



## **Attraction Sustainability In North Carolina And Its Impact On Decision-Making**

By: Heather Rubright, **Carol Kline**, Paige P. Viren, Alex Naar, & Jason Oliver

### **Abstract**

The green movement has generated an increase in research on consumer behavior related to green products and services. The purpose of this study was to explore the factors that influence consumer choice regarding sustainable attractions and to develop a better understanding of whether the sustainable features impact visitor decision-making. Results show that the environmental practices of an attraction were not as important to visitors as other factors such as reputation, price, and the activities at the site. The results also demonstrate that when selecting among green factors, eco-furnishings and sustainability related certification play the largest role in determining the likelihood of visitation to a sustainable attraction.

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# Attraction sustainability in North Carolina and its impact on decision-making

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## a b s t r a c t

The green movement has generated an increase in research on consumer behavior related to green products and services. The purpose of this study was to explore the factors that influence consumer choice regarding sustainable attractions and to develop a better understanding of whether the sustainable features impact visitor decision-making. Results show that the environmental practices of an attraction were not as important to visitors as other factors such as reputation, price, and the activities at the site. The results also demonstrate that when selecting among green factors, eco-furnishings and sustainability related certification play the largest role in determining the likelihood of visitation to a sustainable attraction.

### Keywords:

Sustainability practices  
Attractions  
Green consumers  
Decision-making  
Perceived consumer effectiveness  
Certification  
Furnishings

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## 1. Introduction

Sustainable tourism consists of various sectors including but not limited to accommodations, dining, transportation, retail, visitor information, tour operators, and attractions. There has been a fair amount of research conducted on green consumer behavior and motivations regarding hotels and restaurants (Choi, Parsa, Sigala, and Putrevu, 2009; Han, Hsu, and Lee, 2009; Han and Kim, 2010; Kim, Kim, and Goh, 2011; Kim, Njite, and Hancer, 2013; Lee, Han, and Willson, 2011; Tsai and Tsai, 2008). In contrast, consumer selection of attractions, including the potential influence of Corporate Social Responsibility or sustainability features, has not been investigated to the same extent (Coles, Fenclova, and Dinan, 2013). Understanding consumer choice in regards to attractions is critical because the selection of destination, particularly for ecotourists, is frequently based upon the attractions (Chan and Baum, 2007; Weaver, 2006). Furthermore, out of the \$1.4 trillion generated by the travel and tourism industry in 2011, 10% of that, or roughly \$140 billion was from recreation and attractions (SelectUSA, 2016, para. 1). While many different criteria affect a consumer's decision, it is

important to understand whether, and to what degree, visitors consider sustainable features of attractions during their purchasing decision.

Attractions can be defined as the main motivation for leisure travel and consist of both natural and developed sites including cultural attractions, natural attractions, events, recreation, and entertainment attractions (Goeldner and Ritchie, 2011); additionally, attractions vary in terms of ownership, and exist in the public, private, and non-profit sectors of the economy. Regardless of attraction type, owners and developers will be better positioned to make investment decisions once they have a fuller understanding of visitors' green travel preference. Industry research has shown a significant portion of tourists prefer greener attractions. PGAV Destination Consulting (2008) reported that 70% of attraction visitors are more likely to visit attractions that pursue green practices rather than those that continue business as usual. While this would suggest investing in green practices increases an attraction's desirability, a further comparison across features, both green and others, will allow attractions to cater to the consumer's preferences while also advancing the broader understanding of consumer green preferences.

When exploring consumer decision-making, there are a variety of possible theoretical foundations to consider. Prior research has found a positive correlation between environmental concern and environmentally-friendly behavior (Kim and Han, 2010). This existing relationship would suggest perceived consumer effectiveness (PCE) as

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a relevant perspective to further examine the relationship between attraction desirability and the adoption of green practices. PCE reasons that an individual is more likely to engage in certain behaviors if he/she believes that those particular actions will have a beneficial social or environmental impact (Belz and Peattie, 2009). PCE has been applied to varying types of products and behaviors including pollution abatement (Kinneer, Taylor, and Ahmed, 1974), sustainable food products (Vermeir and Verbeke, 2006), and various sustainability related activities (Ellen, Wiener, and Cobb-Walgren, 1991; McDonald and Oates, 2006). The purpose of this research is to explore the motivations underlying consumer selection of attractions, whether sustainability factors played a role, and if a relationship exists between an individual's green purchase behaviors and their decision to select a sustainable attraction.

## 2. Consumer decision-making in sustainable tourism

Researchers in the marketing field have examined consumer decision-making since the 1950s (Sirakaya and Woodside, 2005). In the late 1980s and early 1990s, this work was expanded to service markets, including tourism, as well as green marketing (Belz and Peattie, 2009). As a result, there has been a rise in research regarding consumer decision-making in tourism and sustainable tourism. However, what customers understand is not always clear. For example, research by the European Commission found that two thirds of consumers find it difficult to understand which products are better for the environment (Roth, 2011). In regards to travel, Miller, Rathouse, Scarles, Holmes, and Tribe (2010) found that individuals who describe themselves as concerned about environmental issues were still confused as to how tourism related to the environment.

Even if consumers are aware of the relationship between the environment and tourism, there may still be a lack of engagement and action. Hjalager (2000) concluded it is still unknown whether travelers will investigate environmental standards of a travel product before actually engaging in the decision-making process. To encourage more sustainable behavior, researchers argue an increase in awareness and education among tourism consumers is important (Miller et al., 2010). For example, the Global Sustainable Tourism Council (GSTC) suggests that 'sustainable tourism' is a term and concept unclear to consumers, partly because the industry has not defined it well (GSTC, n.d., slide 6), and partly because the industry uses multiple terms such as sustainable tourism, responsible tourism, ecotourism, and green tourism (GSTC, n.d., slide 6).

Additionally, there are individuals who believe that the green traveler must be defined and segmented, a reasonable assertion for certain research and marketing purposes. For example, the CMIGreen Annual Green Traveler Survey Report exclusively utilizes results obtained from green travelers. This segment is comprised of respondents who consider themselves to be very or extremely eco-conscious and who took at least one overnight vacation in the past year (Roth, 2011). However, CMIGreen, a green tourism marketing research organization, does acknowledge, that a green traveler can range anywhere from an upscale tourist desiring a comfortable green hotel to a self-sufficient eco-adventurer (Roth, 2011).

Another instance of the segmentation of green consumers is the typology created by McDonald, Oates, Alevizou, Young, and Hwang (2012). Their typology consists of three categories of green consumers: Translators, Exceptors, and Selectors. Each category approaches green consumption differently (McDonald et al., 2012). Translators are partially green, motivated by a sense of doing what they believe is the right thing in each situation, not holistically, and they are open to change. The greenest group in the typology is the Exceptors. For this group sustainability is a priority in every facet of their lives, they are change seekers, and they have the "most sophisticated understanding of sustainability" (McDonald et al., 2012, p. 454). Motivated by one green factor, Selectors are the largest group. Selectors are green in one

aspect of their lives and they do not focus on sustainability holistically (McDonald et al., 2012).

While this work has identified the relationship between environmental preferences and travel, green is only one part of sustainable choices. In terms of sustainable tourism, the effects of tourism on socio-cultural values have been previously recognized and impacts on the environment can be linked to impacts on communities (Pomeroy, Noble, and Johnson, 2011). Responsible tourists not only place an emphasis on environmental concerns but also "a desire to show respect for local communities, and to share the economic benefits of tourism directly with local people" (Weeden, 2011, p. 215).

### 2.1. Certification programs

One strategy advocates and researchers have put forth to alleviate some of the confusion for tourists to make sustainable travel choices is sustainable tourism certification (Font, 2002). A certification program is a set of standards and criteria created by a third party that if abided by, provide assurance to the consumer (Font, 2002). However, even certification programs have created a set of their own problems, such as a lack of well-defined certifications available for the identification of environmentally friendly tourist products (Hjalager, 2000), a proliferation of ecolabels creating confusion for customers to the point where they prefer to ignore the messages altogether (Font, 2002). Font (2002) identified over 100 ecolabels for tourism, hospitality, and ecotourism. Esparon, Gyuris, & Stoeckl (2014) similarly expressed that the abundance of competing programs and the lack of uniform standards, creates a challenge for consumers who wish to choose a reliable program. These issues indicate that trusted certification programs for sustainable tourism products may have significant value for consumers. Research has shown that consumers view certification programs and ecolabels as positive and find them to be important (Esparon et al., 2014; Puhakka & Siikamäki, 2012). Lastly, certification has been said to benefit consumers by providing a guarantee of quality and reliability (Esparon et al., 2014).

In order to ease the complexity of certification programs in tourism, and help clarify sustainable tourism choices, more simple, efficient, effective, and universal certification organizations and standards would be advantageous. As noted by Font (2002), only in the late 90s were there efforts to create international umbrellas for environmental certification, beginning with Green Globe in 1998. He states that international labels are likely the only labels that will influence tourist purchases. Currently, there are emerging environmental standards such as Global Sustainable Tourism Council's criteria (GSTC). According to the GSTC guidelines, sustainable tourism certification programs recognized by their program should define "sustainable tourism in a way that is actionable, measurable, and credible" (GSTC, n.d.). This organization certifies systemic sustainability, but whether this will be sufficient to encourage travelers to choose sustainable businesses and organizations that have such a certification designation is still undetermined.

### 2.2. Hotel, restaurant, and attraction research

Despite the ongoing debate regarding sustainability and traveler preferences, there has been a great deal of consumer behavior research conducted on hotels and restaurants, some of which involves environmentally friendly characteristics of the facilities and products. For example, Tsai and Tsai (2008) have researched consumer behavior related to environmental ethics in green hotels and found a positive relationship between the environmental ethics of consumers and hotel related consumption behaviors (Tsai and Tsai, 2008). Similarly, Choi et al. (2009) study of the lodging industry found that consumers demonstrated high willingness to pay for hotels that employed environmentally responsible practices. According to Han et al. (2009) consumers' attitudes toward green behaviors and overall image of a green hotel resulted in positive relationships toward visit intentions, word of mouth intentions,

and willingness to pay. Lee et al. (2011) explored critical factors involved in consumers' decision-making processes concerning eco-friendly hotels and found that the expected outcomes held by consumers were positively related to both visit intention as well as word of mouth intention.

In terms of restaurants, Kim et al. (2011) have explored behaviors of food tourists and their intention to revisit. By using the modified theory of reasoned action, they found a positive correlation between perceived value, intention to revisit, and satisfaction (Kim et al., 2011). Kim et al. (2013) studied consumer emotions in regards to their intention to choose eco-friendly restaurants. The theory of planned behavior was utilized in the study and it was discovered that subjective norm was the best predictor of behavioral intentions for consumer selection of an eco-friendly restaurant (Kim et al., 2013). Hu, Parsa, and Self (2010) studied consumer behavior in the context of green restaurant selection. They found that consumers' knowledge about the sustainable practices of a restaurant and the consumers' environmental concerns were both important determinants of patronization intentions (Hu et al., 2010).

The same amount of attention has not been given to consumer behavior in regards to attractions. Because attractions have the potential to influence the volume of tourist activity to a region, knowing more about consumer purchasing is important. There are a variety of attractions types, each of which has the potential to attract various and wide ranging segments of tourists. Attractions can be built or natural, they can be owned and managed by various entities, and they can have varying specific attributes (Weaver, 2006). All of these factors can and do affect the decisions a tourist makes when selecting a site to frequent.

Some consumer behavior research has focused on tourists visiting specific types of attractions. For example, to develop a consumer profile and better understand wine tourists, their attitudes and behavior have been explored (Asero and Patti, 2011). Similarly, another aspect of consumer behavior, motivation, has been examined in sports tourists with the purpose of identifying travel motives for this specific group of tourists (Kurtzman and Zauhar, 2005). There are also studies that have researched tourist satisfaction (one potential factor in consumer behavior) in protected areas (Okello and Yerian, 2009), the attractiveness of sustainable forest destinations to tourists (Lee, Huang, and Yeh, 2010), which can affect tourist motivations and preferences, and also destination attributes (including attractions) that draw ecotourists to ecolodges (Chan and Baum, 2007).

Finally, while tourist behavior in the context of certain specific attractions, and consumer behavior in the context of green purchases (including hotels and restaurants) exists, there seems to be very little research on the intersection of these two areas. Very few studies have explored consumer behavior, and more specifically sustainable or green attractions as a whole. This study is an attempt to address these gaps in the literature.

### 2.3. Consumer behavior theories

Consumer behavior theory utilizes internal variables: attitude, cognitive (belief), affective (feeling), and behavior (reaction). Tsai and Tsai (2008) assert that consumer behavior can be affected when the three attitude components are perfectly compatible. However, disagreement exists whether there is a correlation between the components, which adds uncertainty as to whether environmentally conscious consumers will actually make environmentally conscious consumer decisions. Additionally, the effects of the cognitive and affective components can vary from the resulting behavior (Tsai and Tsai, 2008).

Another theory that has been used to explain consumer behavior in various contexts, including green hotels, is the Theory of Planned Behavior (TPB), proposed by

Icek Ajzen, which considers volitional and non-volitional control to explain behavior (Han and Kim, 2010). This theory has been effective in predicting the power of a customer's intention to revisit green hotels (Han and Kim, 2010). Han and Kim (2010) used an extended TPB model in order to show that not only do attitude, subjective norm, and perceived behavioral control aid in the ability to determine a customer's intention to revisit a green hotel, but overall image, customer satisfaction, and frequency of past behavior contribute as well.

According to Belz and Peattie (2009) perceived personal relevance, social responsibility, and trust are three important sets of attitudes to consider in regards to consumer willingness. Perceived personal relevance relates to "the extent to which consumers see a connection between their lives and consumption behavior and a particular issue" (Belz and Peattie, 2009, p. 83). An area of concern associated with this is the potential disconnect between the problem frame and the personal frame (Belz and Peattie, 2009). The problem frame refers to global environmental challenges while the personal frame refers to an individuals' home, life, work, and family (Belz and Peattie, 2009). The common thread among these theories is the connection between attitude and behavior. Attitude and behavior are also essential components to the idea of self-efficacy and the theory of perceived consumer effectiveness, which involves an important set of attitudes and beliefs related to personal relevance (Belz and Peattie, 2009).

Bandura (1997) created the term self-efficacy in order to describe the degree that an individual believes himself or herself to be capable of exercising control over behaviors necessary for generating certain desired outcomes. It can be said that perceived consumer effectiveness could be considered "self-efficacy with regard to the behavioral domain consumption and the outcome domain environmental preservation (Hanss & Böhm, 2013). Therefore, perceived consumer effectiveness is essentially self-efficacy in the specific context of consumer behavior (Hanss & Bahm, 2013).

### 2.4. Perceived consumer effectiveness

Perceived consumer effectiveness (PCE) is also related to behavioral control (Vermeir and Verbeke, 2006), and as previously stated, refers to an individual's belief that his or her actions can have a beneficial impact on social or environmental issues (Belz and Peattie, 2009). This theory suggests that consumers are more likely to engage in behaviors that they believe will make a difference (Belz and Peattie, 2009) and allows them to exert their influence as a purchaser through such beliefs.

The original purpose of PCE was to explore purchases, however it can also be adapted and applied to study other facets of consumption behavior (Belz and Peattie, 2009). In 1974, Kinnear, Taylor, and Ahmed defined PCE as a measure of the extent a consumer believes he or she can be effective in regards to pollution abatement. Results indicated that consumers who "could be useful in pollution abatement demonstrated higher than average concern" (Kinnear et al., 1974, p. 22). Since then, this theory has been used extensively to explain environmental attitude and behavior. As demonstrated by Ellen et al. (1991), PCE is distinct from environmental concern and can contribute to the prediction of certain pro-ecological behaviors. Their results showed that motivating consumers to express their concerns through actual behavior is partly a "function of increasing their perception that individual actions do make a difference" (Ellen et al., 1991, p. 102). Berger and Corbin (1992) note that PCE has been found to be modeled more effectively as a separate construct from attitude and thus consider it as an "estimate of the extent to which personal consumption activities contribute to a solution to the problem" (p. 80). Their research examined whether PCE would moderate the relationship between environmental attitudes and personal consumer behaviors (Berger and Corbin, 1992). Indeed, they found that individuals who perceive themselves to have more personal efficacy also have higher correlations between environmental attitudes and consumer behavior (Berger &

Corbin, 1992). Roberts (1996) also confirmed that PCE is an effective predictor of environmentally conscious consumer behavior. His study determined that the higher an individual's PCE, the greater the likelihood that the individual would participate in general ecologically conscious consumer behaviors (Roberts, 1996). Furthermore, Straughan and Roberts (1999) point out that individual environmental concern does not automatically lead to proactive behavior unless the individual feels as though they can be effective tackling environmental issues. However, Kim (2011), in her study on the effects of collectivism, values, and attitudes on environmentally friendly purchases did not find that PCE improved the prediction of green buying behavior, despite finding that environmental attitudes did have a weakly positive effect on green buying behavior. Kim (2011) acknowledged that a possible limitation to the study was the fact that undergraduate students were used as the sample, and therefore may not be representative of the general consumer. Tan and Lau (2011) conducted a survey of university students in Malaysia in which they were asked questions about environmental attitudes, green purchase attitudes, the frequency of green purchase behaviors, and PCE. They concluded that both PCE and green purchase attitude were significantly related to green purchase behavior (Tan and Lau, 2011). There was not however a significant relationship between environmental attitude and green purchase behavior (Tan and Lau, 2011). This particular finding was not consistent with other research studies. The concept of PCE, or environmental self-efficacy, was also studied in conjunction with environmental values in order to create an environmental propensity framework (EPF) to segment automobile customers with the goal of encouraging the adoption of hybrid vehicles (Oliver and Rosen, 2010).

Generally, it has been found that people who have shown higher PCE are likely to be more environmentally concerned (Tan, 2011), and PCE also has significant correlation to different types of environmental behaviors such as recycling, choosing environmentally friendly products, and consciously reducing household electricity usage. In the context of sustainable tourism, Kim and Han (2010) found that PCE plays an important part in explaining hotel customers' environmentally friendly decision-making process along with environmentally conscious behaviors. They found the connections between environmental concerns, PCE, and environmentally conscious behaviors to be positive and significant (Kim and Han, 2010). Additionally, these variables also aid in the prediction of intention to pay conventional hotel prices for a green hotel (Kim and Han, 2010). This theory has great implications for sustainable tourism in several ways. When people feel as though they have the power to act and those actions can have positive results, they are more inclined to take that action (Wesley, Lee, and Kim, 2012). For this to happen, those individuals must believe that their efforts can contribute to the solution of a problem and the behavioral change will occur "when the consumer is convinced that behavior will have an impact on bringing about change" (Wesley et al., 2012, p. 34). Therefore, if this theory can be effectively applied to sustainable tourism, there is a greater chance that consumers have the potential to be the driving force for the continued promotion and implementation of sustainable tourism practices industry wide.

Research on attitudes, values, intentions, and norms and their impact on behaviors have dominated this area of research despite the fact that there has been growing evidence that "their influence varies across different types of behavior and contexts" (Peattie, 2010). Additionally, it can be argued that there is not one single unifying theory for changing behavior, as individual motivations are too complex and multifaceted (Miller et al., 2010). Nevertheless, psychological and sociological theories for consumer behavior are still relevant explanations to consider in sustainable tourism decision-making and behavior. Furthermore, as theories such as the Theory of Reasoned Action, consumer behavior theory, and the Theory of Planned Behavior are several of the widely popular and frequently employed theories that are used to explain consumer behavior, PCE offers a refreshing and often underutilized perspective. With this in mind, we employed PCE

as our framework in this study which attempted to address the following issues:

- 1) *What factors influence an individual to select an attraction to visit?*
- 2) *How much of an impact do the sustainable features of an attraction have on the selection of that attraction?*
- 3) *How much does perceived consumer effectiveness explain the selection of sustainable attractions?*

### 3. Methods

#### 3.1. Sample

The sample was drawn from visitors to North Carolina attraction sites recognized by NC GreenTravel, an initiative developed through a partnership with NC Division of Environmental Assistance and Customer Service, the Center for Sustainable Tourism at East Carolina University, the NC Division of Tourism, Film & Sports Development, and Waste Reduction Partners. Attractions recognized by NC GreenTravel have met or exceeded the initiative's standards for a green attraction site. The four sites selected for this study were Grandfather Mountain, Chimney Rock at Chimney Rock State Park, and the North Carolina Zoo, and represent a geographic dispersion throughout the state (Table 1).

A convenience sample was collected via social media sites (Facebook, Twitter) and member email lists provided by the attractions. The project was not funded, but rather completed as an outreach activity by the sponsoring university, therefore a convenience sample was deemed appropriate. As this study's intent was to explore the behaviors of general attraction attendees, no differentiation was made between respondents based on being a resident and tourist. The attraction manager or park director at each site provided assistance in making requests for participation and obtaining respondents. Once the program manager reviewed the survey materials, a link to the survey was posted on social media sites and sent to email addresses of attraction members. An incentive was used to entice the respondents to complete the survey; individuals completing the survey would be entered into a drawing for a set of four attraction tickets.

#### 3.2. Survey design and distribution

The instrument was comprised of both previously constructed and tested survey questions as well as adapted questions (Berger and Corbin, 1992; Ellen et al., 1991; Kim, 2011; Roberts, 1996; Roth, 2011; Tsai and Tsai, 2008). The questions asked respondents about their actual past behavior (opposed to intentions) in an attempt to reduce social desirability bias (Roxas & Lindsay, 2012).

The survey consisted of four sections. To orientate the respondent, the first section began with a general definition of 'sustainable tourism' and 'tourist attraction.'

After the definitions were presented, there were two categorical survey questions geared toward exploring factors that influence an individual's attraction choice, *Please think about the last vacation you took and specifically the attractions you visited. Which of the following characteristics of the attractions most influenced your decision to visit them? Please select the top three, and Now please think about the last time you visited (specific NC GreenTravel site). Which of the following factors most influenced your visit? Please select the top three.* The first question asked about attractions in general, while the second question asked about the specific NC GreenTravel attraction from which the respondent was obtained.

Section two inquired as to the importance of "green" initiatives as well as traditional reasons for selecting an attraction. Additionally, this section examined the likelihood of a respondent seeking out and choosing a more sustainable attraction site while on vacation, and the likelihood that the sustainable practices of an attraction increase the

Table 1  
Attractions.

Site	Established	Annual visitation	Acreage	Key features
Grandfather Mountain	1952	250,000	720	5946 ft peak and mile-high swinging bridge
Chimney Rock	1902	N250,000	1000	535-million-year-old monolith
North Carolina Zoo	1974	N700,000	2200	Over 1600 animals

chance of visitation to that site; these questions were used as the dependent variables in the analyses.

The third section asked respondents to indicate their level of agreement to eight PCE questions. The scales ranged on a 4-point Likert scale from strongly disagree to strongly agree and included an 'unsure' option. A 4-point scale was chosen to avoid confusion among too many degrees of agree and disagree and to force respondents to have an opinion, which encourages deeper processing of the item (Smyth, Dillman, Christian, and Stern, 2006).

The last section of the survey included demographic questions such as age, gender, household income, educational level, ethnicity, and residential zip code. The survey instrument was piloted and placed on a web-based platform and a link to the survey was posted on social media websites and also sent to the individuals who had 'opted in' to attraction newsletters. Reminders were posted on social media. Table 2 summarizes the solicitation schedule for each attraction.

After three weeks of data collection, 681 useable surveys were collected from the sites. Data were analyzed in SPSS 20.0 using multiple regression and Pearson's correlation.

## 4. Results and discussion

### 4.1. Demographics

The majority of respondents were female (71.8%), between the ages of 35-44 (23.6%), and White (92.5%). Most had some college or were college graduates (60.2%), while 23.5% had obtained a post-graduate degree. Most respondents (43.6%) reported income between \$50,000-\$100,000 and were North Carolina residents (77.8%).

Response rates at the three participating sites were varied with Grandfather Mountain (45.4%) having the highest response rate, followed by North Carolina Zoo (39.8%). Chimney Rock had the lowest response rate (14.8%).

### 4.2. Influencing factors for attraction selection

Research question 1 asked *What factors influence an individual to select an attraction to visit?* To answer this question, we summarized the descriptive statistics of three questions. First, we asked respondents to *Please think about the last vacation you took and specifically the attractions you visited. Which of the following characteristics of the attractions most influenced your decision to visit them?* The top three attraction characteristics that influenced choice were *activities available* (64.6%), *reputation* (52.3%), and *price/good value* (48.0%; Table 3). Second, we asked the same question however this time it was directed specifically toward one of the three attractions in the study. The three factors that respondents said most influenced their visitation to the specific attractions (Grandfather Mountain, NC Zoo, or Chimney Rock) were *reputation of*

Table 2  
Survey solicitation schedule.

	Chimney Rock	Grandfather Mountain	North Carolina Zoo
First solicitation	5/8	5/1	5/1
Second solicitation		5/13	5/20
Final solicitation			
Facebook posts	5/12 and 5/19	5/6	5/19
Twitter posts		5/2	

*the attraction* (55.2%), *activities available at the attraction* (47.9%), and *friend/family member wanted to visit* (45.7%).

Thirdly, we asked respondents *Generally speaking, on a 4-point scale of unimportant to extremely important, in the past two years, how important were each of the following when selecting one attraction over another to visit?* The three most important general factors when selecting an attraction to visit were *reputation of the attraction* (92.4%), *price/good value* (85.2%), and *activities available* (82.9%). The three most important sustainability initiatives (or green factors) were *natural landscape* (79.4%), *indoor air quality* (71.4%), and *recycling* (62.8%). This question focused on the importance of factors, while the previous similar question asked about influence on choices.

### 4.3. Dependent variables

The likelihood of sustainable practices impacting a respondents' choice to visit the attraction was varied. Nearly one-third (31.5%) of the respondents felt that it was somewhat likely, while another 27.6% felt it was very likely. The majority of respondents (41.9%) indicated that it was likely they would seek and choose sustainable attractions while on vacation in the coming year.

### 4.4. Perceived consumer effectiveness

To determine whether respondents felt their actions could make a difference concerning environmental issues, related beliefs were measured (Table 4). Results indicate that respondents felt they could contribute positively to environmental matters. For example, the majority feel that *a consumer's behavior can have positive effects on society* (90.1%), that *individuals are capable of helping to solve environmental issues* (80.4%), and they try to *consider how travel products will affect the environment* (51.7%).

### 4.5. Influence of sustainable factors (test results)

To determine the level of impact the sustainable features of an attraction have on selection of that attraction (research question 2), three multiple regression models were run. These included, 1) the importance of the general factors relating to the likelihood of seeking out and choosing sustainable attractions (CSA); 2) the importance of the green factors relating to CSA; 3) and the importance of the green factors relating to the likelihood that the sustainable practices of attractions increase the chance of visitation (ICV). Prior to the regression analysis, the data was checked to ensure it met assumptions.

Table 3  
Influential factors for attraction selection.

Answer options	General	n	Specific	n
Because of the activities available at the attraction	64.6%	440	47.9%	326
Reputation of the attraction	52.3%	356	55.2%	376
Price/good value	48.0%	327	34.9%	238
Friend/family member wanted to visit	37.2%	253	45.7%	311
Convenient location	23.9%	163	30.7%	209
Because of environmental/sustainable/socially responsible practices of the attraction site	23.6%	161	30.4%	207
A special event occurring at the attraction	18.2%	124	15.0%	102
Don't remember	0.6%	4	1.3%	9

Table 4  
Perceived consumer effectiveness.

Answer options	Strongly disagree	Disagree	Agree	Strongly agree	Unsure	n
There is not much that any one individual can do about the environment	44.5%	46.5%	6.3%	1.8%	0.9%	681
The conservation efforts of one person are useless as long as other people refuse to conserve	35.3%	49.3%	10.8%	3.5%	1.0%	679
Each consumer's behavior can have a positive effect on society by purchasing products sold by socially responsible companies	2.2%	4.1%	45.9%	44.2%	3.5%	679
I feel capable of helping solve the environmental problems	1.5%	12.8%	56.5%	23.9%	5.3%	678
I can protect the environment by buying products that are friendly to the environment	1.5%	3.5%	51.0%	40.4%	3.5%	678
I feel I can help solve natural resource problems by conserving water and energy	1.2%	4.6%	50.3%	39.9%	4.0%	676
When I buy everyday household products (such as groceries or cleaning products), I try to consider how my use of them will affect the environment and other consumers	3.9%	17.9%	45.9%	26.4%	5.9%	675
When I buy travel products (such as a hotel room or a restaurant meal), I try to consider how my use of them will affect the environment and other consumers	7.4%	34.0%	40.0%	11.7%	6.9%	677

#### 4.5.1. Model summary 1- General factors and CSA

Results of the regression model were statistically significant,  $F(9, 642) = 50.734$ ,  $p < 0.001$  and the predictor variables accounted for 41.9% of the variance in CSA ( $R^2 = 0.419$ ). Beta coefficients from the regression analysis are presented in Table 5. *Environmental/sustainable/socially responsible practices of the attraction* makes the largest unique contribution to the model and was the only statistically significant variable at the 0.05 level with a  $\beta = 0.623$ .

Based on the output from the initial run, additional regression models were not tested as only one variable was found to be significant.

#### 4.5.2. Model summary 2- Green factors and CSA

Results were statistically significant,  $F(8, 662) = 88.325$ ,  $p < 0.001$  and the predictor variables accounted for 51.9% of the variance in CSA (Table 6). *Certification as a Sustainable or Green Site* ( $\beta = 0.215$ ) had the largest unique contribution to the model, followed by *Eco-Friendly Furnishings* ( $\beta = 0.213$ ), and *Green Sustainable Dining Options Onsite or Nearby* ( $\beta = 0.162$ ). *Energy Efficiency*, *Water Efficiency* ( $\beta = 0.099$ ), *Built with Eco-Friendly Materials* were not included in the regression due to their VIF and Tolerance figures. *Natural landscape*, *Use of hybrid company vehicles*, and *Composting* were omitted from the revised model, based on the output from the initial run. Table 6 also presents each unique variance of the eight predictor variables.

#### 4.5.3. Model summary 3- Green factors and ICV

Results of the regression model were statistically significant,  $F(8, 662) = 95.221$ ,  $p < 0.001$  and the predictor variables accounted for 53.8% of the variance in ICV. *Certification as a Sustainable or Green Site* ( $\beta = 0.211$ ) had the largest unique contribution to the model, followed by *Eco-Friendly Furnishings* ( $\beta = 0.178$ ; Table 7).

In this case, only 1.08% of variance in ICV is explained by *Certification as a Green or Sustainable Site*, while *Eco-friendly Furnishings* explains 0.88% of this variance.

Table 5  
Summary of multiple regression for variables predicting CSA (N=642).

Variable	$\beta$	Std. Error	t-Value
Advertising or promotional material	0.018	0.572	0.162
Online review	-0.021	0.098	-0.618
Reputation of attraction	0.016	0.134	0.467
Convenient location	-0.064	0.115	-1.730
Price/good value	0.011	0.133	0.289
Friend/family wanted to visit	0.007	0.100	0.228
Environmental/sustainable/socially responsible practices of the attraction site	0.623*	0.094	19.598
Activities available there	0.063	0.121	1.849
Special events at the attraction	0.039	0.103	1.173
$R^2$			0.419*

#### 4.6. Influence of PCE (test results)

To answer research question 3, a multiple regression analysis was done in order to explore perceived consumer effectiveness and its relationship to CSA.

##### 4.6.1. Model summary - PCE and CSA

Results of the regression were statistically significant,  $F(7, 670) = 37.333$ ,  $p < 0.001$  and the predictor variables accounted for 28.3% of the variance in CSA (Table 8). The variable that had the largest unique contribution to the model ( $\beta = 0.681$ ) was *When I buy travel products (such as a hotel room or a restaurant meal), I try to consider how my use of them will affect the environment and other consumers*, followed by *There is not much that any one individual can do about the environment* ( $\beta = -0.616$ ), and then *I feel capable of helping solve the environmental problems* ( $\beta = 0.450$ ).

Nearly five percent (4.88%) of variance in CSA is explained by *When I buy travel products (such as a hotel room or a restaurant meal), I try to consider how my use of them will affect the environment and other consumers*, while *There is not much that any one individual can do about the environment* explains 2.46% of this variance.

#### 4.7. Implications of test results

The purpose of this study was to explore whether and to what extent the sustainable features of an attraction have on a consumer's decision to frequent that site, as represented by variables CSA and ICV. PCE was used as the theoretical foundation and insight into its relationship with CSA was also examined. To answer the first research question, *What factors influence an individual to select an attraction to visit?*, descriptive results from two of the survey questions were used. Both in general and for specific attractions, the top two choices were *because of the activities available there* and *reputation of attraction*. Despite the fact that *because of environmental/sustainable/socially responsible practices of the attraction site (ESSRP)* was an answer choice, it ranked 6th out of 7 choices for both general attractions as well as specific

Table 6  
Summary of revised multiple regression for variables predicting CSA (N=662).

Variable	$\beta$	Std. Error	t-Value
Eco-friendly furnishings	0.213*	0.154	4.153
Carbon reduction or offset programs	0.105*	0.151	1.994
Recycling	0.065	0.112	1.540
Non-toxic cleaning chemicals	0.089*	0.116	2.036
The use of biodegradable products	-0.067	0.151	-1.231
Involvement in local environmental efforts	0.052	0.129	1.113
Certification as a sustainable or green site	0.215*	0.160	3.886
Green sustainable dining options on site or nearby	0.162*	0.136	3.284

Note: \*  $p < .05$ .

$R^2$	0.519*
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Note: \*  $p < 0.05$



Table 7  
Summary of revised multiple regression for variables predicting ICV (N = 662).

Variable	$\beta$	Std. Error	t-Value
Eco-friendly furnishings	0.178*	0.150	3.546
Carbon reduction or offset programs	0.132*	0.147	2.548
Recycling	0.116*	0.109	2.815
Non-toxic cleaning chemicals	0.115*	0.113	2.682
The use of biodegradable products	-0.085	0.147	-1.577
Involvement in local environmental efforts	0.065	0.125	1.425
Certification as a sustainable or green site	0.211	0.156	3.898
Green sustainable dining options on site or nearby	0.126*	0.132	2.612
R <sup>2</sup>			0.538

Note: \* p < 0.05

attractions. These results supported the findings of Tsai and Tsai (2008) in that consumers often consider the price, appearance, and functionality before assessing the environmental status of the product. Similarly, McDonald, Oates, Thyne, Alevizou, and McMorland (2009) found that sustainability criteria was compromised in favor of other factors such as price and convenience.

There may be several reasons that the environmental initiatives of an attraction did not play a greater role in the respondent's selection criteria. For example, McDonald et al. (2009) noted "sustainability criteria is not used consistently across product sectors" (p. 141) and consumers focus on different green criteria in different product segments. Therefore, environmental factors may be considered for certain products but not all (McDonald et al., 2009). Additionally, this could be explained by the fact that consumers treat vacation related decisions and purchases as luxuries, or that consumption behaviors are different or even opposite than that of daily life (Tsai and Tsai, 2008). Consumers may feel as though they 'earn' the right to choose any options on vacation because of the more environmentally friendly actions they take at home (McDonald et al., 2009).

In order to satisfy the second research question, multiple regression tests were used on three different combinations of independent and dependent variables. First, a model for General Factors and CSA was generated. This model was statistically significant, however the only independent variable that made a significant contribution to the model was ESSRP. This result reflects the sentiment expressed by Choi et al. (2009) who stated that 75% of the population uses environmental criteria when deciding on a consumer purchase.

The second multiple regression test examined the relationship between the Green Factors and CSA. These independent variables consisted of sustainability initiatives that could potentially be adopted by tourist attractions. The revised regression model was found to be statistically significant and Certification as a Sustainable or Green Site and Eco-Friendly Furnishings had the greatest unique contributions to the model. The third multiple regression test examined Green Factors with ICV. This model was also significant and similar to the above model, where Certification as a Sustainable or Green Site and Eco-Friendly Furnishings had the largest unique contribution to the model. It is interesting to note that

these two factors were only considered to be of moderate importance for respondents when selecting attractions in the descriptive results.

Lee et al. (2011) noted that furnishings were of importance in green hotels. Additionally, Abrams (2012) reported that business travelers rated the sustainable furnishings of a hotel room as important as, if not more so, than the operational efforts such as LEED certification (sustainable facility measures) and Energy Star (equipment and appliance energy efficiency) ratings. Research suggests that tourists make choices based on whether they can directly see or feel the environmental aspects, rather than less visible initiatives such as energy or water efficiency (Esparon et al., 2014; Puhakka & Siikamäki, 2012). PGAV Destination Consulting (2008) reported that LEED Certification ranked very last as an outward sign of environmental commitment valued by surveyed attraction visitors. Similarly, tourists in Thailand and Indonesia reported environmental issues that could be seen and felt such as waste, water cleanliness, and the marine environment as primary concerns for the destinations (Dodds, Graci, and Holmes, 2010).

The other top contributing factor for both models was Certification as a Sustainable or Green Site. This finding supports research done on consumer perception of certification programs (Puhakka & Siikamäki, 2012). Esparon et al. (2013, p.159) found that at "accommodations, visitors perceived most attributes of certification to be important" and that certification operators performed "better" than non-certified operators on multiple features.

When exploring the effect of PCE on the selection of sustainable attractions, the variable that had the largest unique contribution was When I buy travel products, I try to consider how my use of them will affect the environment and other consumers. This signifies that individuals, who believe they can make a difference in terms of travel products, also intend to seek out and choose a sustainable attraction. The relationship between PCE and CSA supports past studies that have shown a positive correlation between environmental concern and environmentally friendly behavior (Kim and Han, 2010; Straughan and Roberts, 1999; Tan and Lau, 2011). However, current results were contrary to the findings by Kim (2011) in which PCE did not improve the prediction of green buying behavior. Further research between PCE and consumer purchase intention in regards to tourism attractions would be constructive.

#### 4.8. Practical implications

An improved understanding of the impact of sustainable features that attraction management adopts would be beneficial for established sites, as well as future developments. Given that consumers appear to appreciate sustainable initiatives that they can see and feel more than those they cannot, it is essential for management and marketing to implement and effectively convey them. Weaver (2006) suggests that green conventional tourism products are not as visible to conscientious travelers as organic products are to the conscientious grocery shopper. Therefore, informed choice is limited by visual clues and knowledge of the product (Weaver, 2006). This realization provides marketers

Table 8  
Summary of revised multiple regression for variables predicting CSA (N = 670).

Variable	$\beta$	Std. Error	t-Value
There is not much that any one individual can do about the environment	-0.161*	0.129	-4.770
Each consumer's behavior can have a positive effect on society by purchasing products sold by socially responsible companies	0.049	0.128	1.109
I feel capable of helping solve the environmental problems	0.161*	0.110	4.109
I can protect the environment by buying products that are friendly to the environment	0.062	0.151	1.242
I feel I can help solve natural resource problems by conserving water and energy	-0.065	0.132	-1.465
When I buy everyday household products (such as groceries or cleaning products), I try to consider how my use of them will affect the environment and others	0.151*	0.108	3.524
When I buy travel products (such as a hotel room or a restaurant meal), I try to consider how my use of them will affect the environment and other consumers	0.262*	0.101	6.713
R <sup>2</sup>			0.283

Note: \* p < 0.05

rationale to establish and convey the visibility and experience of environmental initiatives needed to appeal to consumers.

This and previous research has indicated that consumers hold positive views of tourism certification programs, and has also shown them to be beneficial for consumers. Visitors utilize certification to identify sustainable tourism businesses and products, however these programs have been found to be more important for accommodations rather than attractions, suggesting that increased effort in conveying the importance of certification attributes for attractions is needed (Esparon et al., 2014). Attractions can and should confidently seek out and implement the necessary initiatives in order to obtain sustainable or green certification that will appeal to tourists, while also increasing the visibility of this endorsement. Additionally, it will be essential for certifying associations to make every possible effort to reach out to and educate not only the green travelers, but also all travelers, to obtain widespread support and recognition of certification programs.

In terms of PCE and CSA, a better comprehension of the relationship between an individual's beliefs about their environmental actions and their intention to select sustainable attractions would be useful when planning and implementing a variety of sustainable initiatives. If attraction management has the ability to convey to tourists that their actions will benefit the environmental efforts of the site, it may be more likely that tourists will choose to frequent those businesses. Furthermore, travel can also be thought of as an opportunity for individuals to choose the lifestyle they would like to have. For example, if consumers are unable to participate in green behaviors in their everyday lives, they may be more inclined to do so when on vacation. This is an important consideration for destinations and sites that chose to incorporate green initiatives.

## 5. Conclusions

This research provides insight on the motivations behind consumer selection of attractions that have adopted environmental/sustainable/socially responsible practices (ESSRP), a segment of the tourism industry that to date has been under-investigated despite its importance to the industry as a whole. This research also investigated whether sustainability factors played a role in consumer selection of attractions and whether there is a relationship between an individual's green purchase behaviors and their selection of sustainable attractions. To examine these questions, perceived consumer effectiveness (PCE) was employed as the theoretical framework, which has been used in a number of other sustainable tourism and consumer behavior studies.

Findings suggest that visitors to North Carolina sustainable attractions are most likely to base their decision to visit an attraction based on the availability of activities and the reputation of the attractions. Additionally, the findings suggest the adoption of sustainable practices by the attractions are less relevant when visitors are selecting which attractions to visit relative to other factors, which is consistent with prior research (e.g. McDonald et al., 2009; Tsai and Tsai, 2008). However, when controlling for all other sustainable attraction attributes, only ESSRPs of the attraction site were statistically significant. This finding suggests sustainable practices do play an important and unique role in influencing consumers' choice in visiting sustainable attractions; however additional research is necessary to examine in what ways the adoption of ESSRPs influences the perception of other sustainable attraction attributes.

In examining the specific ESSRPs, a number of interesting results can be seen. The most striking result is the small influence of recycling, which has been found in prior research to be an important factor in consumers' perception of a sustainable attraction (PGAV Destination Consulting, 2008). It is possible that as consumers have become more knowledgeable about sustainability, other practices have become more salient to consumers. It is also possible that this finding is unique to visitors to North Carolina sustainable attractions; however, further research is needed to clarify these possibilities. Additionally, it is interesting that being certified as a sustainable or green attraction played an important role in consumers choosing a sustainable attraction. This

finding contradicts older studies (e.g., PGAV Destination Consulting, 2008), but is consistent with more recent research (e.g., Puhakka & Siikamäki, 2012; Esparon et al., 2014), again suggesting potential changes in consumers' evaluations of sustainable attractions.

This study also found support for the relationship between perceived consumer effectiveness (PCE) and the selection of sustainable attractions, however the strength of this relationship is relatively weak. This would suggest that there is indeed a relationship between choosing a sustainable attraction and PCE, however it is possible that this relationship is either more distal or potentially affected by other factors. Further research of potential moderators or mediators of PCE and selection of sustainable attractions is therefore suggested.

### 5.1. Limitations and future research

The attractions distributed the solicitation emails and requests on their own, therefore the date of distribution of the survey solicitation was not consistent across sites. Additionally, as the participating sites were located in North Carolina, the results cannot be generalized to other locations within the state or nationally. The sites are unique and offer different recreational opportunities, which would limit generalization to other attractions.

The sample was largely female, however, consideration was given to the role women play in family decision making, especially related to vacation travel. A recent study by Barlés-Arizón, Fraj-Andrés, and Martínez-Salinas (2013) proposed that the woman's role within the couple has become more influential in certain purchase decisions, especially vacation choice. In addition, the higher percentage of female respondents may also be explained/validated by considering that women are often initiators of travel plans and gather the pre-purchase information in the context of holiday choices as found by Mottiar and Quinn (2004). Therefore, the sample of women was considered indicative of the consumer influencing choice of an attraction. The survey instrument was original, and therefore untested. It is possible that 'composite scores' could have been generated for three of the independent variable sets. Lastly, social desirability is an area of potential concern in any study that measures an individual's environmental attitudes and behaviors (Roxas and Lindsay, 2012). The answers represented the perceived attitudes and preferences, and not necessarily what respondents actually do. There were several measures taken in an attempt to minimize this effect. First, the survey was not administered face-to-face thereby allowing the respondent to answer more comfortably (and presumably truthfully) (Randall & Fernandes, 1991). Additionally, the majority of the survey questions asked respondents about actual past behavior as opposed to intention. A final limitation is this research was conducted at one point in time, therefore sampling during a different time of year might potentially yield different results.

There are a variety of opportunities for future research based on this study, including researching attractions with a large number of visible sustainability initiatives, using the individual PCE independent variables to create a composite score and test correlation with the dependent variable, exploring visitor selection of sustainable attractions in other domestic and international contexts, investigating differences between types of visitors, exploring PCE and consumer purchase intention in regards to tourism attractions through qualitative methods, and comparing consumer's intentions to their actual behavior in regards to sustainable travel products and services.

The results of this exploratory study demonstrate a connection between particular green features of attractions and the selection of sustainable sites. There is limited academic literature concerning the importance and influence of specific factors in the selection process for sustainable attractions, and additional research is needed in order to fully understand the totality of variables that affect consumer decision-making for these sites. Although a complex topic, consumer behavior in this context is an essential piece in the progression and promotion of sustainable tourism. The knowledge that is gained from this

type of research is of value to many sectors of the tourism industry. Business owners, non-profit organizations, developers, marketers, and academia can utilize this information in order to develop and implement products and services that are both appealing to consumers as well as beneficial to the environment.

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