Papers

Do at-home habits show up at the beach? – Tourist sustainable attitudes and behaviors in Jericoacoara, CE, Brazil

Costume de casa vai à praia?: atitudes e comportamentos sustentáveis do turista em Jericoacoara, CE, Brasil

La costumbre del hogar va a la playa?: actitudes y comportamientos sostenibles del turista en Jericoacoara, CE, Brasil

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Attitude; Behavior; Sustainability; Travel and Tourism.

Abstract

The aim of this study is to investigate the attitude and behavior of sun-and-beach tourists towards sustainability, assessing the effect of attitude and usual behavior on sustainable travel behavior. To this end, we carried out a study in Jericoacoara, in the state of Ceará, northeastern Brazil. The study is quantitative in nature, and used a survey design to gather information from 188 sun-and-beach tourists. The results show that sustainable attitudes affect sustainable travel behavior, thus the attitude of anthropocentric beliefs have a negative effect, while ecocentric beliefs towards natural resources and consumption have a positive effect. The findings also suggest that regarding usual sustainable behaviors, there is a positive effect of recycling-related behaviors, water and energy conservation, and street cleaning on sustainable travel behavior. In this way, it is understood that those who have sustainable attitudes and behaviors in their daily lives tend to behave the same in different environments, showing that people behave in public the same way they do at home.

Resumo

Esta pesquisa objetiva investigar a atitude e o comportamento do turista de sol e praia em relação à sustentabilidade, verificando a influência da atitude e do comportamento habitual no comportamento em viagem. Para tanto, realizou-se esta pesquisa em Jericoacoara, situada no Estado do Ceará, nordeste brasileiro. A pesquisa é caracterizada como quantitativa, realizada por meio de survey e foi aplicada com 188 turistas de sol e praia. Os resultados evidenciam que as atitudes sustentáveis influenciam o comportamento sustentável em viagem, de modo que a atitude de crença antropocêntrica teve efeito negativo, enquanto as atitudes de crença ecocêntrica relacionadas aos recursos naturais e ao consumo tiveram efeito positivo. No tocante aos comportamentos sustentáveis habituais, verificou-se influência positiva dos comportamentos relacionados à reciclagem, economia de água e energia e
Do at-home habits show up at the beach? – Tourist sustainable attitudes and behaviors in Jericoacoara, CE, Brazil

1 INTRODUCTION

The idea of sustainable development arises from daily practices, balancing social, economic, and environmental dimensions. For Silva (2014), these actions may be permeated by consumption relationships in different economic sectors. In this context, despite the positive economic effects of the tourism industry, capable of contributing to local development, tourism can also have negative impacts, such as loss of cultural identity of the place visited, change in the behavior of young people towards a new culture (tourist), decrease or loss of social stability, increase in crime, prostitution, and use of drugs, in addition to environmental impacts (Santos & Cândido, 2015). Therefore, understanding consumer attitudes and behaviors can be significant to minimize environmental degradation (Stern, 1999).

The expression “Sustainable Tourism” started to be used more frequently from the 1990s onwards. Long-term economic, environmental, sociocultural, and political well-being lie at the heart of the concept of sustainability. Thus, proper planning and coordination between tourism stakeholders from production to consumption – e.g., entrepreneurs, the local community, tourists, and the territory – is key to balance all those dimensions and achieve positive outcomes (Beni, 2003).

According to data from the Ministry of Tourism (2010), consumer behavior in tourism is changing, with new travel motivations and expectations to be met. So, tourists increasingly search for customized travel itineraries, adapted to their needs, personal situation, desires, and preferences. In acknowledging these consumption trends, the Ministry of Tourism proposes a targeted strategy for designing and marketing Brazilian destinations and tourist routes.

One of the resulting target segments is sun-and-beach tourism, defined as “tourism activities related to recreation, entertainment or relaxation on beaches, enjoying the water, the sun and good weather conditions” (Ministério do Turismo, 2010, p. 12). In this context, various names have been used for the sun-and-beach segment, such as: sun and sea tourism, sun, sea and sand tourism, coastal tourism, beach tourism, and seaside tourism, with emphasis on the Northeast Region of Brazil, for its bright sunshine and warm temperatures all year round.
Given the above considerations, this study is guided by the following research question: What is the impact of tourists’ usual sustainable behavior and attitude on their sustainable travel behavior? We aimed to investigate the attitude and behavior of sun-and-beach tourists towards sustainability, examining the influence of attitude and usual behavior on sustainable travel behavior. To this end, this study was carried out in Jeriocoacora, a beach in the state of Ceará, northeastern Brazil, considered – at national and international levels – a sustainable destination, exemplary for its unique features which combine nature, adventure, wind and water sports, and culture in a sun and beach destination (Ministério do Turismo, 2010).

The choice fell on Jeriocoacora due to the large flow of tourists, as well as for its regional and national importance. In addition, Jeriocoacora is considered an inductor tourism destination in the country and is recognized as a reference in the sun and beach segment (Ministério do Turismo, 2010).

This destination presents a combination of elements and attractions which offer tourist activities related to entertainment and rest. Also, the paradisiacal setting of Jeriocoacora gave the beach of Ceará the first place among South America destinations and placed it among the world’s top three (Ministério do Turismo, 2016).

Also, we discuss that although society recognizes the need for a change in attitude and behavior toward the environment – the need of thinking globally and acting locally, worrying collectively, and minimizing individual aspects – people still fall short on sustainability, engaging on individualistic behaviors to satisfy personal wants and needs (Belk, Ger & Askegaard, 2003; Sachs, 2007; Eckhardt, Belk & Devinney, 2010; Freestone & McGoldrick, 2008).

Some studies relate sustainable attitude and behavior in general (Coelho, Gouveia & Milfont, 2006; Gupta & Ogden, 2009; Eckhardt et al., 2010; Peixoto & Pereira, 2013; Ferraz, Romero, Rebouças & Costa 2016; Castro, Moura, Cunha & Pires., 2016; Paiva, Oliveira, Romero & Guimarães, 2016), others address sustainable behavior in tourism (Reinsberg & Vinje, 2010; Weaver & Lawton, 2002; Wight, 1996a; Wight, 1996b; Eagles, 1992) and, still, others address individual perception of sustainable development in tourist destinations and sustainable tourism (Nespolo, Borelli, Fidelis, Machado, Olea & Rocha, 2016; Borges, Ferraz & Borges, 2015; Buosi, Lima & Leocádio, 2014). This study differs as it seeks to analyze the relationship between tourist attitudes and behaviors towards sustainability. In addition, it is important to highlight that the findings may provide useful insights into the sustainable attitude and behavior, specifically, of tourists.

2 THEORETICAL FRAMEWORK

2.1 Sustainable Attitudes and Behaviors

The concept of attitude has undergone changes over the years, since it was defined in 1935, by Allport, who related it to the inclination of the body or the posture of a person (Bagozzi, Gürhan, Canli & Priester, 2002). Its importance was, from an early age, grasped by Thurstone (1976) and by Aaker and Myers (1987). The latter argued that attitudes were good predictors of behavior and the former considered attitudes as the sum of an individual’s inclinations, feelings, prejudices or biases, fears, threats, and beliefs about any specific topic (Ferraz, Romero, Rebouças & Costa, 2016).

Thus, the individuals’ attitudes can be a good predictor of behavior, whether of consumption or of any other aspect of life. Some authors (Velter, Battistella, Grohmann, Castro, Costa & Hermann, 2009) argue that it is possible to make inferences about behavior based on the understanding and prediction of attitudes.

For Rokeach (1973), the values represent abstract principles, rooted in individuals’ own concept that guide their decision behavior. The author defines values as subjective lasting beliefs that specific modes of conduct or end-states are preferable to others. For Schwartz and Bardi (2001), values are goals that guide the actions of individuals, and these goals denote what people consider to be important in their lives. Thus, consumption decisions are possibly motivated by specific values and beliefs of individuals and, in this perspective, every culture has unique beliefs, values, and practices, leading to different consumption behaviors (Sharma & Jha, 2017).
It is observed that beliefs about an object lead to attitude formation that, in turn, guides behavioral intention formation (Fishbein & Ajzen, 1975; Ferraz et al., 2016). Also, beliefs can be defined as the subjective probability that an object or person has certain attributes, qualities, and characteristics (Fishbein & Ajzen, 1975).

With regard to environmental aspects, the environmental attitude refers to an individual's tendency to respond favorably or unfavorably to the natural environment (Hawcroft & Milfont, 2010), and environmental beliefs are seen in the context of a system, where the individual associates situations, objects, and events from social, cultural, and personal experience (Bechtel, Corral-Verdugo & Pinheiro, 1999). Various studies suggest that, beliefs are antecedents of environmental attitudes and behaviors, therefore, the concept of environmental belief is important to understand the relationship between people and the environment (Pato, 2004).

Research on general and specific beliefs present theoretical and practical contributions to the understanding of human behavior. In short, the origin of beliefs is associated with the knowledge that people have of things in the real world, about which they express opinions, characteristics, attributes, qualities, aspects, benefits, and results (Mowen & Minor, 2003; Pinheiro, Monteiro, Guerra & Peñaloza, 2014).

In this line, Pato and Higuchi (2018) and Campbell-Arvai (2015) corroborate the idea that beliefs are formed during one's existence, resulting from shared and lived experiences, accumulated knowledge, and different situations and events. Campbell-Arvai (2015) points out that a set of beliefs includes different elements, which express our individual and socio-cultural identities. According to Pato and Tamayo (2006, 2007) and Pato, Rosa and Tamayo (2005), beliefs are organized into a hierarchical system, where the person relate situations based on the social group, cultural context, and individual factors. These beliefs are often translated into attitudes and behaviors. Thus, studying the human behavior is a complex task, as it involves several factors that affect consumer decision-making – such as the individuals' idiosyncrasies and their social and cultural history – and, in turn, influence the consumer behavior. Thus, different areas of knowledge, such as Anthropology, Sociology, Psychology, Economics, contribute to the study of behavior. In this perspective, understanding the factors in consumer decision-making is essential for implementing sustainable consumption strategies (Gomes, Gorni & Dreher, 2011; Alves, Jacovine, Nardelli & Silva, 2011).

Raising society awareness of environmental degradation can lead to changes in consumer behavior, with people engaging in more environmentally-friendly behaviors, aiming to reduce negative impacts on the environment and the whole society (Wahid, Rahbar, Shyan, 2011; Pinheiro et al., 2014; Ferraz et al., 2016). Behavioral choices and lifestyles are ways to achieve sustainable development. However, consumer concerns about environmental issues do not automatically lead to pro-environmental behaviors. On the other hand, consumers who strongly believe that their behavior will have positive impacts tend to be more involved in pro-environmental behaviors (Jackson, 2005; Ferraz et al., 2016).

Mostafa (2006) argues that attitude refers to the degree of adherence to values and opinions about companies and consumers on aspects such as sustainability and social responsibility, behavior is associated to daily consumption practices that affect the environment, society, and the economy. In this context, Ferraz et al. (2016) point out that in an ideal situation of conscious consumption, consumers develop attitude and behavior, however, attitude without the consumption practice is not effective, and actions or behaviors without a consolidated attitude can be terminated at any time, in case of interference.

In this field, the theory of planned behavior, proposed by Ajzen (1985), has four dimensions: (i) attitude, which is an individual's favorable or unfavorable assessment of the action of a particular behavior of interest; (ii) subjective norm, which is defined as the subject's understanding of the social pressure about performing a behavior or not; (iii) perceived control, presented as the moment when a person has the available resources and the ability to perform a certain behavior; and, finally, (iv) behavioral intention, which is the intention to perform a specific behavior (Mendes Filho, Batista, Cacho & Soares, 2017).

### 2.2 Measurement of Sustainable Attitudes and Behaviors

There is no instrument adapted to the Brazilian context to investigate environmental attitudes, thus, we have chosen to study it from the perspective of environmental beliefs, since the belief is part of the attitude, being an antecedent of the individual's behavior. Pato (2004) developed the Environmental Beliefs Scale [EBS],
which is an instrument based on the version of Bechtel, Corral-Verdugo and Pinheiro (1999) of the scale entitled New Ecological Paradigm, applied to the Brazilian context. The EBS includes specific items about Brazilian natural characteristics and environmental problems, in addition to general items about the relationship between people and the environment.

Still regarding the environmental beliefs, Pato (2004) considers two types of beliefs: ecocentric and anthropocentric. The first is characterized by a concern for the environment, taking into account the interdependence between man and nature; and the second is characterized by a vision that prioritizes the human being at the expense of nature, valuing nature for the benefits it offers to man (Pinheiro, Monteiro, Guerra & Peñaloza, 2014).

Several studies (Sousa Filho, Coimbra, Mesquita & Luna, 2015; Almeida, Madruga, Lopes & Ibdaiwi, 2015; Pinheiro et al., 2014) set out to examine the ecological behavior of individuals, using the Ecological Behavior Scale [EBS] validated by Pato and Tamayo (2006). The authors drew on the works previously developed by Karp (1996) and Kaiser (1998). To carry out the study, a sample of 234 high school and university students was used. The results indicated the multidimensionality of the ecological behavior and the four specific factors found were: activism and consumption; water and energy conservation; street cleaning; and recycling.

In the development and validation of the scale, Pato and Tamayo (2006) considered the ecological behavior in its complexity, seeking to cover both the objective and conscious pro-environmental intentions and their impact. This, in turn, is seen as responsible both for concerns of environmental degradation and for its conservation. Sousa Filho et al. (2015) argue that ecological behavior in the daily lives of individuals and society is strictly associated with environmental awareness.

The scale of attitude and sustainable travel behavior uses the items of the instrument proposed by Reinsberg and Vinje (2010), translated and adapted to the Brazilian context. The questionnaire proposed by the authors uses travel motivational factors based on studies by Eagles (1992), Wight (1996), and Weaver and Lawton (2002). The questionnaire is composed of 28 items about environmental attitude and behavior. Still, this scale includes items related to attitudes and behaviors performed at home that were already considered in previous scales. Thus, the measurement scale of attitude and sustainable travel behavior was consolidated with 10 items referred to in this study as the Sustainable Travel Behavior Scale.

Reinsberg and Vinje (2010), based on a general tourist sample, sought to investigate tourists with low environmental impact on tourist destinations. The results showed that tourists characterized as environmentally friendly are middle-aged, have high levels of education, and moderate-income levels. Their main motivation for traveling is to enjoy nature and they are interested in nature-based activities, such as hiking, climbing, kayaking, fishing, and glacier hiking. In addition, they have positive attitudes towards the natural environment. The study concluded that the variables "Motivation" and "Attitudes" have a greater influence on environmentally friendly behavior and that environmentally friendly tourists are found in various types of tourism and not just ecotourism.

2.3 Sustainability in the Context of Tourism

Currently, the concept of sustainable development is closely linked to tourism, however the Brundtland Report did not refer specifically tourism, as this industry was not one of the main concerns in the early discussions of sustainability. The Charter for Sustainable Tourism was adopted only in 1995, in the World Conference on Sustainable Tourism held on the island of Lanzarote, Canary Islands, Spain (Körössy, 2008).

The efforts of the United Nations World Tourism Organization (UNWTO), the World Travel & Tourism Council, and the Earth Council, resulted in the “Agenda 21 for Travel and Tourism: towards environmentally sustainable development”, which indicates the key areas and actions for the sustainable development of tourism (Organização Mundial do Turismo, 2003).

In 1999, the 7th meeting of the European Commission on Sustainable Development was entirely dedicated to the challenges of sustainability in the field of tourism. Also, in October 1999, the UNWTO adopted the Global Code of Ethics for Tourism, in a General Assembly held in Santiago, Chile. The Code was largely oriented towards the logic of sustainable development. Tourism was also covered by the considerations of the
Johannesburg World Summit on Sustainable Development and the International Year of Ecotourism, both held in 2002 (Körössy, 2008).

The term sustainable tourism originated from the academic interest in the negative impacts of tourism, which started in the 1960s, and from research on tourist carrying capacity, i.e., the maximum number of visitors an area can accommodate. Thus, tourism in the destination cannot exceed the health of the environment and of those involved in the activity. Studies on tourist carrying capacity began to include visitor experience satisfaction in the concept and, in the 1970s, the focus shifted to environment (Soller & Borghetti, 2013; Costa & Miranda, 2016). The concept of sustainable tourism consolidated in the 1980s and 1990s (Saarinen, 2006; Körössy, 2008).

In the literature, there are several definitions of sustainable tourism. The UNWTO (2003) defines it as tourism that meets the needs of visitors and host communities while ensuring it meets the principles of economic, social, and environmental sustainability. However, according to Saarinen (2006), several authors point out that there are no exact definitions of sustainable tourism, which corroborates the idea of Clarke (1997), who suggests that the concept is still in the process of evolution.

Indeed, considering tourism impacts, it is of utmost importance that long-term planning be carried out so that countries can take advantage of its positive effects on social, economic, cultural, and environmental dimensions. It is necessary that the development of tourism be guided by the principles of sustainable tourism. Therefore, one must seek to develop a harmonious and sustainable tourism, i.e., planned in a coherent and preventive way, through the participation and involvement of communities, the private sector, and government agencies, aiming to achieve permanent improvements for regions or destinations (Hansen & Schrader, 1997; Corner, 2001; Oliveira, 2013; Lopes, 2015).

3 METHODOLOGY

3.1 Locus of Research

According to data from the Ministry of Tourism, Brazil is the destination chosen by 90% of domestic tourists, being the Northeast the most popular region in the country. Thus, the study was carried out in Jericoacoara, in the municipality of Jijoca de Jericoacoara, state of Ceará, approximately 310 km from the capital Fortaleza.

According to data from the Ministry of Tourism (2010), Jericoacoara has a population of 17,002 inhabitants and an area of 204,793 km². Jericoacoara is considered as an example of a sustainable destination at national and international levels for its unique, distinct products, which include nature, adventure, wind and water sports, and culture, in a sun and beach destination (Ministério do Turismo, 2010).

Jericoacoara became a protected area in 2002, with the creation of the Jericoacoara National Park, with an area of 8,850 hectares, managed by the Chico Mendes Institute for Biodiversity Conservation (ICMBio, 2020). During 2016, Jericoacoara received 780,000 visitors, according to ICMBio, however, this count included all individuals who passed through the town of Jericoacoara – including same-day visitors – when tourists are only those who remain in the place visited for at least 24 hours, for the purposes of leisure, business, family, conferences, or seminars.

A place is a tourist destination if it presents three key characteristics: high density of tourists, tourism facilities or services, and a strong tourism image (Yázigi, 2001). Jericoacoara was chosen as the locus of study because it meets these requirements and it is very important in the context of domestic tourism and, above all, for tourism in Ceará.

3.2 Field Research and Sample

The survey was conducted in the months of December 2017 and January 2018, at Jericoacoara Beach, located in the state of Ceará, northeastern Brazil. We surveyed sun-and-beach tourists in different locations in the town, such as: beach huts, hotel lounges, bars, restaurants, transfer locations, and in squares. The study used non-probability convenience sampling, as tourists were approached personally, and those more readily
accessible were selected (Churchill Jr. & Iacobucci, 2009; Malhotra, 2006). In all, 281 face-to-face questionnaires were obtained, of which 53 were not completely filled out due to participants’ withdrawal after starting it, and 40 presented erasures or incomplete items. Thus, after excluding 93 questionnaires, a total of 188 valid questionnaires were considered in the final sample. According to the Brazilian National Confederation of Municipalities (CNM, 2019), around 600,000 tourists visit Jericoacoara annually, these individuals compose the study population. Considering the number of 188 respondents, it is estimated that the sample of this study has a 95% confidence level and an error of 7.15%.

3.3 Data Collection Instrument

The data collection instrument was a questionnaire organized into four sections: (i) items regarding demographic information; (ii) environmental beliefs scale, which measures the sustainable attitude, proposed by Pato (2004); (iii) ecological behavior scale, which measures the usual sustainable behavior of individuals, proposed by Pato and Tamayo (2006); and (iv) sustainable travel behavior scale, which measures sustainable travel behavior, proposed by Reinsberg and Vinje (2010).

The environmental beliefs scale, which measures the sustainable attitude, had 20 items, of which 13 items are related to attitudes of an ecocentric nature and 7 items to attitudes of an anthropocentric nature. The ecological behavior scale measures the usual sustainable behavior, and consisted of the following dimensions: street cleaning, water and energy conservation, recycling, and social desirability, in a total of 25 items.

The dimension of desirability and consumption was excluded from the questionnaire, since this type of behavior is not included in the scope of this study. For the scale of sustainable travel behavior, 10 items addressed the environmental behavior of respondents while traveling.

3.4 Statistical Procedures

Initially, descriptive statistics were used to describe the demographic characteristics of the sample. Subsequently, exploratory factor analysis (EFA) was used to group the items according to the authors’ proposals. The values of Kaiser-Meyer-Olkin measure [KMO], Bartlett’s test of sphericity, and the average variance explained were verified. According to Hutcheson and Sofroniou (1999), when interpreting KMO indices, values below 0.5 are considered unacceptable; values between 0.5 and 0.7 are acceptable; values between 0.7 and 0.8 are considered good; between 0.8 and 0.9 are great; and values between 0.9 and above are superb. For communalities and factor loadings, values greater than 0.4 are considered acceptable.

The reliability of the data was also checked using Cronbach’s alpha. There is no consensus in the literature regarding the ideal values of Cronbach’s alpha for scale reliability, however, some authors such as Hair Jr., William, Babin and Anderson (2009) propose values greater than 0.6. In line with Hair Jr. et al (2009), Ursachi, Horodnic and Zait (2015) consider that, in general, values between 0.6 and 0.7 denote acceptable levels of reliability. Still, George and Mallery (2003) suggest that values greater than 0.5 are acceptable. According to Field (2009), when psychological constructs are measured, values below 0.70 can be expected, given the diversity of the constructs. Finally, Taber (2018) shows that, in some studies, values between 0.58 and 0.97 are considered satisfactory. Based on this, the following parameters were adopted for Cronbach’s alpha: values greater than 0.7 are considered ideal; values between 0.6 and 0.7 are considered satisfactory; values between 0.5 and 0.6 are considered low, but acceptable; and values less than 0.5 are unacceptable.

Subsequently, a multiple linear regression was performed to verify the influence of tourists’ attitude and usual behavior on sustainable travel behavior. For this purpose, the latent variable extracted from the scale of sustainable travel behavior was used as a dependent variable and, the independent variables are those extracted from the scale of environmental beliefs – which measure the sustainable attitude – and the ecological behavior scale – which measures usual sustainable behavior.
4 ANALYSIS AND DISCUSSION OF RESULTS

4.1 Respondents’ demographics

The socio-demographic characteristics of the 188 respondents of the sample was also presented. The demographics included: gender, place of origin, age group, education, household income, offspring, type of accommodation used, and length of stay in the destination. The data collected showed that most respondents had the following characteristics: female gender (57.45%); age up to 30 years (51.60%); education at undergraduate level (44.68%); income above R$9,000 (26.59%); residents in the state of Ceará; and childless (70.75%). It was also observed that half of the sample (50.00%) stayed at inns and the length of stay was between 1 to 3 days (65.96%).

4.2 Measure of Environmental Beliefs – Sustainable Attitude

EFA was conducted using the method of extraction by the analysis of principal components, with varimax rotation and Kaiser normalization to extract the factors from the Environmental Beliefs Scale, which measures tourists’ sustainable attitude. After these procedures, from the 20 items of the Environmental Beliefs Scale, 16 with commonalities above 0.4 were retained.

A new EFA was carried out to confirm the grouping of the items, in which the KMO and Bartlett tests were conducted. For the 16 items related to the construct, a KMO equal to 0.817 was observed and the Bartlett test showed statistical significance at the level of 1% (p-value <0.01), indicating an adequate correlation between items, enabling EFA to be carried out. The results indicated 4 factors that met the Kaiser criterion of eigenvalues equal to or greater than 1, accounting for 54.923% of the variance for this construct. Table 1 presents the data generated from these analyses.

Table 1 - Extracted Factors from the Environmental Beliefs Scale – Sustainable Attitudes

<table>
<thead>
<tr>
<th>Items</th>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Attitude of Anthropocentric Belief (α = 0.713)</td>
<td></td>
</tr>
<tr>
<td>ANT2. The balance of nature is strong enough to cope with the impacts of modern industrial</td>
<td>0.729</td>
</tr>
<tr>
<td>nations</td>
<td></td>
</tr>
<tr>
<td>ANT4. Nature has endless capacity to recover from damage caused by human actions.</td>
<td>0.724</td>
</tr>
<tr>
<td>ANT5. Nature is there to serve human needs.</td>
<td>0.682</td>
</tr>
<tr>
<td>ANT3. Using too much paper is harmful, but I cannot do anything about it.</td>
<td>0.592</td>
</tr>
<tr>
<td>ANT7. People exacerbate the environmental impact of cars.</td>
<td>0.562</td>
</tr>
<tr>
<td>Attitude of Ecocentric Belief – Preservation of Natural Resources (α = 0.697)</td>
<td></td>
</tr>
<tr>
<td>EC04. Waste separation helps to protect the environment.</td>
<td>-0.058</td>
</tr>
<tr>
<td>EC01. Reducing the waste of natural resources must be a commitment of all of us Brazilians.</td>
<td>-0.143</td>
</tr>
<tr>
<td>EC03. It is possible to maintain ecological balance and have a good quality of life.</td>
<td>-0.020</td>
</tr>
<tr>
<td>EC05. Recycling contributes to the reduction of environmental problems generated by excessive use of paper.</td>
<td>-0.165</td>
</tr>
<tr>
<td>Attitude of Ecocentric Belief – Human Activity (α = 0.703)</td>
<td></td>
</tr>
<tr>
<td>EC013. If things continue on their present course, we will soon experience an environmental catastrophe.</td>
<td>-0.066</td>
</tr>
<tr>
<td>EC012. Humans are responsible for the imbalance in nature.</td>
<td>0.130</td>
</tr>
<tr>
<td>EC010. Human interference with nature produces disastrous consequences.</td>
<td>-0.257</td>
</tr>
<tr>
<td>EC02. Humans are abusing the environment.</td>
<td>-0.194</td>
</tr>
<tr>
<td>Attitude of Ecocentric Belief – Consumption (α = 0.685)</td>
<td></td>
</tr>
<tr>
<td>EC06. Organic food is better for human health.</td>
<td>-0.174</td>
</tr>
<tr>
<td>EC07. Environmental activism helps to improve our quality of life.</td>
<td>0.024</td>
</tr>
<tr>
<td>EC08. Consumerism aggravates environmental problems.</td>
<td>-0.224</td>
</tr>
</tbody>
</table>

Note. Extraction Method: Principal Component Analysis.
Rotation method: Varimax with Kaiser normalization.
Source: Research data.

Table 1 shows the items grouped into 4 dimensions. Dimension 1 includes items related to “anthropocentric belief attitudes” which represent the belief in the value of nature for the material and physical benefits it can provide. Components 2, 3, and 4 group the items of the dimensions related to the attitudes of ecocentric
beliefs. After grouping the items, a qualitative analysis of the items was performed. Based on the analysis and the theoretical framework of this study, it is understood that the items in component 2 are associated with ecocentric values aimed at saving natural resources; while the items in component 3 are linked to ecocentric values focused on human action; and, finally, the items in component 4 are related to ecocentric values aimed at consumption.

Thus, the attitudes of ecocentric beliefs (components 2, 3 and 4) explain 39.643% of the total variance of the construct, while the dimension of anthropocentric belief attitude (component 1) explains 15.279% of the variance. Cronbach’s alpha was greater than 0.6 for all dimensions, indicating reliability in all extracted dimensions. It should be noted that in the studies by Pato (2004) and Pinheiro et al. (2014) the Environmental Beliefs Scale originated only two dimensions, one related to ecocentric beliefs and the other related to anthropocentric beliefs. Although the results obtained in this study partially differ from these others, this study showed theoretical consistency, since all the items that make up the dimensions are aligned and express similar meanings, expanding the debate on the ways in which ecocentric attitudes are expressed by individuals, and may take different forms.

4.3 Ecological Behavior Scale - Usual Sustainable Behavior

In order to verify the factors extracted from the Ecological Behavior Scale, which measures the tourist’s usual sustainable behavior, an EFA was conducted, using principal components analysis, with varimax rotation and Kaiser normalization. First, communalities and factor loadings were verified and the items with values below 0.4 were excluded. After this procedure, 12 of the 25 scale items were kept.

A new EFA was conducted with the remaining 12 items. The KMO obtained was 0.630 and the Bartlett’s sphericity test was significant below the level of 1% (p-value <0.01), indicating an acceptable level of correlation between the items, which enabled the execution of the EFA. The results showed that the components meet the Kaiser criterion of eigenvalues equal to or greater than 1, which explain 60.299% of the variance of this construct. Table 2 shows the EFA of the 12 items that gave rise to 4 components.

Table 2 - Components extracted from the Ecological Behavior Scale

<table>
<thead>
<tr>
<th>Items</th>
<th>Components 1</th>
<th>Components 2</th>
<th>Components 3</th>
<th>Components 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recycling (α = 0.753)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R2. I recycle my waste.</td>
<td>0.885</td>
<td>0.058</td>
<td>-0.010</td>
<td>-0.011</td>
</tr>
<tr>
<td>R3. I have recycling bins at home for each type of waste.</td>
<td>0.864</td>
<td>0.138</td>
<td>-0.004</td>
<td>0.108</td>
</tr>
<tr>
<td>DS5. I take old batteries to collection points.</td>
<td>0.601</td>
<td>-0.109</td>
<td>0.220</td>
<td>0.394</td>
</tr>
<tr>
<td>Water and Energy Conservation (α = 0.590)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EAE11. I turn off the shower when I’m soaping up.</td>
<td>-0.063</td>
<td>0.732</td>
<td>-0.014</td>
<td>-0.089</td>
</tr>
<tr>
<td>EAE10. I avoid turning on too many electrical devices at peak demand times.</td>
<td>0.154</td>
<td>0.696</td>
<td>-0.029</td>
<td>0.160</td>
</tr>
<tr>
<td>EAE6. I save water whenever is possible.</td>
<td>-0.118</td>
<td>0.667</td>
<td>0.081</td>
<td>0.036</td>
</tr>
<tr>
<td>EAE2. I avoid wasting energy.</td>
<td>0.233</td>
<td>0.555</td>
<td>-0.011</td>
<td>0.059</td>
</tr>
<tr>
<td>Street cleaning (α = 0.580)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LU2. I avoid dropping a piece of trash on the ground.</td>
<td>-0.005</td>
<td>0.015</td>
<td>0.869</td>
<td>0.033</td>
</tr>
<tr>
<td>LU1. I keep the piece of trash I no longer want in my pocket, when I can’t find a trash can nearby.</td>
<td>0.033</td>
<td>0.042</td>
<td>0.861</td>
<td>0.072</td>
</tr>
<tr>
<td>LU3. When I can’t find a trash can nearby, I drop empty cans on the ground.</td>
<td>-0.178</td>
<td>0.050</td>
<td>-0.539</td>
<td>0.517</td>
</tr>
<tr>
<td>Social Desirability (α = 0.288)*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DS1. I give all the money I can to an environmental NGO.</td>
<td>0.115</td>
<td>-0.009</td>
<td>-0.021</td>
<td>0.825</td>
</tr>
<tr>
<td>DS4. I avoid eating GM foods.</td>
<td>0.267</td>
<td>0.259</td>
<td>0.154</td>
<td>0.473</td>
</tr>
</tbody>
</table>


* Dimension removed because Cronbach’s alpha is below 0.5, indicating lack of reliability.

Source: Research data.

As Table 2 shows, the Ecological Behavior Scale gave rise to 4 components. The first component, called recycling, explains 17.536% of the total variance and represents behaviors about waste separation according to its type, including also an item of the social desirability dimension. The second component, called water and energy conservation, explains 15.661% of the total variance and represents the behavior of not wasting water and energy. The third component, called street cleaning, explains 15.571% of the total variance and
represents the conservation behavior of a clean public environment. In turn, the fourth component, called social desirability, explains 11.531% of the total variance of the construct and represents unusual and more unlikely behaviors to be present in the daily life of ordinary citizens, especially young people.

Regarding data reliability, Cronbach’s alpha for the recycling dimension (component 1) was greater than 0.7, a value considered ideal, while the values for the dimensions of water and energy conservation (component 2) and street cleaning (component 3) were close to 0.6, low but acceptable values. The dimension of social desirability (component 4), on the other hand, presented Cronbach’s alpha below 0.5, which indicates poor reliability – thus, in order to obtain more reliable results, this dimension was excluded from analysis. We observed that the values of factors described above are consistent with the findings of Pato (2004), Pato and Tamayo (2006), and Pinheiro et. al (2014), confirming that the measurement scale can be used.

### 4.4 Travel Behavior Scale – Sustainable Travel Behavior

In order to verify the components extracted from the Travel Behavior Scale, which measures tourists’ sustainable travel behavior, an EFA was conducted, using principal components analysis, with varimax rotation and Kaiser normalization. Initially, communalities and factor loadings were verified, and items with values less than 0.4 were excluded. After these procedures, 8 of the 10 initial items were kept. A second order EFA was conducted on the final 8 items where the KMO value was found to be 0.728 and the Bartlett’s test was significant below the level of 1% (p-value <0.01), indicating an adequate level of correlation between items and, thus, that EFA was appropriate. The results show that the items gave rise to 2 components that met the Kaiser criterion of eigenvalues greater than 1 and explain 46.557% of the variance of the construct. Table 3 shows the EFA results.

<table>
<thead>
<tr>
<th>Items</th>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSV6. I find it easy to be environmentally-friendly at home and when I am traveling.</td>
<td>0.727</td>
</tr>
<tr>
<td>CSV2. I usually do what I can to leave the areas I visited in better condition than when I arrived.</td>
<td>0.709</td>
</tr>
<tr>
<td>CSV1. I want to learn as much as possible about the natural environment of the sites that I visit while I am there.</td>
<td>0.687</td>
</tr>
<tr>
<td>CSV8. I try to support the local economy of places that I visit.</td>
<td>0.664</td>
</tr>
<tr>
<td>CSV3. Recycling of waste is an environment friendly effort that everybody should do while on vacation.</td>
<td>0.541</td>
</tr>
<tr>
<td>CSV5. I use public transportation to minimize negative impacts on the environment.</td>
<td>0.530</td>
</tr>
<tr>
<td>Person-Place relationship (α = 0.180)*</td>
<td>0.213</td>
</tr>
<tr>
<td>CSV10. My presence in Jericoacoara did no harm to the environment.</td>
<td>0.213</td>
</tr>
<tr>
<td>CSV4. It is good for a destination to focus on environmental issues but it does not influence my destination choice.</td>
<td>-0.089</td>
</tr>
</tbody>
</table>

* Dimension removed because Cronbach’s alpha is below 0.5, indicating lack of reliability.

As seen on Table 3, the Travel Behavior Scale gave rise to 2 components. The first explains 32.146% of the total variance of the construct while the second explains 14.411%. Based on the semantic content of the items, it was observed that the first component expresses sustainable behaviors related to responsibility towards the place, while the second one refers to behaviors related to the person’s relationship with the place. Based on the reliability of the data, measured using Cronbach’s alpha, it was found that the items in component 2 had a value less than 0.5, which indicates poor reliability, thus this dimension was excluded from the analysis. Considering that only one dimension of the scale (component 1) was reliable, it was renamed “sustainable travel behavior”, as it represents the overall construct.

### 4.5 Influence of Tourist Attitude and Usual Sustainable Behavior on Sustainable Travel Behavior

To achieve the objective of this study, which was to investigate the attitude and behavior of sun-and-beach tourists towards sustainability, verifying the influence of attitude and usual behavior on sustainable travel behavior, a multiple linear regression was used. For the estimation of regression models, the measure of
sustainable travel behavior was defined as a dependent variable, and the dimensions extracted from the scales of environmental beliefs and ecological behavior that reflect sustainable tourist attitudes and behaviors were defined as independent variables. Table 4 shows the values of the coefficients of the independent variables of the models, as well as the values of the F-test, R², and statistical significance.

Table 4 - Regression Models

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Models</th>
<th>Influence</th>
<th>Model of Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitude of Anthropocentric Belief</td>
<td>Model (i)</td>
<td>-0.143*</td>
<td>(i)</td>
</tr>
<tr>
<td>Attitude of Ecocentric Belief – Natural Resources</td>
<td>Model (ii)</td>
<td>0.194**</td>
<td>(i) and (iii)</td>
</tr>
<tr>
<td>Attitude of Ecocentric Belief – Human Action</td>
<td>Model (ii)</td>
<td>-0.088</td>
<td>(i) and (iii)</td>
</tr>
<tr>
<td>Attitude of Ecocentric Belief – Consumption</td>
<td>Model (iii)</td>
<td>0.301***</td>
<td>(i) and (iii)</td>
</tr>
<tr>
<td>Behavior – Recycling</td>
<td>Model (ii)</td>
<td>0.233***</td>
<td>(i) and (iii)</td>
</tr>
<tr>
<td>Behavior – Water and Energy Conservation</td>
<td>Model (iii)</td>
<td>0.134**</td>
<td>(i) and (iii)</td>
</tr>
<tr>
<td>Behavior – Street Cleaning</td>
<td>Model (ii)</td>
<td>0.269***</td>
<td>(i) and (iii)</td>
</tr>
</tbody>
</table>

Note. *** Significant at level of 1%; ** Significant at level of 5%; * Significant at level of 1%.

Source: Research data.

Based on Table 4, it is observed that the F-test presented statistical significance at the level of 1% (sig. = 0.000) in all models, indicating that at least one of the independent variables influences the dependent variable. The R² values in the models vary between 12.9% and 27.0%, indicating how much the dependent variable is explained by the independent variables. In addition, there is no multicollinearity among the independent variables since the variance inflation factor [VIF] value of all variables is less than 10, indicating an acceptable level of multicollinearity (Hair Jr. et al., 2009). In general, it appears that tourists’ usual attitudes and behaviors affect the sustainable travel behavior. A more objective view of the results obtained in the models is shown in Figure 1, which presents a summary of regression models.

Figure 1 - Summary of regression models

Examine the sustainable attitudes, we found that the attitude of anthropocentric belief had a negative effect on sustainable travel behavior, i.e., individuals who think the human impact on environmental degradation is not that big and, at the same time, believe nature is able to recover from man-made damages, tend to behave in a less sustainable way during their travel experience. Thus, Santos and Santos (2011) argue that human behavior can be changed through projects focused on diversity and the maintenance of natural resources. In line with this, it is argued that, many times, environmental damage caused by humans can be seen as a pathological behavior, which can even harm humans (Pires, Ribas Júnior, Lemos & Filgueiras, 2014).

The results of ecocentric attitudes show that attitudes of conservation of natural resources and environmental conscious consumption positively affects sustainable travel behavior. This finding is in agreement with what Pato, Rosa and Tamayo (2005) suggest: environmental beliefs perceived as a system or as worldview may be antecedents of ecological behaviors, i.e., ecocentric beliefs contribute to pro-environmental attitudes.

The results regarding tourists’ usual sustainable behavior, revealed that all variables had a positive effect on sustainable travel behavior. This finding is consistent with the results of Paiva et al., (2017). These authors found a relationship between sustainable behavior in daily life and in other contexts, for instance, at work.
This suggests that individuals who engage in sustainable behaviors in their daily lives tend to extend it to different environments, including when traveling.

In addition, it is emphasized that individuals’ actions towards sustainability in tourist destinations are different depending on the situation and context (Gallarza, Garcia & Saura, 2002). Furthermore, Costa, Santos and Aguiar (2015) point out that tourist behavior is affected by environmental cues.

5 CONCLUDING REMARKS

This study sought to investigate the attitude and behavior of sun-and-beach tourists towards sustainability, verifying the effect of attitude and usual behavior on their sustainable travel behavior. To this end, a survey was carried out with 188 sun-and-beach tourists in Jericoacoara, in the state of Ceará, northeastern Brazil. The sample was composed mostly by women, aged up to 30 years, with higher education, high income, living in the state of Ceará, and childless. Also, half of the respondents stayed at guest houses and the length of stay in Jericoacoara was from one to three nights.

As to tourists’ sustainable attitude, four components were extracted from the Environmental Beliefs Scale: the first reflects the attitude of anthropocentric belief; the second brings together items of ecocentric belief aimed at natural resources conservation; the third includes items of ecocentric belief related to human action; and the fourth brings items of ecocentric belief aimed at consumption. Regarding the usual sustainable behavior, the Ecological Behavior Scale gave rise to four components, one of which was not reliable enough for its use in this study. Thus, the usual behaviors were measured from the following dimensions: recycling, water and energy conservation, and street cleaning. Regarding the Travel Behavior Scale, two factors were extracted, with only one presenting reliability. In this way, sustainable travel behavior was analyzed in a one-dimensional way.

Based on the multiple linear regression models, we found that tourists’ usual attitudes and behaviors influence their travel behavior, which suggests that individuals who behave sustainably in their daily lives tend to extend it to different environments, including their travel experiences, confirming the popular saying that “at-home habits go everywhere”, i.e., people tend to behave in public – in this case on the beach – as they do at home.

5.1 Implications to Tourism

The present study contributes to the academic debate on the subject, as well as it can serve as a motivation for researchers to analyze the relationship between attitude and sustainable behavior in different contexts. Furthermore, the results presented here may assist in the formulation of public policies aimed at raising tourists’ awareness of environmental sustainability, which can be beneficial for long-term preservation and conservation of tourist destinations, ensuring that other people and other generations can also enjoy the tourist experience.

The findings may also have implications for the design of management strategies, helping tourism managers and companies to identify environmentally-friendly tourists and, thus, adjust their offer accordingly. In addition, the hospitality industry can engage customers through a more sustainable approach to product and service development.

For consumers, we believe that a more sustainable tourist experience and, consequently, less harmful to the environment, can create a sense of ethical consumption in the individual, leading to a remarkable hedonic and richer experience which offers tourists a more authentic experience in the destination and, possibly, with a positive impact on the intention to revisit. Still, it is highlighted that ethical consumption in tourism can provide an immersion experience in destination culture, strengthening local economy and, thus, promoting greater social justice and appreciation of local culture.

Finally, the local community benefits from the practice of sustainable tourism to the extent that the appreciation of local culture and ethical consumption can lead to the inclusion of residents in the tourism market, fostering the creation of jobs and income, and strengthening the local economy. In addition, the preservation and conservation of the destination will provide residents with a more pleasant and healthy environment,
improving their quality of life through better housing conditions in terms of natural resources. Thus, we believe that destinations must emphasize the social, economic, and environmental dimensions of sustainability.

5.2 Limitations and Future Research

Within the limitations of this study, we should stress that the results presented here do not reflect the entire population which, due to its size cannot be fully covered by the sampling methods used in this investigation. Because we used non-probability sampling techniques, the results are limited to the tourist destination investigated and cannot be generalized to all tourist destinations, however, they signal a trend that can be observed in other contexts. Another limiting factor are the values obtained in some statistical tests, which were below the recommended thresholds, thus restricting the interpretation of the data. However, it is worth mentioning that, despite these limitations, the results of this study contribute to the field of sustainability, especially in the Brazilian tourism context, shedding light on other debates and reflections in this field.

Thus, future studies should be conducted in other tourist destinations, expanding the research field, in order to confirm our findings or to observe the differences of sustainability issues in other contexts. It is also suggested to replicate this study and to include residents in the surveyed population, allowing to compare tourists’ and residents’ perceptions. Finally, a qualitative analysis of the research is suggested to understand some specificities of the phenomena investigated here.

REFERENCES


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