% CI: .161 to .521) with a medium effect size using Cohen’s d ($d=.4$); and 2) “Nature can have value beyond the social, economic, or cultural values held by humans”, scores for males ($M=1.67$, $SD=.804$) and females, $M=1.39$, $SD=.513$; $t(295) = 3.368$, $p=.001$ (2-tailed). The magnitude of the differences in the means (mean difference=.276, 95% CI: .114 to .438) with a medium effect size using Cohen’s d ($d=.4$).

However, there was no significant difference for the item, “Plants and animals exist primarily to be used by humans” with the score for males ($M=2.09$, $SD=1.067$) and females, $M=2.02$, $SD=1.009$; $t(295) = .587$, $p = .558$ (2-tailed). The mean difference = .071 with a 95% CI: -.168 to .311.

The null hypothesis that there is no significant difference between males and females on environmental attitudes can be rejected. Female respondents placed significantly higher importance on attitudinal environmental items than did males. These items were statistically significant with females having a higher mean score than males.

VISITORS PREFERENCE AND BEHAVIOR

In testing Hypothesis 2, tourists who participated in the ecotourism program were divided into three groups based on their average preference score to determine the effect of preference for environmentally responsible tourism on Half Moon Bay tourists’ environmental behavior:

- Group 1- Average Preference Score between 1-2.1 (Strongly Agree to Agree) = High Preference
- Group 2- Average Preference Score between 2.17-3.1 (Slightly Agree to Neither Agree/Disagree) = Moderate Preference
- Group 3- Average Preference Score between 3.11-5 (Slightly Neither Agree/Disagree to Disagree and Strongly Disagree) = Low Preference

This analysis is a modified version of an analysis method used by Lee and Moscardo (2005) and Kim et al. (2011) who created involvement groups based on participants' responses to items regarding preference and then conducted an ANOVA test to determine the participants' behavioral intention.

The preference groups showed a normal distribution and a one-way between-groups ANOVA test was conducted to determine the differences in preference level and behavioral intention. In this test, the preference group was the independent variable and the behavior was the dependent variable. Descriptive statistics for these variables can be found in Table 5.

Table 5 Descriptive Statistics for Average Behavior of Preference Groups

Preference Group	N	Mean	Standard Deviation
<i>1.00 (High Preference)</i>	91	2.01	0.53
<i>2.00 (Moderate Preference)</i>	179	2.45	0.51
<i>3.00 (Low Preference)</i>	36	3.21	0.58
<i>Total</i>	306	2.41	0.63

In order to find significant differences in the mean scores between the variables, the one-way ANOVA test was used and a Tukey post hoc test identified where the differences lied.

The results of the one-way ANOVA tests indicated that there were statistically significant differences between average behavior and group 1 (high preference), group 2 (moderate preference), and group 3 (low preference). There was a statistically significant difference at the $p < .05$ level in the behavior scores for the three preference groups: $F(2, 303) = 67.2$, $p < .001$. Despite reaching statistical significance, the actual differences in mean scores between the groups was minor. The effect size, calculated using Cohen's d was .3 reflecting a large effect size. Post hoc comparisons using the Tukey HSD test indicated that the mean scores for Group 1 ($M = 2.01$, $SD = .53$), Group 2 ($M = 2.45$, $SD = .51$), and Group 3 ($M = 3.20$, $SD = .58$) were significantly different from one another (Tables 6 and 7).

Table 6 ANOVA test for Average Behavior and Preference Groups

	Df	F	Sig.
<i>Between Groups</i>	2	67.2	$P < .05$

<i>Within Groups</i>	303		
<i>Total</i>	305		

Table 7 Tukey HSD Post Hoc test for Average Behavior and Preference Groups

All Preference Groups	All Preference Groups	Mean Difference	Sig.
1.00 (High Preference)	2.00	-.44	.00
	3.00	-1.19	.00
2.00 (Moderate Preference)	1.00	.44	.00
	3.00	-.76	.00

Therefore, the null hypothesis that there is no significant difference in environmental behavior based on the preference level of tourists in environmentally responsible tourism can be rejected. The higher the level of environmental preference reflected a higher score for environmental behavior.

DISCUSSION AND CONCLUSIONS

To examine Hypothesis 1 and 2, the research revealed that environmental attitude was impacted by gender, and environmental behavior was impacted by the tourists' level of preference for environmentally responsible tourism in Half Moon Bay. The current research provides both a theoretical and practical relevance to leisure providers in the tourism industry by using environmental attitudes and behaviors for ecotourism participation and programming.

The results suggest that the first hypothesis lack support as a difference existed between males and females in their environmental attitudes. These findings are consistent with the previous study that found that women had a more favorable environmental attitude than men, but this was not significant (Lee et al., 2005). Also consistent with the findings of Meng et al. (2008) who investigated destination's attributes, women placed a higher importance on attributes regarding the appreciation for the natural environment and recreational activities, involving culture and history. Although a difference in gender perspective was uncovered, both males and females had a high average environmental attitude in this study which also is in line with the findings of Meng et al. (2008) and Tao, Eagles, and Smith (2004) who conclude that potential nature tourists will show an overall greater interest in environmental activities and learning about nature. The difference in male and female attitudes found in this study also contradicts the findings of Tao et al. (2004), who found that national park visitors that expressed a pro-environmental attitude were mainly men. However, research focusing on environmental attitudes based on gender has been limited. Overall, research

indicates that there is a difference in gender perspectives. According to Carrier (2007):

Zelezny et al. (2000) suggest a socialization theory as explanation for the gender differences. They described the shaping of females across cultures to be more expressive, cooperative, and helpful in caregiver roles, connecting pro-environmental behavior as a special kind of helping, while males are socialized to be more independent and competitive. Gender plays a significant role in the study of effective environmental education because of the different self-concepts that males and females bring to the development of their roles (Buzhigeeva, 2004).

Since gender forms our perspectives, it is necessary for tourism providers to understand the various gender-based perspectives in order to develop appropriate ecotourism programming. Additionally, overall tourists expressed a high environmental attitude, which further supports Half Moon Bay's ecotourism efforts. This finding may be due to the fact that one of Half Moon Bay's major attractions is the natural setting making the destination desirable for certain types of tourists. Therefore, Half Moon Bay businesses can use gender perspectives in their marketing as a way to attract environmentally conscious males and females who have various lifestyles.

Furthermore, the second hypothesis lacked support as a difference occurred in environmental behavior based on the preference level of tourists in environmentally responsible tourism. In this study the higher the level of preference for environmentally responsible tourism and involvement in ecotourism, the greater the average environmentally responsible behavior. These findings are consistent with the previous study that found that visitors with a high preference were more aware of the negative environmental impacts of not engaging in environmental behavior and a greater intention to purchase from environmentally conscious tourism providers in the future than those who had a lower preference (Lee et al., 2005). The result of this were also consistent with Kim et al. (2011) who found that visitors who participated in the environmentally focused visitor center had some significant differences in attitudinal statements than those who did not visit the center. Consistent with this finding, the visitors who expressed a positive environmental attitude also participated in a variety of the interpretative programs at the visitor center, while visitors with a lower attitude did not fully participate in the programs. As a result, the visitors who had a strong environmental attitude and fully engaged in the visitor center had a higher behavioral intention toward future environmental action than those who did not or only moderate interest. Therefore, the benefits of interpretative programs can be seen in the attitudes of the participants and their overall level of involvement in the programs. Since Half Moon Bay visitors express a more

positive environmental attitude and the sample consisted of ecotourism participants, this finding could be “described as an example of ‘preaching to the converted’” (Lee et al., 2005, p. 562). This research demonstrated the *demand side* of interpretation, where tourists who have a positive environmental attitude travel to destination and take part in activities where they can express this attitude. In this case, interpretation is viewed as a tourists’ intention to action based on their beliefs.

THEORETICAL IMPLICATIONS

The results of this study used the *Theory of Planned Behavior* as a conceptual framework to analyze the behavior of tourists visiting Half Moon Bay. The study focused on the three main constructs of the theory: attitude, intention to act, and behavior. Three main theoretical implications emerged from this study. The first is that attitude is formed by subjective norms. Subjective norms are the perceived social pressures to engage or not engage in a behavior (Ajzen, 2006). This research presented the gender perspective on attitudes and it was found that genders have different views on the environment, which is largely due in part to the fact that men and women’s views are based on their social norms.

Second, the effect of attitude on behavioral intention is marginal (Hsu et al., 2012). Behavioral intention can be used as a predictor of actual behavior; however, the information that is essential for the tourism providers is the actual behavior. Although the model presents the intention to act construct as the connector between attitude and behavior, how an intention to actualize into behavior is the issue that needs to be further investigated. “The *Theory of Planned Behavior* theorized that intention results in behavior when there is an opportunity to act” (Hsu et al., 2012, p. 396). This study showed that for the case of ecotourism, the interpretation concept can be used as this opportunity to act.

Thirdly, the theory framework helps to conceptualize behavior as the successor of attitude. The *Theory of Planned Behavior* was supported in this research as attitude was seen as an indicator of behavior. Half Moon Bay visitors expressed a positive environmental attitude and in turn a positive environmental behavior. However, other factors such as economic, situational, and personal issues can interfere with the ability of the theory to predict actual behavior (Hsu, 2012), making it necessary to investigate all aspects of the participants and control for some variables, such as demographics and reasons for travel.

PRACTICAL IMPLICATIONS

This study has implications for ecotourism in Half Moon Bay and the participating ecotourism businesses. Visitors who participated in an ecotourism

activity appeared to be concerned with their environmental attitudes and behaviors and the impact on the travel destination. However, the participant profile results indicate that a minimal amount of ecotourism participants were aware of the official ecotourism program established in Half Moon Bay. It is recommended that Half Moon Bay Coastside, the founding organization of the program, improves the distribution of the program and begins to make the program more visible to potential and current visitors. First, the participating ecotourism businesses can begin to have the Ecotourism Visitor Maps readily available when guests arrive at the ecotourism business and businesses can post on their respective websites to visit the Environmental Page of the Half Moon Bay Coastside's website for more information. Second, Half Moon Bay Coastside should produce marketing materials that promote the ecotourism program while catering to the gender perspectives found in this study. For the marketing efforts to male tourists the advertising should focus on information and photos of nature-based outdoor activities that promote a fun and enjoyable destination (Meng et al., 2008). While for female tourists, the focus should be on products and services that emphasize the beauty of nature and recreational/relaxing experiences (Meng et al., 2008).

Additionally, since the majority of Half Moon Bay visitors had a positive environmental attitude and the future of the city is to move toward a more sustainable tourism industry, it would be beneficial for Half Moon Bay Coastside to join an environmental organization. If Half Moon Bay Coastside subscribed to an organization membership through The International Ecotourism Society (TIES), they would be able to network with other ecotourism organizations and can promote their sustainable practices. In this way, the city can be viewed as a leader in the industry since Half Moon Bay was one of the first cities in the United States to have an official ecotourism program.

As Half Moon Bay continues to establish itself as an environmental destination, it is necessary for the ecotourism businesses to increase the learning dimension of the program by offering more interpretative and hands-on experiences for tourists. It is the responsibility of the business to encourage interactive participation and rather than have tourists explore the environment on their own, a more proactive approach to interpretation would be for businesses to offer guided environmental tours. The guided tours could include harvesting coastal produce, restoring natural habitats, and exploring the different coastal regions of Half Moon Bay. This study found that tourists mainly traveled in groups of two or more and therefore the guided tours should encourage small groups and families to join.

LIMITATION AND FUTURE RESEARCH

This study was exploratory research for Half Moon Bay Coastside and provided a profile of Half Moon Bay visitors' demographics, attitudes, and behaviors. Since visitor data were only collected from visitors who participated in an ecotourism business program, the sample may not have been representative of tourists from the general population; thus the findings cannot be generalized to other ecotourism programs and extend to tourism destinations outside of the Half Moon Bay area. Third, surveys were collected strictly using e-mail software and respondents needed access to a computer and e-mail in order to complete the survey. Fourth, the study was limited by a low response rate because of the length of the survey and declining e-mails from the newsletter e-mailing.

Research should continue to examine the area of environmental attitudes, behaviors, and interpretative programs particularly in tourism destinations that are interested in starting an ecotourism campaign or are improving their current campaign. Future studies should improve the measurements of attitude and preference as these items were investigated separately; however, the resulting findings were similar and could be studied further as one construct. The current study examined participants that were already engaging in ecotourism and future research should investigate tourists from the general population to offer a more accurate representative of tourists to an area. Additionally, this research collected surveys using an online method and future research should vary the distribution of survey collection to increase the response rate. Surveys could be personally distributed at various dates and times when tourists arrive at the participating business.

Support for the *Theory of Planned Behavior* was found, but more research is needed in the interpretation concept being considered as an individual's intention to act. Research could further explore the *supply side* of interpretation to assess the degree to which a destination can modify an individual's behavior. In this regard, more research can be done on the gender perspective as a means of determining environmental behavior.

It is with certainty that the tourism industry will continue to develop its ecotourism sector, especially in destinations with an environmental attraction. In the case of Half Moon Bay, the Coastside Ecotours program needs to have more effective marketing and distribution as a way to create a more sustainable ecotourism industry. Therefore, it is essential for the tourism providers to identify the interests of their customers and work with the tourists to determine their innate human nature and the effects of interpretation. This information can then be used in turn to create the appropriate programs that will ideally lead tourists to have a more environmentally responsible behavior.

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