

GREEN AT HOME. GREEN ON THE ROAD? AN EXAMINATION OF WHETHER INDIVIDUALS WHO PRACTICE ECO-SUSTAINABLE BEHAVIOURS IN THEIR DAILY LIVES MAINTAIN THESE HABITS WHILE TRAVELLING

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ABSTRACT

Recent data indicates eco-sustainable tourism accounts for an increasing percentage of total worldwide tourism receipts. The economic influence, leveraged with the positive environmental implications associated with sustainability practices, has resulted in the emergence of eco-sustainability as an up and coming area of study. This study aims to examine whether tourists who employ eco-sustainable practices in their daily routines maintain these practices while traveling. This research will essentially bridge the gap between conflicting research which indicates a willingness to pay more, and studies which exhibit price sensitivity in relation to travelers' green tendencies. Furthermore, this study will help to ascertain whether tourists seek out environmentally-friendly properties, or whether these entities are viewed as simply a convenience while travelling. This research is unique in its approach, since it examines which traits consumers are looking for in a green hospitality business and whether these firms benefit financially from increased demand if environmentally conscious policies are adopted.

Keywords: *eco-sustainability; green tourism; eco-tourism; environmental protection; eco-conscious*

INTRODUCTION

Environmental responsibility in the hospitality industry has served as a central focus of many researchers throughout the past decade. Studies examining eco-sustainability issues (2007), eco-tourism, green certification (Bowman, 2011), organic menu items (Jang, Kim, & Bonn, 2011; Poulston & Yiu, 2011) and the implementation of environmental preservation plans as part of a corporate responsibility strategy have become highly utilized; (Carroll, 1999; Font & Harris, 2004; Jones, 2002; Pojasek, 2003) by companies hoping to achieve an advantage through eco-sustainable practices and their potential benefits (Bohdanowicz & Martinac, 2007; Chan, 2009; Laing & Frost, 2010; Wallace & Russell, 2004). In addition to preserving the environment, these companies realize a return on their monetary investment, as eco-sustainable tourism is financially significant, accounting for approximately one percent (1%) of all tourism receipts, or a \$9.4 billion economic impact annually (Block, 2009, February 26). While hospitality firms are clearly influenced to become environmentally conscious by perceived reputation and higher revenues, the adoption of eco-sustainable practices is consumer driven (Sekerka & Stimel, 2011; Spaargaren & Oosterveer, 2010). Increased societal interest in environmental awareness has resulted in better-educated travelers who recognize the impact their activities have on a destinations' resources (Tixier, 2009). As environmental issues are brought to the forefront of the public's attention, many businesses are adopting sustainable programs, including Environmental Management Systems (EMS) (Chan, 2008), internal environmental benchmarks and corporate codes of conduct designed to conserve natural resources and improve their public image (Chan, 2008; Dief & Font, 2010; Font & Harris, 2004).

Environmental concerns, more specifically reducing resource consumption and waste production, have become widespread within the hospitality industry (Ernst & Young, 2008). The National Restaurant Association recently published findings which indicate "4 out of 10 full service and 31% of quick service" restaurants have set goals of implementing eco-responsible measures in 2010 (Lawinski, 2010, August 18). Major international hotel chains have adopted eco-preservation initiatives as well. Marriot announced in early 2010 its

goal to have over 9% of their 3,300 hotels LEED certified within five years (Eilperin, 2010, April 18). The economic influence, coupled with the positive environmental implications associated with sustainability practices, has created a scenario in which environmental preservation in the hospitality industry has become a focal area of academic research. According to the U.S. Travel Association, over three-quarters of American adults consider themselves eco-conscious (U.S. Travel Association, 2010). However, this same study, in addition to research conducted by Travelzoo.com and the U.N. Department of Economic and Social Affairs, revealed consumers have difficulty finding affordable eco-friendly hotels and are often unwilling to pay extra for green accommodations (U.S. Travel Association, 2010) (PR Newswire, 2010, April 1; U.N. Department of Economic and Social Affairs, 1999, April 30). Additionally, Mambo Sprouts Marketing, a leader in green product marketing, found up to 60% of tourists are motivated to pursue eco-friendly products and services related to travel (Marketing, 2007). Data demonstrates eco-friendly travelers in the U.S. are “willing to spend, on average, 8.5% more for travel” for environmentally sustainable tourism operators (Wright, 2001). Similar results indicate nearly 40% of Trip Advisor survey respondents would be willing to pay an additional premium to stay at an eco-sustainable property (Hotel-Online, 2007, April 2). Though a significant number of tourists indicate they are willing to pursue eco-sustainable businesses, results from these studies suggests that financial considerations may outweigh their environmental values.

Problem Statement

Eco-sustainability in hospitality and tourism has become an important research concept; this study was designed to bridge the gap in current eco-sustainable research through measurement of whether travelers who undertake environmentally responsible practices in their daily lives practice such behaviors while traveling.

The objectives of this study were to: (1) measure consumers’ awareness of and concern for environmental protection and preservation, (2) determine whether consumers partake in eco-sustainable practices while traveling for pleasure, and (3) identify whether consum-

ers deem recycling to be important and what external factors could influence a higher participation rate for recycling programs.

REVIEW OF LITERATURE

Eco-sustainability

Environmental protection and the green, or eco-sustainable, movement finds its roots in Rachel Carson's national bestseller *Silent Spring*, which was originally published in 1962. Carson's book exposed the toxicity of DDT, a pesticide, and its effects on the environment (Sale, 1993). Others credit the founding of the U.S. National Parks and the establishment of the National Environmental Policy Act (NEPA) as the underlying force behind the green movement in the U.S. (Brulle, 2000; Eccleston, 1999). As concern over ecological protection has gained increased national and international attention, researchers have followed suit resulting in numerous articles being published on the topic. Subsequently, the increased focus placed on environmental responsibility has forced tourism providers to evaluate their current operations in an effort to ensure they are doing their part to preserve the locale in which they operate (Dorsey, Steeves, & Porras, 2004)

Thus far, much of the research conducted on eco-sustainability issues in the hospitality industry has concentrated on regions outside the United States (Bohdanowicz & Martinac, 2007; Chan, 2009; Laing & Frost, 2010; Wallace & Russell, 2004). These studies examined hotel resource consumption (Bohdanowicz & Martinac, 2007), environmental management systems (Chan, 2009), green events (Laing & Frost, 2010), and minimization of the impact of tourists on environmentally sensitive regions (Wallace & Russell, 2004). Most of the literature based in the United States comes from trade publications and measures programs hotels and food service establishments are implementing to reduce their consumption of natural resources and decrease their carbon footprint (Boyd, 2001; Gerston, 2002; Scarpa, 2009; Sheehan, 2005). Research pertaining to eco-sustainability in the hospitality industry is imperative, as businesses and travelers are increasingly adopting green interests

and lifestyles (Scarpa, 2009). Social and cultural evidence points toward a rising interest in ecological responsibility, and scholars need to respond to these interests by examining the green motivators of consumers and businesses alike.

Importance of eco-sustainability

Environmental sustainability has garnered significant attention through books, news broadcasts, and various media channels over the past forty years (Dyllick & Hockerts, 2002). This is particularly evident in the hospitality industry, as tourism and related activities create negative impacts on a destination's resources as the influx of additional people places major demands on ecological reserves (Bohdanowicz & Martinac, 2007; Laing & Frost, 2010). Destinations are compelled to deal with a delicate balancing act as "tourism also generates resource use conflicts with the local population, and disrupts the local way of life and social structures" (World Wildlife Fund, 2008). For example, hotels consume large quantities of natural resources, and such consumption threatens the livelihood of the native people of particular destinations (Dief & Font, 2010; Kasim, 2006). There is evidence that hospitality related businesses and services have become aware of these demands, as investigation of previous data has determined eco-sustainable issues serve as a primary motivator for tourism in the 21st century (Videira, Correia, Alves, Ramires, Subtil & Martins, 2006). Further research emphasizes the necessity of equilibrium between consumption and preservation, arguing there is no way to avoid environmental depletion if involved parties only consider their needs while ignoring the available resources of a destination (Hardin, 1968).

Motivations for Eco-Sustainable Conduct

Tourism is heavily influenced by trends which must be continuously evaluated by tour operators to meet changing demands from customers. In today's society, there is increasing public interest in environmental awareness, and tourists have begun to comprehend the negative implication, which certain leisure activities have on the natural environment (Tixier, 2009). As environmental issues are brought to the forefront of the public's attention, many businesses have re-

sponded by adopting environmentally sustainable programs to help them conserve depleting natural resources and improve their public image (Chan, 2008). Due to this transformation people have become morally motivated to reduce consumption and become more sustainable.

In the service industry, studies indicate instituting eco-sustainable initiatives and purchasing green products are approached apprehensively by consumers because they are viewed as possessing high associated costs (Ambec & Lanoie, 2008; Day, 2005). A foreign study of hotels identified solar control window tinting, heating and cooling sensors, key tag operated switches, and high efficiency light bulbs as the four most commonly installed eco-friendly measures with high initial investment costs (Chan, 2009, p. 548). In the U.S., hotel chains do not currently utilize key controlled switches in their guest rooms though this is a common practice in Europe (Bernstein, 2008). The purchase cost difference between traditional and energy saving light bulbs such as CFLs or LEDs can be quite drastic. Even with these environmentally responsible items having a higher initial investment, the maximum payback period is typically under five years (Carbon Trust, 2007).

Current Eco-Sustainability Initiatives

Businesses and organizations in the hospitality industry have recognized environmentally conscious practices not only protect vital resources, but also reduce costs, thus increasing revenues. In recent years many U.S. hotels have installed low-flow toilets and showerheads, motion sensors in hallways that activate lights, and introduced opportunities for guests to do their part by reusing linens. These programs save water, reduce sewage, and decrease costs for hotels while also serving as a positive public relations campaign (Gerston, 2002).

Hotels such as the Hotel Nikko Hong Kong, Grand Stanford, and Kowloon Shangri-la, all located in Hong Kong, have recognized the importance of ecological preservation and recycling. These hotels have turned to electronic document delivery rather than using traditional mail and supplying restrooms with bio-degradable toilet pa-

per. Further measures include utilizing eco-friendly cleaning chemicals and detergents, and placing signage in hotel rooms asking guests to participate in their linen reuse program (Chan, 2009). The result of linen reuse has aided in reducing water usage in each guest room by approximately 25 gallons a day (Gerston, 2002).

Tourist motivations

Tourist motivational theory is widely studied in an attempt to create a profile which identifies underlying consumer behavior. Tourists adopt many roles which are centered around the action of travelling (Cohen, 1974). Thus, it can be argued that eco-sustainable travelers may be driven to pursue leisure trips based on motivations which are similar to those of conventional norms, but individuals may also be attracted to destinations based solely on their stated principles of ecological consciousness. Cohen emphasized “different kinds of people may desire different modes of tourist experiences” (Cohen, 1979, p. 180). The usage of mode, in this instance, pertains to the interests or desires of different tourists while on vacation (Cohen, 1979). Through his research, Cohen (1979) established five modes, which are: *recreational*, *diversionary*, *experiential*, *experimental*, and *existential*.

In the *recreational* mode, tourists are in pursuit of entertainment or amusement. Individuals searching for a release from their everyday routine are categorized into the *diversionary* mode while *experiential* tourists are motivated to experience other cultures and places, looking to learn as much as they can while remaining outside of the local society. Tourists in the *experimental* mode pursue rapture and different ways of life, sometimes seeking to become part of these new found civilizations. The tourists categorized as *existential* are in pursuit of authenticity, and use travel as a way to find a deeper meaning, often pertaining to their spiritual beliefs (Cohen, 2004). Leisure tourists are most likely to fall into either the *recreational* or *diversionary* modes, as they may be seeking sheer entertainment value or searching for a release from their everyday routine. Cohen’s modes suggest that those who travel have varying motivators linking the inner self and the outer social world.

In order to further examine the extent of the ecological motivator in tourist decision-making, Social Cognitive Theory (SCT) should be used to help illuminate the internal factors which place tourists within any of Cohen's modes. SCT is best described as a person's "view of self and society, personal factors in the form of cognitive, affective, and biological events, behavioral patterns, and environmental events all operate as interacting determinants that influence each other bidirectionally" (Bandura, 2001b, p. 266). Under SCT, human beings do not simply act on a whim; rather their thought process leads them to select the proper choice for the particular situation (Bandura, 2001b). According to SCT, human behavior both influences and is influenced by personal and environmental factors, and the decision making process is continuous and takes multiple variables into account (Bandura, 2001b). Individuals possess the capabilities of forethought and self-regulation which allow for decision making, taking into consideration both external and internal motivating factors (Pajares, 2002). SCT is relevant in tourism, as travelers weigh the consequences associated with each decision made before and during their trip.

Research conducted by Taylor (2009) pertaining to Bandura's Social Cognitive Theory determined "Bandura found that the motivation to accomplish any goal is gauged on one's own self-efficacy, or the belief in one's own ability to accomplish that goal" (Taylor, 2009, p.65). When it comes to what Bandura deems *experimental situations*, or instances in which individuals are not seeking to satisfy anyone but themselves, human beings go about a process of creating hypothetical scenarios, weighing a plan of action for each set of circumstances, and determining which strategy will garner the greatest personal benefit (Bandura, 2001a, p. 5). Humans desire to be seen in a positive light, and many individuals make systematic choices in their daily lives which help them in their desired goal of being seen as socially worthy among their peers, thus increasing their self-efficacy (Bandura, 2001a). SCT relates to tourism behavior as travel decisions require travelers to seek out destinations they believe will garner the greatest internal reward or feeling of self-worth.

Psychological motivations

Vacation decisions can be directly related to travelers' social class, as trip choices are often driven by individuals' perceived social standing, perceptions which affect the choices in products they purchase (Sinclair & Stabler, 1997). Sinclair and Stabler support this idea utilizing theories of Veblen (1899) and conspicuous consumption, as well as Liebenstein's (1950) theory pertaining to the propensity of people to join "bandwagons" to achieve social desirability (Sinclair & Stabler, 1997). Based upon these theories, people of lower-income segments idolize the habits and tendencies of the upper-class and attempt to emulate this group in an effort to gain perceived self-worth or self-efficacy. Wealthy individuals tend to set trends when it comes to travel, usually acting as first-movers, often defining what is seen as popular. People in lower-income brackets emulate these travel patterns in an effort to create superficial self-worth (Sinclair & Stabler, 1997).

METHODOLOGY

The purpose of this study was to determine how influential eco-sustainability and eco-sustainable offerings by hospitality related businesses affect travel motivations and tourist behaviors. Additionally, research was focused on determining whether key significant differences amongst groups exist in an effort to better understand the travel habits of eco-sustainable tourists.

The objectives of this study were to: (1) measure consumers' awareness of and concern for environmental protection and preservation, (2) determine whether consumers partake in eco-sustainable practices while traveling for pleasure, and (3) identify whether consumers deem recycling to be important and what external factors could influence a higher participation rate for recycling programs.

Sample

Due to the nature of this exploratory study, a purposive sampling technique was employed. Purposive sampling involves selecting a

specific group within the targeted population in an effort to increase the authenticity of the results (Kemper, Stringfield, & Teddlie, 2003). This sampling technique is subjective because the sample is chosen based entirely upon the knowledge and experience of the researchers (Guarte & Barrios, 2006), but it was deemed appropriate as this was an exploratory study. This sampling technique was selected with the knowledge that results would not be generalizable to a larger population.

The study identified tourists living in the southwestern United States and examined their behaviors, feelings, and motivations regarding eco-sustainability habits while travelling. Targeted respondents were active travelers, residing in one of five major southwestern states, specifically Texas, Utah, Oklahoma, Colorado, and Arizona. Tourists residing in seven major cities within these five states were determined as being representative of the intended population. Each state, with the exception of Texas, contained the same number of responses which allowed for the comparison of equally numbered groups. Due to the geographic size of Texas, three locations were selected within this state in an effort to achieve a more representative sample.

Instrument Development

The survey instrument contained 72 questions, 61 of which related directly to eco-sustainability practices. Emphasis was focused on environmental preservation, protection, and concern. Furthermore, questions pertaining to destinations' current eco-sustainability performance, travelers' personal eco-sustainability motivations, and general travel motivations were also asked. Eleven questions elicited demographic information. The survey was distributed electronically by Qualtrics Labs to residents residing in seven pre-determined cities based on their geographic locations and their respectively large populations: Salt Lake City, Oklahoma City, San Antonio, Dallas, Houston, Phoenix, and Denver. These locations were selected based on their geographic location in the southwestern U.S. which allowed for a consensus that the region was evenly represented. Additionally, each of the cities was selected because they maintain the highest populations in their respective states.

An exhaustive examination of extant literature, variables, constructs, and measurement scales utilized in previous research led to the conclusion that the most appropriate scale for this study was a Likert scale for the 61 eco-sustainability related questions. The quantitative and exploratory nature of this study created a scenario in which respondents needed to be provided with answer choices carrying numerical significance. Utilizing a measurement system based on rank, such as Likert scales, enabled researchers to accurately measure the sample's mind-set and attitude towards the inquiries while also allowing the results to be compared within the sample. The survey utilized a variety of measurements to gauge respondents' answers. For questions pertaining to environmental preservation, eco-sustainable travel habits, recycling behavior and attitudes, environmental concern, and eco-sustainability measures, a 7-point Likert-type scale was used. The measurements for the Likert-type scale ranged from the answer of 1 = Strongly Disagree, to 7 = Strongly Agree. Demographic questions were categorical or dichotomous in nature.

Questions were formulated to address seven aspects pertaining to eco-sustainability and tourism: *environmental preservation, eco-sustainability motivations, travel habits/motivations for travel, recycling, environmental concern, eco-sustainability, and environmental protection*. To increase validity and reliability, each of the seven subject areas were represented by three to five questions. Previous research focused on eco-tourism and eco-sustainability issues within the hospitality industry (Barnes, 1996; Goodwin & Francis, 2003; Rees, 2003; Wallace & Russell, 2004) served as development models for questions regarding environmental preservation, protection, concern, and recycling.

Pilot Study

The researchers conducted a pilot study in March of 2010 in the College of Business of a small regional university. Surveys were distributed in two independent upper division business classes. A paper copy of the survey was distributed to each student as computer access was not available in the classrooms. The objective of the pilot

study was to measure the average required length of time for each individual to take the survey and to identify key errors within the survey design. The pilot study provided feedback which entailed a slight modification; the revision of select word choices for two questions.

Statistical Analysis

Data analysis incorporated a wide range of statistical methods including Analysis of Variance (ANOVA), and mean variable calculation for demographic questions. ANOVA allowed for the segmentation of respondents based upon independent variables such as geographic location, age, and income. Independent variables such as age were statistically analyzed in comparison with the dependent variables. The dependent variables included eco-sustainability related questions.

RESULTS

Normality of Data and Assumptions

Data was processed utilizing PASW Statistics 18 software which allows for statistical analysis to be conducted via computer. PASW 18 allows for ANOVA analysis in addition to mean variable calculations for demographic type questions. Reliability and validity were also tested using PASW 18 through various scales of measurement including Cronbach's Alpha. Cronbach's Alpha coefficients for the data set pertaining to reliability ranged from .790 to .947, indicating internal consistency and reliability survey items (Santos, 1999). Data was examined for missing values and analysis concluded no question comprised more than 5% of missing data. Response rates were determined to be high enough to be considered significant; thus no cases were excluded.

Demographic Profile

The sample was comprised of 132 males (54.8%) and 109 females (45.2%), with 11 respondents failing to indicate their gender. Marital

status results indicate 149 respondents were married (60.1%), 81 were single (32.6%), and 18 provided the answer of other (7.3%) as their matrimonial categorization. Four subjects did not respond to the question eliciting marital information.

Research findings

Objective #1: Measure consumers' awareness of and concern for environmental protection and preservation.

The survey contained two subject areas related to environmental protection and preservation. The goal of the questions was to gauge respondents' feelings and attitudes toward environmental measures. Questions pertaining to protection and preservation were randomly distributed throughout the survey in an effort to prevent identification of intended research objectives.

Analysis was conducted utilizing educational segmentation, which categorized respondents into three subgroups: *some college and below*, *bachelor's degree*, and *master's and beyond*. The cross comparison of preservation and protection variables associated with education level was examined based on extant literature findings which indicate individuals with higher levels of educational attainment are more concerned and aware of environmental issues (Xiao & Dunlap, 2007). Subjects designated as having *some college and below* generated mean scores of 4.72 and 5.73 for preservation and protection issues, respectively. Individuals with a *bachelor's degree* provided mean responses of *somewhat agree* with mean scores of 5.16 and 5.58 respectively in relation to the environmental awareness measures. However, respondents' indicating an education level of *master's and beyond* generated mean scores of 4.80 for preservation and 5.71 for protection questions. These findings diverge from previous research which indicated higher levels of education were correlated with elevated environmental protection awareness. Respondents indicating they possessed a *bachelor's degree* reported the highest preservation score of 5.16; however, the group of *some college and below* demonstrated the highest protection scores of 5.73. Comparison of the educational groups exhibited responses which were homogenous in nature, with little variation between mean re-

sponses. Table 1 identifies the mean scores of the education segments concerning environmental preservation and protection.

Table 1: Mean Scores of Educational Segments Pertaining to Environmental Preservation and Protection

Education Level	Environmental Awareness Measures	
	Preservation	Protection
Some College and Below	4.72	5.73
Bachelor's Degree	5.16	5.58
Master's and Beyond	4.80	5.71

Objective #2: Determine whether consumers partake in eco-sustainable practices while traveling for pleasure.

Four questions were asked in the survey regarding eco-sustainable habits of tourists traveling for pleasure. In an effort to assess individuals' eco-sustainable travel habits while vacationing, age grouping provides the most usable statistics for comparison. Overall, all age groups demonstrated a mean score of 4, which represented a *neutral* response regarding the intention to select eco-sustainable hospitality businesses. Table 2 provides mean score responses for each age group segment in relation to environmentally sustainable travel habits questions.

Table 2: Mean Score Comparison of Age Groups in Relation to Eco-Sustainable Leisure Travel Habits

Questions	Age Group Mean Value Scores				
	18-25	26-35	36-45	46-55	56+
Whenever possible I will stay at an eco-friendly hotel, regardless of cost	4.15	3.89	3.91	4.02	3.94
I seek out restaurants which are environmentally friendly	4.27	4.51	4.23	4.4	4.29
I seek out hotels which are environmentally friendly	4.33	4.51	4.58	4.67	4.58
I seek out restaurants which offer locally grown, or organic menu items	4.03	3.97	3.91	4.12	3.94
Average Mean Scores	4.20	4.22	4.16	4.30	4.19

As shown above, respondents aged 26-35 years indicated the highest propensity (mean = 4.51) to seek environmentally friendly restau-

rants. This same group exhibited the second highest overall mean score (mean = 4.22) for each question in the eco-sustainability practices category. All age groups indicated mean responses between *somewhat disagree* to *neutral* on questions pertaining to seeking out environmentally friendly hotels. Subjects within the 36-45 category exhibited traits (overall mean score = 4.16) which indicated they were least likely to partake in ecologically sound practices while travelling.

Objective #3: Identify whether consumers deem recycling to be important, and what external factors could influence a higher participation rate for recycling programs.

Recycling is one of the more commonly occurring initiatives of eco-sustainability plans, and this study examined several facets of recycling. Perceived associated cost is addressed as a deterrent, while convenience issues are examined in relation to increasing current recycling habits of respondents. Table 3 exhibits the mean scores for the sample corresponding to the recycling statements. Significant findings pertained to the associated costs and the placing of recycling bins in convenient locations for travelers. When asked if expenses related to recycling serve as a deterrent, the sample indicated they *somewhat disagree*, with a mean score of 3.52. Subjects *agree* with the statement *If recycling bins were conveniently located I would use them*, generating a mean score of 6.09.

Table 3: Mean Scores of Respondents Pertaining to Recycling Issues (N = 252)

Category	Mean
If incentives, such as discounts on merchandise or food and beverage products, were offered at NBA arenas for recycling, I would be more inclined to participate in recycling	5.24
When traveling for pleasure I try to recycle when possible	5.38
If recycling bins were conveniently available at venues I would use them	6.09
If it were more convenient to recycle, I would recycle more waste	5.69
I feel as though cost is a major reason that I do not recycle	3.52
I recycle to the best of my ability	5.69

ANOVA Analysis

Analysis of Variance (ANOVA) was utilized as part of the overall data examination process to allow for the segmentation of respondents based upon independent variables, such as geographic location, age, and income. These independent variables were then compared to the dependent variables and areas of significance were identified. Additionally, Post Hoc comparisons were carried out with Least Significant Differences (LSD) equal variances assumed to determine the reasoning behind statistically significant differences. Results with p-values less than .05 were of particular interest as this indicated significant statistical difference.

ANOVA of income segments

Income segments were created based upon \$24,999 increments through \$125,000. The scale of \$24,999 did not provide segments with sufficient amounts of respondents above the \$125,000 in earnings segment. For instance, only four subjects identified themselves as earning between \$175,000 and \$199,000. To eliminate disparity amongst higher income brackets, those individuals indicating earnings above \$125,000 annually were grouped together to provide a sample group size of $n=28$. ANOVA analysis compared mean values generated by the individual income brackets to identify significant statistical differences between the income groups. Table 5 displays the ANOVA results, including F values and significance percentages (p-values) from the comparison of income segments and the eco-sustainability questions. Three questions demonstrated significant differences between groups: facilities fail to show concern regarding resource conservation $F(1, 252) = 2.77$, $p = .02$; convenience of recycling $F(1, 252) = 2.39$, $p = .04$; and utilizing air travel as a means of transportation to reach their destination $F(1, 252) = 3.08$, $p = .01$.

The question which addressed motivation to travel to a destination based on the locations' environmentally sustainable practices demonstrated responses moving towards significance with the associated p-value of 0.56.

Further statistical analysis was performed to identify the reasoning behind the differences in responses utilizing Post Hoc testing which utilized LSD and equal variances assumed. Table 4 illustrates the results of the Post Hoc test and LSD findings pertaining to the questions which ascertained significant statistical differences between income segments. The superscript alphabetic characters accompanying the mean scores identify groups which provided similar responses. For example, for the question *I feel as though destinations are not concerned with environmental issues*, the responses of the subjects in the \$24,999 or less income bracket generated a mean score of 4.48^a. The \$50,000 to \$74,999 income segment exhibited a mean score of 4.26^a. The superscript *a* indicates there was not a significant difference in responses to this question between these two groups. The income brackets whose mean scores are accompanied with a superscript *b* are also similar when examining their responses of this question.

Table 4: ANOVA Table After Post Hoc Testing by Income Segment

I feel as though facilities are not concerned with environmental issues				
Income	MEAN	SD	F-value	p-value
\$24,999 or less	4.48 ^a	1.610	2.768	0.019
\$25,000- \$49,999	3.69 ^b	1.380		
\$50,000- \$74,999	4.26 ^a	1.163		
\$75,000- \$99,999	4.20 ^{a,b}	1.290		
\$100,000- \$124,999	3.91 ^{a,b}	1.377		
\$125,000 and above	4.61 ^a	1.571		

If it were more convenient to recycle, I would recycle more waste				
Income	MEAN	SD	F-value	p-value
\$24,999 or less	6.16 ^a	0.987	2.391	0.039
\$25,000- \$49,999	5.75 ^{a,b}	1.328		
\$50,000- \$74,999	5.87 ^a	1.110		
\$75,000- \$99,999	5.33 ^b	1.382		
\$100,000- \$124,999	5.55 ^a	1.143		
\$125,000 and above	5.33 ^b	1.359		

I typically fly to a destination				
Income	MEAN	SD	F-value	p-value
\$24,999 or less	3.06 ^{a,b,d}	2.228	3.076	0.010
\$25,000- \$49,999	2.33 ^{b,c,d}	1.734		

\$50,000- \$74,999	2.23 ^{c,d}	1.671
\$75,000- \$99,999	2.60 ^{b,c,d}	1.789
\$100,000- \$124,999	2.14 ^{b,c,d}	1.521
\$125,000 and above	3.57 ^a	1.952

Note: a = group in agreement with others signified by a

When asked about whether they thought venues failed to demonstrate environmental concern, respondents in all income brackets, with the exception of those individuals in the \$25,000 to \$49,999, exhibited responses which indicated they perceived tourism venues as not demonstrating significant eco-conservation interest. Respondents in the income segments of \$24,999 or less and \$125,000 and above produced results representing they believed hospitality facilities were not exhibiting high-levels of eco-awareness with scores of 4.48 and 4.61, respectively. While these scores are categorically designated as *neutral*, they are trending towards the response of *somewhat agree*.

The greatest statistical difference between income categories was demonstrated with regard to flying to destinations. The mean scores for the income groups as a whole ranged from *disagree* to *somewhat disagree*. This question was geared towards identifying the travel habits of fans attending an away game, so an answer of *disagree* demonstrated that the particular income bracket did not typically fly to watch their team. Disparity in responses quantified the need for utilizing the same four separate income sub-groups when comparing mean responses. Individuals indicating annual income of \$125,000 and above were the only group which exhibited a high score, 3.57 which is classified as *somewhat disagree* but shifting towards *neutral* for this question. Thus, this income segment is the only group which may typically fly to the destination. The remaining income categories failed to identify with the highest earnings bracket. Rather, income segments of \$25,000 to \$49,999 and \$50,000 to \$74,999 generated mean responses of 2.33 and 2.23, respectively. These low scores solidify that individuals in these two income brackets are not inclined to use air travel.

ANOVA by city

The survey for this study was distributed using geographic targeting to ascertain a sample representative of the southwestern United States. Participants' geographic location was analyzed through ANOVA, comparing the results from respondents in each of the seven cities and their answers concerning the eco-sustainability questions on the survey. Numerical scrutiny confirmed responses of three questions demonstrated statistically significant differences amongst the cities. These results are contained in Table 5. Concern over the large amounts of resources arenas consume displayed a p-value of .022 with an F-value of 2.512. Questions pertaining to destinations needing to be more environmentally responsible, and the eco-sustainability of a facility generating demand provided significance values of .046 and .015, respectively.

Table 5: ANOVA by City

Category	F	Sig.
Environmental concern	1.020	.413
Eco-sustainable businesses	1.200	.307
Concerned about the large quantities of natural resources facilities consume	2.512	.022
Facilities are conserving natural resources	.165	.986
Facilities not concerned with environmental issues	1.016	.415
Environmentally sustainable venues increase my attendance	2.177	.046
Venues need to strive to be environmentally responsible / eco-sustainable	2.703	.015
Incentive based recycling programs would increase my participation	2.121	.052
When traveling for pleasure I try to recycle when possible	.671	.673
If recycling bins were conveniently available at venues I would use them	1.456	.194
If it were more convenient to recycle, I would recycle more waste	.698	.652
I feel as though cost is a major reason that I do not recycle	.817	.558
I recycle to the best of my ability	1.812	.097
I utilize eco-friendly appliances in my home	.660	.682
I participate in linen re-usage programs	.690	.658
I typically try to use some form of public transportation other than a taxi cab.	1.832	.093
I preserve the environment	.953	.458
I utilize xeriscaping	1.340	.240
I feel better about myself when I do my part to conserve natural resources	1.142	.338
I understand what being environmentally responsible means	.994	.430

I am confident in my ability to pick products and services which are eco-friendly	2.017	.064
I feel that the environment needs to be protected	.899	.496
Whenever possible I will stay at an eco-friendly hotel, regardless of cost	1.009	.420
I seek out restaurants which are environmentally friendly	.498	.809
I seek out hotels which are environmentally friendly	.758	.604
I seek out restaurants which offer locally grown, or organic menu items	1.369	.228
I typically fly to a destination	.671	.673
I travel more than 250 miles at least once per year	1.033	.404

Post Hoc testing once again provided insight into which segments of the sample demonstrated disagreement. As a whole, subjects from Salt Lake City (SLC) showed the least amount of disagreement with other cities while Houston (HOU) and Phoenix (PHX) agreed on most variables. Table 6 displays the ANOVA and Post Hoc results from the geographic comparisons. Respondents residing in Dallas (DFW), Denver (DEN), San Antonio (SA), and Oklahoma City (OC) exemplified agreement in their answers concerning environmental sustainability initiatives of facilities leading to increased motivation to attend an event at the facility. All sampled cities, with the exception of Houston, indicated agreement when presented with the issue of tourist venues needing to concern themselves with becoming eco-sustainable.

Table 6: ANOVA Table After Post Hoc Testing by City

I am concerned about the large quantities of natural resources that facilities consume

City	MEAN	SD	F-value	p-value
DFW	5.33 ^a	1.265	2.512	0.022
SA	5.31 ^a	1.527		
HOU	4.35 ^b	1.703		
DEN	5.23 ^{a,c}	1.497		
SLC	4.89 ^{a,b}	1.255		
PHX	4.56 ^{b,c}	1.611		
OC	4.94 ^{a,b}	1.162		

The more environmentally sustainable facility is, the more likely I am to go to visit this venue

City	MEAN	SD	F-value	p-value
DFW	5.17 ^a	1.248	2.177	0.046
SA	4.50 ^{a,b}	2.035		
HOU	3.92 ^b	1.876		

DEN	4.67 ^{a,b}	1.707
SLC	4.40 ^{a,b}	1.557
PHX	4.11 ^b	1.563
OC	4.69 ^{a,b}	1.689

I believe that venues need to strive to be environmentally responsible / eco-sustainable

City	MEAN	SD	F-value	p-value
DFW	5.69 ^{a,d}	1.009	2.703	0.015
SA	5.64 ^{a,b,d}	1.313		
HOU	4.86 ^c	1.766		
DEN	5.78 ^{a,b}	0.929		
SLC	5.17 ^{a,b,c,d}	1.671		
PHX	5.03 ^{b,c}	1.444		
OC	5.63 ^{a,b,d}	1.060		

Note: a = group in agreement with others signified by a
b = group in agreement with others signified by b
c = group in agreement with others signified by c
d = group in agreement with others signified by d

DISCUSSION AND CONCLUSIONS

This study aimed to address: (1) consumers’ awareness of and concern for environmental protection and preservation, (2) whether consumers partake in eco-sustainable practices while traveling for pleasure, and (3) whether consumers deem recycling to be important, and what external factors could influence a higher participation rate for recycling programs.

Findings from this study demonstrated that eco-sustainability initiatives of destinations in the Southwest region of the U.S. are not significant to the respondents. The findings exhibit that while respondents may indicate they maintain an eco-sustainable lifestyle in their everyday routine, the eco-responsibility of properties and venues within the city they are considering visiting has minimal external influence. A question located near the end of the survey asked: *If a tourist venue implemented eco-sustainable practices, would this motivate you to attend more frequently?* The question generated a response of *No* from 149 of the respondents (58.2%). This data illustrates more than half the sample is not motivated to make travel choices based upon the eco-sustainability practices of destinations.

Results such as these possess potentially significant implications for managers. As was discussed previously, the destinations and properties have demonstrated an unwillingness to adopt eco-conscious business practices over fear of the high cost of achieving green certification. Managers who are considering adopting eco-sustainable practices may be deterred from adopting such policies if travelers fail to identify eco-friendly offerings as significant travel motivators. While destinations may not be able to utilize their current eco-sustainability initiatives as a tourism draw, operating in an eco-responsible manner will help to ensure that locations are able to sustain tourism activity for the long-term future.

ANOVA which utilized Age as a grouping variable identified that younger age brackets, more specifically those identified as 18-25 years of age, were not in favor of personal recycling efforts and identified the costs associated with it as being a major deterrent to participation. These findings are in contrast with those individuals who can be categorized as 46 years of age and over. This higher aged segment exhibited a willingness to participate in recycling programs and was not influenced by the potential of recycling being costly. The results related to these age segments are valuable to managers and decisions makers in the hospitality industry because of the influence each group has in this market. Those identified as 46 years of age and older currently make up the largest segment of travelers (Kotler, Bowen, & Makens, 2010). Focusing recycling programs at hospitality businesses towards individuals in this age group has the propensity to increase return rates and provide a more sustainable destination. The age group of 18 to 25 year olds should become a focus of destinations as well. Individuals in this category are the future generation of travelers, and establishing firm eco-sustainable principles in their travel behavior while they are young will provide long-term benefits to the industry.

Geographic location provided differences in mean scores, as Houston and Phoenix agreed on most variables pertaining to eco-sustainability. Respondents residing in Dallas, Denver, San Antonio, and Oklahoma City agreed in their answers concerning environmental sustainability initiatives of properties leading to increased motiva-

tion to attend an event at a tourism facility. All of the sampled cities, with the exception of Houston, indicated mutuality with the issue of destinations needing to concern themselves with becoming eco-sustainable. The overwhelming majority of respondents indicated they believe travel locations need to increase their eco-responsibility. This finding should serve as a key indicator to tourism providers that travelers are becoming more eco-aware and could potentially begin to seek out travel plans which are based on eco-initiatives.

Managers examining current marketing strategies should focus on the current environmental conservation and protection practices of their properties, as these practices establish the propensity to generate feelings of goodwill towards the venue amongst guests. Travelers indicated higher feelings of self-worth when they do their part to preserve the environment, and facilities that demonstrate eco-preservation practices may generate increased attendance as guests may partake in functions to increase perceived self-worth pertaining to their personal eco-sustainability beliefs.

Finally, the employment of income segments to measure eco-sustainable behavior identified consumers' in higher income brackets (\$75,000 annually and above) believe facilities and destinations need to have more of an active role in reducing their environmental impact. Additionally, respondents earning more than \$75,000 per year indicated that current operations of venues are not concerned enough with environmental preservation. These findings are vital to operators for several reasons. Individuals in higher income earning brackets maintain access to larger amounts of disposable income and are more likely to travel for vacation as they have the financial independence to do so. As was previously discussed, individuals who provided their age as 46 years old or greater also identified they are significantly influenced through eco-responsible hospitality offerings. The majority of respondents in this age group are also in the higher income brackets. Their financial influence on the travel market creates a scenario in which managers and operators must establish operating plans which address their desires and wants relating to eco-sustainable operations.

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