

INSIDE THE MIND OF THE LOCAL ECOTOURIST: DO ENVIRONMENTAL
ATTITUDES AND ACTIONS ALIGN?

by

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DEDICATION

Dedicated to Yazzen, Fatima Emmelle, and Sophie Malala. For their patience, the light they have carried with them since the day they were born, and their purest love. And to my beloved husband, PM Diallo, for his unwavering support.

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ABSTRACT

Ecotourism is responsible travel that is designed to manage and mitigate tourists' impact on the environment and to promote the sustainability of natural resources. Previous research focused on ecotourism has been carried out from theories that have helped show intentions towards ecotourism behavior but failed to address spatial cognitive perceptions. The aim of this study was to examine tourists' perceptions of ecotourism. This was done from the perspective of Gestalt philosophy. Survey research was carried out among visitors of the Balcones Canyonlands National Wildlife Refuge Site (n = 79) and with Cypress Valley Canopy Tours (n= 69) in Texas, followed by subsequent focus group interviews in subsamples. The results revealed that visitors used various criteria to identify ecotourism involvement activities, with habitat conservation most often confirmed at both sites. Nature-based was the most commonly identified component of ecotourism. However, visitors rarely had a full understanding of the concept of ecotourism and also often did not identify as ecotourists. The spatial cognitions could not explain who had identified themselves as an ecotourist beforehand, but more positive experiences did seem to contribute to identification as ecotourist after the visit. The COVID-19 pandemic had made the visitors more appreciative of nature and its therapeutic effects. Using the Gestalt perspective through Brunswick's Lens model, further interpretations and possible implications were focused on improving the theoretical framework in future studies and using the findings to further motivate people to participate in ecotourism. It was concluded that spatial awareness is important to

stimulate feelings of ecotourism in visitors of ecosites and to encourage them into showing more sustainable behavior.

I. INTRODUCTION

1.1 Problem Statement

Growing concerns about environmental degradation, generally and particularly caused by the activity of tourism, have led to the proliferation of so-called ecotourism – responsible travel that is designed to manage and mitigate the tourists’ impact on the environment and to promote the sustainability of natural resources (Clifton & Benson, 2006; Stronza et al., 2019). Stronza et al. (2019) noted that ecotourism expands the connection between tourism and conservation efforts. An ecotourist is a tourist seeking travel destinations focusing on nature and contributing to conservation (Kazeminia et al., 2016). The growth of this specialist area of the tourism industry has prompted academic interest among scholars in identifying ecotourism (Jamroz & Lawonk, 2017; Massi & De Nisco, 2018), and examining the three common elements of ecotourism destinations (nature-based, environmentally educational, and sustainable management; Diamantis, 1998). While paradigm-crossing and consensus-building between these two disciplines are somewhat rare, the literature published under the auspices of both tourism and ecotourism share an implied understanding that tourists – at least specific segments of tourists – are increasingly engaged in thinking about their impact on long-term environmental sustainability, in local and global ways simultaneously (Imran et al., 2014; Massi & De Nisco, 2018; Conway & Cawley, 2016). Diamantis (1998) noted that almost all definitions of ecotourism contain three common elements: a) ecotourism is nature-based, b) ecotourism offers environmental education and, c) ecotourism implements sustainable management practices; and these criteria are used in this research.

However, there are some deficiencies in the current research, and thus some continuing gaps in knowledge. Notably, while it is laudable that the literature has approached the study of ecotourism from various perspectives, the role of consumer/tourist cognitions, especially spatial cognitions, has been woefully overlooked, and emphasis has been placed instead on behavioral explanations (Lee & Jan, 2018). For example, researchers have employed the Theory of Reasoned Action (Poudel & Nyaupane, 2017) and the Value-Belief Norm Theory – both alone and with Expectancy Theory (Kiatkawsin & Han, 2017) to understand how and why tourists engage in pro-eco behavior. However, as will be explained in further detail in the literature, none of these approaches consider how interactive and environmental elements, and the observations of others, influence individual behaviors.

Once thought a private, individual economic activity, tourism is inherently driven by social, environmental, and interactive experiences. It is reasonable to suggest that pro-social ecotourism is subject to similar forces. A study on the role those spatial cognitions play in shaping ecotourist behavior can, therefore: (a) help to close current gaps in knowledge about visitor perceptions; (b) contribute to a more-holistic account of how ecotourism as an activity is embedded in individuals' perceptions of themselves as critical consumers who want to spend money on leisure activities that reflect their environmental concerns; and, (c) make a valuable, theoretically-driven contribution to the literature about the perceptions of visitors to ecotourism sites to impact tourism and environmental policy.

1.2 Purpose of the Study

In short, as a result of environmental concerns, some people attempt to make a difference in the world through sustainable travel – or ecotourism (Clifton & Benson, 2006; Courvisanos & Jain, 2006). However, the earlier focus on behavioral accounts has left a void in our understanding of social cognition and perceptions in shaping ecotourism behavior. This study will draw on theories designed to explain how human beings perceive and make sense of their world – spatial cognition models that follow the philosophy of Gestalt theory (Lee & Bednarz, 2012; Stea, 2017). The purpose of this research is to understand tourists’ perceptions of ecotourism using spatial cognition regarding the elements that identify an ecotourist destination. Understanding social cognition and perceptions gives insight into how policy and ecotourism practice can better encourage travel that is nature-based, environmentally educational, and sustainable.

1.3 Context

Although many cities boast trails, parks, and open spaces, many urbanites and city dwellers seek an escape that will connect them with nature (Goh et al., 2016). In Central Texas, ecotourism has developed from increasing trends in activities such as birding, hiking, nature-watching, horseback riding, zip-lining, stargazing, and activities deemed authentic to Texas, such as wagon rides and ranch experiences (Davis, 2019). Texas has a diverse ecosystem, open spaces, and natural areas in which many ecotourists are interested (Montacer, 2016).

The research sites for this study consist of two locations that identify with ecotourism and offer natural experiences. Both sites are located approximately 30 miles from Austin,

Texas, and are popular with Central Texas residents and visitors from other locations. Each site offers visitors a different experience (Heikinheimo et al., 2017). One site focuses on active adventures (zip-lining) and camping, and the other focuses on nature conservation. These sites are ideal for the research at hand because they offer different experiences and are geographically accessible, allowing the researcher to return to the sites regularly over several months to become familiar with the clientele, recruit participants to take the survey, and conduct several focus groups with participants.

1.4 Research Questions

Much existing research has examined tourists' value orientations and attitude-behavior intersections to explain their decisions to engage in ecotourism behavior (Lee & Jan, 2018). However, such studies have not examined questions concerning tourists' understanding of the concept of ecotourism, the common elements of ecotourism, and perceptions of ecotourism framed by their spatial interactions and experiences of the tourism site. These gaps in understanding have been addressed by considering the following research questions:

RQ1: What criteria do visitors use to identify and describe their involvement in ecotourism activities at study sites?

RQ2: What are tourists' perceptions about the common elements of ecotourism (nature-based, environmentally educational, and sustainable management)?

RQ3: How do the tourists' spatial cognition of the sites, both before and after participation, affect their perception of the activity as ecotourism?

RQ4: What are the participants' assessments regarding the COVID-19 pandemic's impact on their perceptions and visiting behavior?

II. LITERATURE REVIEW

2.1 Introduction and Overview

Human behavior influences the environment and concerns about issues such as climate change are on the rise (Sisco et al., 2021). Environmental conservation is promoted worldwide, and one of the ways in which awareness and behavioral change are sought is through the promotion of ecotourism (Shasha et al., 2020). Understanding the factors that might drive ecotourist behavior is valuable to a broader understanding of tourism's role in environmental conservation and how to better understand visitor perceptions on the importance of tourism that is nature-based, environmentally educational, and sustainable.

To increase understanding of ecotourism, several behavioral theories have been used in previous research. A behavioral theory that was specifically developed within the environmental context is the value-belief-norm theory (VBN) (Stern et al., 1999). At the heart of this theory is the premise that choices for environmentally-friendly actions are driven by personal norms: internalized feelings of obligation to act in a certain way (Stern, 1999; see also Hiratsuka et al., 2018). According to Stern, if an individual believes that violating norms would have adverse consequences for things they care about, this causes norm activation, and this is particularly true when individuals believe they bear a great deal of responsibility for those consequences. Beall et al. (2020) showed that personal norms were indeed positively associated with ecotourism intentions; yet, these intentions were even more strongly associated with social return (e.g., if people expect likes on a social media post about an ecotourism visit).

Other researchers (Kiatkawsin, & Han, 2017) combined the VBN theory with

Vroom's classic expectancy value theory. From the expectancy value theory, the strength of motivation for certain behavior is believed to be a product of three components. The first is expectancy, which refers to the expectation individuals have of whether their own efforts will lead to good performance. The second is instrumentality, which means that individuals expect that good performance will lead to a desired outcome. The third is valence, where people may place different values on certain outcomes. Integration of this theory with the VBN theory improved the prediction of the intention to behave pro-environmentally while traveling by 12.8% (Kiatkawsin, & Han, 2017). Note, however, that intention to behave is not the same as actual behavior.

From the Theory of Reasoned Action (TRA), behavior is thought to be immediately preceded by intentions, which in turn are explained by attitudes and social norms (Fishbein, & Ajzen, 1975). In its later extended form (the Theory of Planned Behavior: TPB), a component of perceived behavior control was added; people are more likely to show certain behavior if they believe it is likely to lead to a valuable outcome (Ajzen, 1985). Using the TRA, research has revealed that more positive ecotourism attitudes are associated with a higher ecotourism intention, and with willingness to pay a premium for ecotourism (Lu et al., 2016). Using the TPB, Oudel and Nyaupane (2016) found that attitudes, perceived social norms and behavioral control predicted self-reported tourist environmental behavior.

Tourism research has shown that whereas attitudes, subjective norms and perceived control toward visiting a destination predict behavioral intentions of visiting the destination, there is only a weak association between the behavioral intention and actual behavior of visiting a destination (Hsu, & Huang, 2010). While the behavioral

theories described have provided valuable information, this data is thus still of little use for policy to encourage ecotourism behavior at specific ecosites. Ecosites such as natural ecosystems, water parks, and green channels may all be utilized to boost the importance of ecotourism; ecotourism is a part of the place's identity and belonging (Cheng and Wu, 2015). Visitors frequently acquire their understanding of the site's desirability as an ecotourism location before they even arrive on-site, via images they access virtually and through digital campaigns offered by tourism management firms (Bilgihan et al., 2016). Further, from exploratory interview research among visitors to the Rantau Ecopark (Malaysia) it was found that visitors emphasized nature and adventure, and placed responsibility for nature conservation primarily on park operators and less on themselves (Wong, 2016). Their experiences at the site were positively influenced by interactions with culture (e.g., dancing, buying handcrafted products), relaxation, and having family fun (e.g., water activities that the children enjoyed). There were also site-specific challenges mentioned by the respondents (e.g., poor road signs, safety issues). This research makes it clear that spatio-temporal interactions and experiences of the tourism site can play an important role in people's perceptions and behaviors. Moreover, a questionnaire study among visitors of ecotourism in the Fujian Province of China revealed that a sense of ecotourism responsibility is positively associated with ecotourism cognition and place attachment (Duan, & Wang, 2018). These results stress the importance of people's perceptions and experiences of ecotourism sites.

As also noted by Wong (2016), it is important for ecotourism sites to have in-depth information about the concepts of ecotourism, the common elements of ecotourism, and the perceptions formed by the interactions and experiences at the site in order to

encourage return visits, and to better understand what drives people's on-site behavior (which can be helpful, but sometimes harmful to nature). However, almost no in-depth research has been done on this and, as Wong points out, there is a lack of a theoretical framework on ecotourist experiences.

For this reason, the next section will first elaborate on the concept of ecotourism, and then will discuss what is known from the little research done to-date on the perspective of ecotourists. Thereafter, the previous research findings about the impact of spatial cognition on ecotourists will be discussed, and, since COVID-19 has impacted ecotourism during the current study, the chapter will end with a discussion of this. From this literature review, a theoretical framework will be established that can guide the current research, discussed in depth in Chapter 3.

2.2 Ecotourism

Although ecotourism has become increasingly popular in tourism and conservation circles, the conceptualization of ecotourism has often led to confusion (Bjork, 2000). Ecotourism has diverse interpretations because it is an inherently interdisciplinary area of study, spanning geography, environmental studies, education, conservation, and tourism studies (Flowerdew & Martin, 2005). Organizations with differing missions and purposes have also contributed to diverse perspectives. For instance, civil society and environmental organizations have outlined the ideals that ecotourism is sustainably managed and supportive of ecological conservation. However, the tourism industry and governments focus on treating ecotourism as equivalent to nature-based tourism. Cobbinah (2015) asserted that the uncertainty surrounding the

definition of ecotourism is a challenge for many organizations, and a source of conflict at the host community level (Dineva, 2016).

As a further complication, many sub-categories are identified under the umbrella of ecotourism, such as nature tourism, low-impact tourism, green tourism, and bio-tourism (Nelson, 2017). These terms have been used in academic and public literature to describe various forms of tourism with an environmental component, although they are not necessarily synonymous with ecotourism. More recent definitions focus on minimizing negative environmental and cultural impacts while maximizing positive economic effects (Massi & De Nisco, 2018; Stronza et al., 2019).

According to Stronza et al. (2019), “ecotourism is both an expansion and a refinement of the connection between tourism and conservation. It builds on the idea of using tourism to reinforce conservation and vice versa while deepening the criteria for sustainability” (p. 52). Ecotourism focuses on socially-sustainable tourism, personal growth, and environmental sustainability (Deng & Li, 2015). Sustainable tourism focuses on travel with minimal impact on the environment and local communities, while maintaining cultural integrity, essential ecological processes, biological diversity, and life support systems (Food and Agriculture Organization [FAO], 2010). Ecotourism is intended to educate the traveler, provide financial resources for ecological conservation, promote the political empowerment of local communities, and foster respect for different cultures and human rights (FAO, 2010). These features differentiate ecotourism from other forms of tourism. Ecotourism, therefore, is more a travel concept than a tourism product. It is a differentiated form of tourism for people who interact with the environment and cooperate with communities to protect their local environment.

Diamantis (1998) noted that almost all definitions of ecotourism contain three common elements: a) ecotourism is nature-based; b) ecotourism offers environmental education; and, c) ecotourism implements sustainable management practices.

One of the three key components that designate an ecotourist destination is that the site is nature-based. Nature-based destinations are prime locations for ecotourists. When an ecotourist destination is immersed in nature-based, environmental experiences, visitors are inspired to learn more about biology, conservancy, sustainability, and environmental impact (Ardoin et al., 2015; Kazaminia et al., 2016). Hausmann et al., (2018) and Dorwart et al., (2009) argued that understanding tourist preferences for nature-based experiences could be explained through perceptual positioning. These authors suggested that people habitually interpret an environmental stimulus given what is known about the setting and its functional attributes, like the view, occasion, ambiance, and price (Dorwart et al., 2009). Furthermore, Lee & Jan (2017) emphasized that natural destinations contribute to environmental conservation through promoting and educating sustainability and conservancy.

Another key component of ecotourism is the inclusion of environmental education. Lee & Jan (2017) suggested that ecotourist sites should “provide both an educational experience for tourists and economic, sociocultural, and environmental sustainability for the destination” (p. 1). According to The International Ecotourism Society (2015), ecotourism should improve environmental impact by providing tourists' learning experiences and educational opportunities. Educational opportunities that are nature-specific may include guided walks, nature centers, birding, wildlife watching, presentations, hands-on learning with fossils, and environment samples. An adventurous

element of environmental education may include guided hikes, camping, rafting, canoeing, biking, mountain climbing, and zip-lining (Aswita, 2018). According to this author, environmental education within ecotourism “is intended to improve knowledge about environment which encourages attitudes and pro-environmental behaviors, as well as having a positive attitude towards ecotourism and environmental conservation” (p. 17).

Ecotourism has been defined as a sub-category of sustainable tourism which involves balancing economic, environmental, and social goals within an ethical and cooperative framework of values and principles. Ecotourism can support conservation objectives and sustainable measures, in the local communities and among visitors, by establishing and sustaining links between the tourism industry, local communities, and protected areas (Huang et al., 2015). Environmental benefits occur when communities committed to preserving the natural environment comply with sustainable tourism management standards. Ecotourism is a segment of tourism that intends to use natural and cultural heritage sustainably. This perceived potential benefit is an effective tool for sustainable development in developing countries, which embrace and include it in their economic development and conservation strategies (Kiper, 2013).

2.3 Perspective of Ecotourists

Ecotourism's motivation and behavior are often criticized by specialists, who believe that ecotourists violate sustainability standards and are thus unsustainable (Newsome et al., 2004). Environmentally-friendly tourism has no specific definition, but its guiding principles are widely recognized as providing a solid basis for the long-term profitability of this kind of travel (Marzouki et al., 2012; Wong, 2016). Ecotourism's

clients are referred to as tourists in this context, and they are those who embody the ideals of ecotourism at every stage of their trip. As a result, the activities and preferences of ecotourists should be congruent with the objectives of ecotourism. Visitors' reasons for traveling are the driving force behind all of these characteristics, as they provide a basis for making particular judgments (Morrison et al., 1998). To put it another way, travelers must be motivated by ecotourism ideals in their travel planning and in their behavior to be classified as ecotourists, while on vacation.

When people go on vacation, they are encouraged to participate in environmentally-beneficial activities to raise their awareness of the environment. However, it is possible that this may not result in the type of responsible tourism practices that we would want to see in the future (Juvan & Dolnicar, 2014). Environmentally-conscious ideas do not always convert into ecologically-conscious behavior (Juvan & Dolnicar, 2014).

Research has shown that most ecotourists are driven by personal motivations, especially in their behavior during trips (Anishchenko, 2016). Sometimes, these aspirations are aligned with ecotourism notions, and one-fourth of individuals who participate in an eco-trip are strongly motivated by ecotourism principles (Anishchenko, 2016). Yet, aside from that, the impact of climate change on tourism demand patterns will be shaped by tourists' responses to the complexity of mitigation policy and its effects on transportation systems, the wide range of climate change impacts on destinations, as well as broader impacts on society and economic development, among other factors (Anishchenko, 2016; Gossling et al., 2012). Tourists have the flexibility to modify the location, date, and type of vacation they take. Consequently, it is critical to understand

how visitors perceive and react to the consequences of climate change, so that changes in tourism demand and the loss or increase of specific tourism sectors may be predicted in the future. This can impact policies which impact the environment. Despite several studies looking at visitors' reactions to various environmental and climate change-related changes, the complexity of demand responses is still little understood (Gossling et al., 2012).

Most ecotourism studies in the past centered on visitors' evaluations by their tour guides. An exception to this is the study by Sangpikul (2020), who focused on the experiences of ecotourists (in southern Thailand) who participated in various guided tours. This research showed that guides do not always cover all aspects of sustainability and thus affect the eco-experience of visitors. Wurzinger and Johansson (2006) also focused on the direct experiences of tourists, through a survey study. However, they focused on the question to what extent ecotourists differ from nature tourists and city tourists in their pro-environmental views. This research was conducted in Sweden among participants in activities organized with an ecotourism view and purpose, participants in trips to Lake Takern (which had the purpose of spending time in nature but with no ecotourism elements added), and people participating in city trips. Wurzinger and Johansson found that ecotourists and nature tourists reported more pro-environmental behavior than city tourists. The pro-environmental behavior of ecotourists and nature tourists was similar, and ecotourism was not well known in any of the three categories. As such, this study reveals that even when people participate in ecotourism and visit ecotourism sites, this does not automatically mean that their perceptions and behavior can be assumed to (mainly) reflect ecotourism.

2.4 The Impact of Spatial Cognition on Ecotourists

In their investigation of tourists' environmental perception of images on certain resorts in Chiang Rai Province, Thailand, Sukkay and Sahachaisaeree (2012) employed an exploratory survey of different environment images to understand tourists' engagement with preferred destination places. Images elicited certain perceptions, beliefs, attitudes, and opinions associated with the destination. The authors found that the sensations drawn from pictures of a physical setting are directly associated with past cultural experiences or expectations and represent knowledge, understanding, or a kind of imposing orientation. These factors eventually direct the cognitive process and peoples' desire for actual visitation. According to the study results, visitors expectations and likelihood to travel to a particular location were highly determined by the knowledge and understanding of the layout of the location in the pictures shown to these spatial elements, including open space, tree and water elements, and identity architecture (Sukkay and Sahachaisaeree, 2012). These visual elements are part of the affective and cognitive assessment a person makes about a possible destination before travel; therefore, it is vital in understanding visitors' choices about particular goals vis-a-vis spatial cognition.

This focus on spatial cognition is interesting not only because of the empirical findings, but also because it provides entry points for other theoretical frameworks to conduct ecotourism research than those described in the introduction to this chapter. More specifically, these are theoretical frameworks that fall within "cognitivism." Cognitivism is a sub-field of psychology that focuses on mental processes, including how people perceive, think, remember, learn, and direct their attention to one stimulus rather

than another. Stea (2017) called cognitivism the “image” and employs it to explore practical actions and behavior in terms of perception and response to any immediate stimulus in the environment. He referred to it as the cognitive map, a specific type of mental representation that stimulates a person to perceive, remember, cipher, and decipher information about the relative locations and features of everyday occurrences in their spatial environment. Studies across the entire disciplinary spectrum have analyzed human behavior concerning environmental perception through the lenses of cognitivism, including those conducted by geographers in the field of behavioral and environmental research (Baird et al., 1979; Gifford, 2007; Stea, 2017). While diverse in focus, studies in multiple disciplines share the idea that perception – the process where physical sensations such as sights (raw stimuli) are selected, organized, and translated into meaning – is important in shaping behavior (Solomon et al., 2014). Similarly, spatial cognition suggests that the brain acts upon the information it receives through sensory receptors, which allows a person to perceive the immediate physical world. The dynamic relationship between the brain, the five senses, stimuli, and the physical environment enable a person to experience and interpret the world around them.

From this perspective, Gestalt philosophy is a theoretical framework that can be helpful in the further study of ecotourism (Lee & Bednarz, 2012; Stea, 2017). This will be further explained in the next chapter. First, however, it is important to note the fact that the current study took place in a time frame where the COVID-19 pandemic played an important role. Tourists’ expectation to travel are altered during different types of crises. Political, economic, and social factors associated with the COVID-19 pandemic

can influence people's decisions to visit. Moreover, their perceptions and attitudes toward tourist attractions may be also altered.

2.5 Ecotourism and COVID-19

Community ecotourism's hopes of meeting the UN's Sustainable Development Goals by 2030 are not jeopardized by the COVID-19 pandemic, but they might be hampered by it. Many countries have been hit by the COVID-19 outbreak, which is still spreading. COVID-19 has affected even people who have not become sick, as research shows that factors such as sickness rates, restrictions and awareness of the pandemic have influenced societies in many different ways, including economic and emotional changes (Mudzengi et al., 2022; Pedrosa et al., 2020).

More specifically related to the current study, an example of a direct impact resulting from the COVID-19 pandemic is that some ecosites have been visited less frequently (e.g., Tran & Nguyen, 2021). On the one hand, this can be seen as good news, as limits on the possibilities of human contact and industrial activities also decrease harmful effects of humans on the environment (Jovanovi et al., 2021). Yet, at the same time, it also hinders positive impacts of ecotourism, such as increased environmental awareness of people and a financial profit for ecosites. Ecotourism and wildlife conservation were shown to suffer as a result of decreased income and employment in the the ecotourism sector (Jovanovi et al., 2021). A positive impact of the COVID-19 pandemic seems to be an increased motivation of people to spend time in nature (Georgialas et al., 2021). It seems that the stress that this pandemic has caused and the limited possibilities that the associated COVID-19 restrictions placed on people's lives

have led to an increase in their appreciation of the environment. COVID-19 restrictions have increased motivation to spend time in the nature, along with minimizing a negative impact on the environment (Azehar et al., 2021).

III. THEORETICAL FRAMEWORK

As explained in the previous chapter, in this study a theoretical framework will be used that is founded on the Gestalt theory. Gestalt theories are employed to clarify the construct of perception and behavioral phenomena regarding understanding the link between perception and decision making on ecotourist travel decision-making.

Employing a perception-driven study will expand existing studies that are overly focused on explaining ecotourist behavior from an individual/behavioral perspective, paying limited attention to the role of the spatial environment, and specifically, individuals' perceptions of that environment.

3.1. Spatial Cognition and the Gestalt Theory

Gestalt theory is a school of thought that originated in the 1920s. "Gestalt" is originally a German word, which translates as "form" or "whole". The main premise of Gestalt philosophy is that the whole is more than the sum of its parts and people's perceptions are influenced by what they expect to see (Wagemans, 2015). From Gestalt philosophy, several principles of perception have been discovered, also called "laws." One example is that of the figure-ground relationship (Elder, & Goldberg, 2002). This means that people tend to distinguish between what they see as the figure and what they see as the background and this can make a lot of difference to the perception. For example, is a natural feature, such as a tree or a mountain your focus, or is it just the background of your activities. Another law is that of grouping; objects close together are seen as a whole (Elder, & Goldberg, 2002). For example, a person perceives individual trees together as a forest. A third example of a law of perception is that we tend to

perceive the whole despite a break in an expected pattern, referred to as “closure” (Elder, & Goldberg, 2002). In other words, we are inclined to naturally complete something that is unfinished into a whole; as, for example, we know that a mountain is continuous even though we cannot see part of it because there are trees in front of it.

There are many known criticisms about Gestalt theory, such as its lack of objectivity, its philosophical basis in phenomenology, and the assumption of a deterministic whole (Koffka, 2013). Nevertheless, human geography and social psychology are heavily influenced by the Gestalt theory, as affirmed in the works of Schroeder (2007), Stea (2017), and Paay & Kjeldskov (2008). The philosophical basis of the theory is derived from the construct of perception phenomena. Therefore, geographers can use it to study the behavior of an individual or tourist in a given psychosocial environment, such as the social media postings of place images (Elliot & Papadopoulos, 2016; Postill & Pink 2012). Notably, the laws of the theory imply that a comprehensive understanding of the human-environmental relationship can only be accomplished by carefully analyzing the psychological processes through which people become conscious of their environment and how the processes impact the nature of the resulting behavior (Elliot & Papadopoulos, 2016; Koffka, 2013; Woodside et al., 2011).

3.2 Gestalt and Ecotourism Experiences

The Gestalt philosophy explains tourist behavior as an aspect that builds from observations of ongoing processes resulting from even pre-visit factors (Elliot & Papadopoulos, 2016; Woodside et al., 2011). For instance, Gestalt’s law of closure can explain advertisers' use of suggestive phrases to be completed by the audience, as they

provide a context that helps increase the attractiveness of products (Paay & Kjeldskov, 2008; McGahey, 2012). Research has further shown that consumer beliefs about goods are affected by a “tourist destination image” of the place where they were produced. A tourist destination image is a mental schema (or Gestalt) of an integration of cognitive and affective components of a certain place (Elliot & Papadopoulos, 2016). Elliot & Papadopoulos (2016) argued that there is extensive theoretical recognition that these tourist destination images also influence tourist behavior.

This line of thinking is similar to the behavioral paradigm advanced by Boulding (1956) and to Brunswik’s lens model. According to Boulding’s (1956) behavioral paradigm, as illustrated in Figure 1, we build an image based on the environment as we perceive it. Sometimes, information will be added to our image, and other times, the new information we perceive does not fit our previous schema and a restructuring of our image takes place. In this process, our images affect our behavior and this in turn leads to certain interactions and perceptions of the environment.

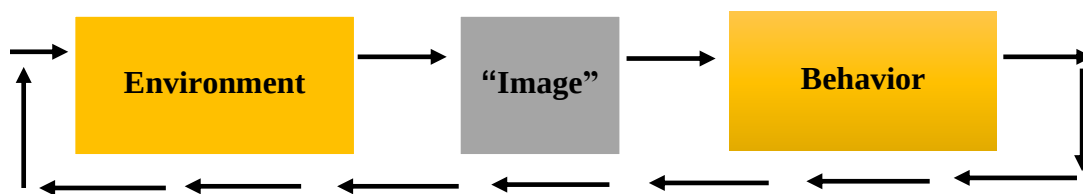


Figure 1 Simple behavioral model (Boulding, 1956)

In a similar way, Brunswik's (1956) lens model (as cited by Gifford, 2007) explains that behavior is determined by observations that give rise to perceptions. According to this model, there is an optimal decision to proceed to a particular response or action, but the actual decision depends on how a person makes the trade-off. This is

determined by the various cues, or lenses, through which perception is formed. Applied to environmental perception, the environment itself influences how ecological validity is perceived by a person (i.e., whether the picture matches how the ideal environment for ecotourism). Figure 2 provides examples of these lenses that can be used and that result in various decisions, such as about the evaluation of sensations and natural beauty. With this model, the reaction and actions of individuals towards different sites can be interpreted.

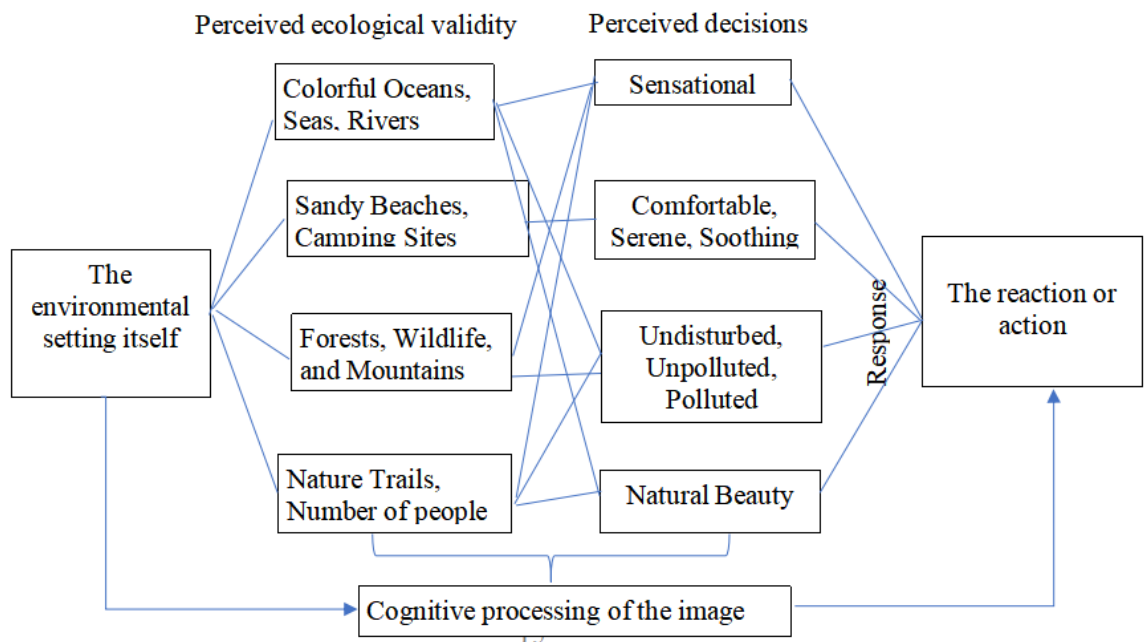


Figure 2 Brunswik's Lens Model (Gifford, 2007)

Note. Altered for environmental perception

Similarly, Stea (2017), an expert in sustainable development and environmental perceptions, explains that spatial behavior (the process by which the human brain chooses, organizes, and interprets spatial sensations) can best be understood from the

individual's "cognitive map", which is comparable to Boulding's "image", but is more specifically defined as containing information about relative locations and attributes of what we encounter in spatial environments. The cognitive maps are based on human perceptions and contain flaws and imperfections. As such, we can conclude that what people know may differ from what they need to know to show sustainable behavior or to consider themselves as ecotourists. In this respect, then, Stea, as in Brunswik's model, includes the consideration that people may not arrive at the best decisions because of imperfect mental models determined by perceptions.

In conclusion, the decisions of (potential) tourist location visitors are guided by the individuals' perceptions of the environment (spatial cognition), which makes it a highly significant aspect for geographers who aim to study perception and decision-making in the context of spatial connotations. Further, following the simple behavioral model proposed by Boulding and the Lens Model proposed by Brunswik (both illustrated in Figures 1 and 2, respectively), information about the likely travel destination is filtered due to cognitive variables such as attitude, culture, or beliefs that influence perceived risk and, ultimately, behavior (reaction/action) through decision-making. Indeed, the Gestalt models provide eco-tourism relevant insights, such as in the way social media advertisements (digital images) use people's perceptual and cognitive processes to influence visitor receptivity (Woodside et al., 2011; Puja & Amit 2016; Riasi & Pourmiri, 2015). The theory has also been extensively applied to understand tourist behavior and tourist cognitive mapping of unfamiliar environments (Elliot & Papadopoulos, 2016; Walmsley & Jenkins, 1992). Moutinho (1987) also recognized that travel decision-

making behavior was partly cognitive and influenced by social factors such as cultural and reference groups.

3.3 A Gestalt Approach in the Current Study

In the current study, the Gestalt approach will be guiding the factors that are considered in the approach to the research questions. From all Gestalt models described, it is assumed that perceptions are affected by the pre-information and actual experiences of the site. Moreover, following Brunswik's lens model, the aim will be to identify which lenses people might use in their decisions, such as to identify themselves as an eco-tourist and their perception of their activities as ecotourism. For this purpose, there will be a focus on specific common spatial cognitions. Moreover, the COVID-19 pandemic will also be considered and could act as a time-specific lens affecting people's perceptions and decisions.

IV. RESEARCH METHODOLOGY

4.1. Overview

This research study aims to understand tourists' perceptions of ecotourism using spatial cognition regarding the elements that identify an ecotourist destination. Therefore, to answer the research questions, I employed a sequential mixed-methods approach involving the collection of quantitative (survey) and qualitative (focus group) data (Riessman, 1993); and drawing on the theoretical principles of the Gestalt theory of ecotourist spatial cognition of unfamiliar environments through Brunswik's Lens Model. Drawing on the multitude of definitions of ecotourism in the literature, the definition used in this research is that ecotourism is nature-based, environmentally educational, and sustainable. The following section discusses the research design, study population, data capturing, and data analysis procedure.

4.2. Research Design

To address the research problem, I employed a sequential mixed methods design and directly engaged individuals about their decision-making process related to their participation in activities they view as ecotourism. Research regarding spatial cognition in geography often uses surveys, demographic census, spatial statistics, and cognitive mental maps (Kitchin & Tate, 2013). To build on an approach common in behavioral geography and to triangulate the research findings, I employed two main methods of data collection: surveys (Appendix A) and semi-structured focus group interviews (Appendix B).

There are two types of surveys used within research: self-reported and interview-administered (Saris & Gallhofer, 2014). As an interview-administered survey may cause pressure on participants (pressure to rush), a self-reported survey is a more appropriate fit for this study. Surveys entail self-administered questions that the respondent fills in, and then returns to the researcher for analysis and interpretation. This method has several advantages. Because the individual respondent can answer the questions out of sight of the researcher, they may be more likely to answer the question solely according to their own opinion, without feeling pressure to fill out the survey according to their perceptions of the researcher's preferences.

Brunswik's Lens Model guided the survey to help illustrate the perceptions and behaviors using spatial characteristics to identify ecotourism destinations. The questions are related to three main components of the ecotourist's experience, including: (a) the individual's environmental self-identification; (b) environmental features of the destination concerning the three critical components of ecotourism (nature-based, educational, and sustainable); and, (c) spatial characteristics that influenced the individual to choose the particular site for ecotourist activities. The purpose of asking these questions is to better understand which factors influence the decision to participate in a particular ecotourism activity (Chen & Tsai, 2007).

The survey measured environmental attitudes and actions related to those attitudes. The survey provided the study with one source of data for analysis. According to Wilson (2005), "a general approach to the creation of outcome spaces in areas such as attitude and behavior surveys has been the Likert style of item" (p. 73). The first part of the survey contained structured questions to measure perceptions and behaviors using a

Likert scale analysis (Table 1). The responses can be analyzed and quantified to indicate significance. The second part of the survey had some open-ended questions to enable the researcher to understand tourists' perceptions concerning ecotourism decisions.

This study also had a second source of data collection to give context to the survey results. The second research method was an hour-long, semi-structured focus group with tourists who visited the designated Central Texas sites. Individuals indicated their interest in participating in a focus group on the survey, and focus groups consisted of 2-5 individuals. To encourage participation, participants were provided with an Amazon gift card once the focus group was concluded. For the focus groups, questions were prepared in an interview guide ahead of time. Before the group discussions began, a participant letter of consent provided details on the process, including recording the responses for future analysis. As it was not feasible to facilitate a focus group onsite on the day of the visit, an online focus group was scheduled after the visit to the site. As the focus groups took place during the COVID-19 pandemic, they were conducted virtually. As Texas State University provides access to Microsoft Teams for hosting virtual meetings, they were conducted using that platform. That may have limited participation, as it is not the most commonly-used platform for virtual meetings.

4.3. Study Population and Data Capturing

The study population for this research included tourist participants visiting two identified sites involved in ecotourism. These sites meet the criteria of being nature-based, having an environmental education component, with sustainable practices. Participants may have visited these sites for hiking, birdwatching, sightseeing, guided

tours, or other activities. As the daily average number of visitors differs at both sites, the sample varied with each location. At Balcones Canyonlands National Wildlife Refuge (BCNWR) (Site A; Figure 4), hiking, tours, birding, photography, and nature activities are available to visitors Monday through Friday. Site A has an estimated 20,000 visitors per year or 80 visitors per day based on their calendar. Using a 95% confidence level and a confidence interval of $7\pm$, the sample size needed was 57 participants for Site A, and 79 visitors participated in the surveys. Cypress Valley Canopy Tours (CVCT) (Site B; Figure 5), an ecotourism and treehouse stay destination in Central Texas, offers tours, activities, zip-lining, and treehouse camping. Site B has an estimated 6,000 visitors per year based on their seasonal calendar, or an average of 36 visitors per day. Using a 95% confidence level and a confidence interval of $7\pm$, the sample size needed was 31 participants for Site B and 69 visitors completed the survey. Sites A and B are both located in the Edwards Plateau ecoregion in Burnet County, according to the map produced by Gould et al., (1960) and modified by the Texas Parks and Wildlife Department (Figure 3) (Gould et al., 1960).

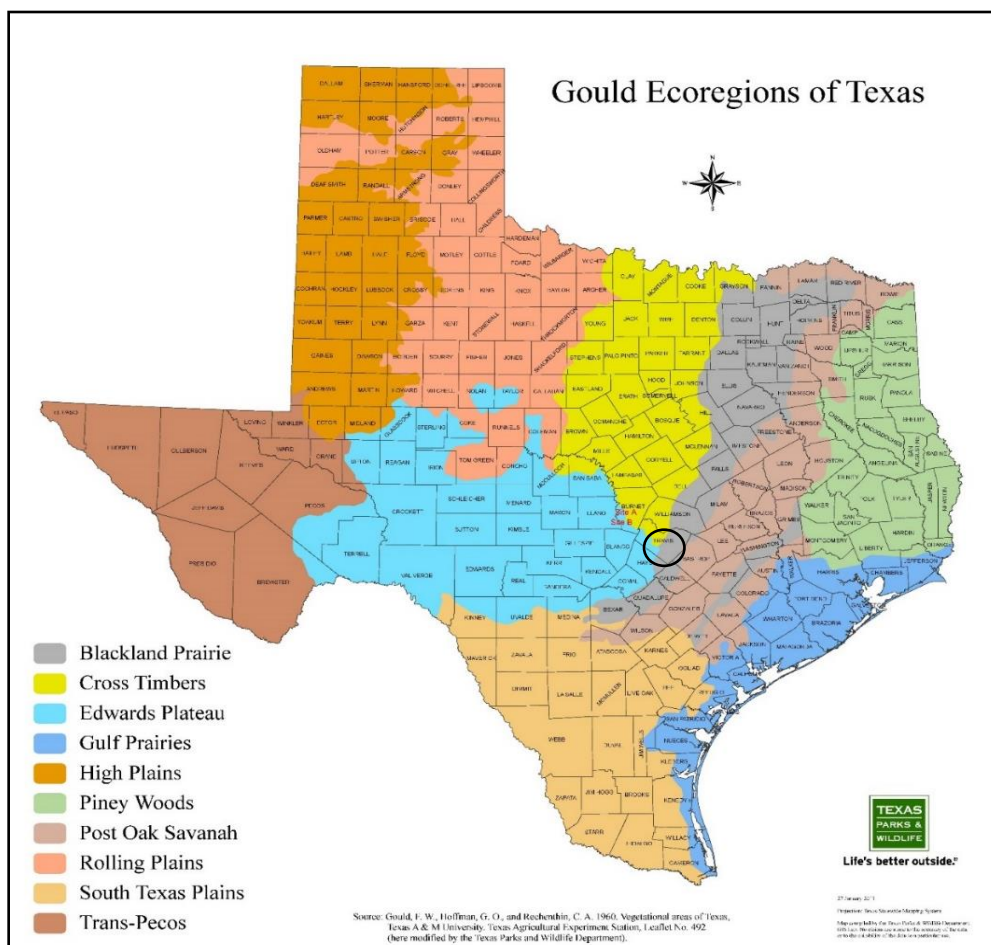


Figure 3 Locations of Sites A and B in the Edwards Plateau (Gould et al., 1960)

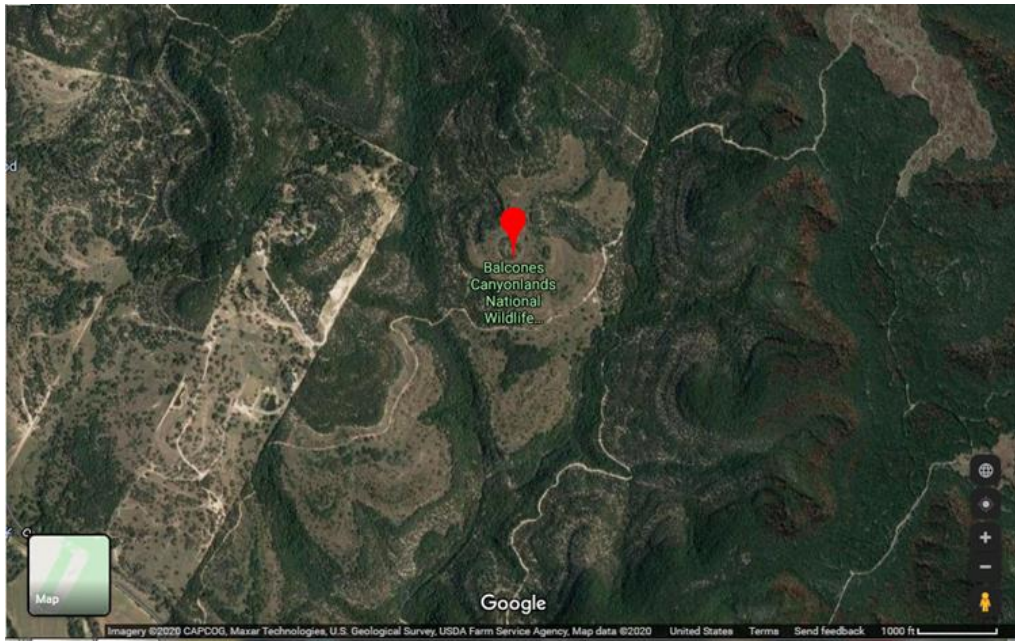


Figure 4 Location of Site A, Balcones Canyonlands National Wildlife Refuge (Google Maps, 2020a)

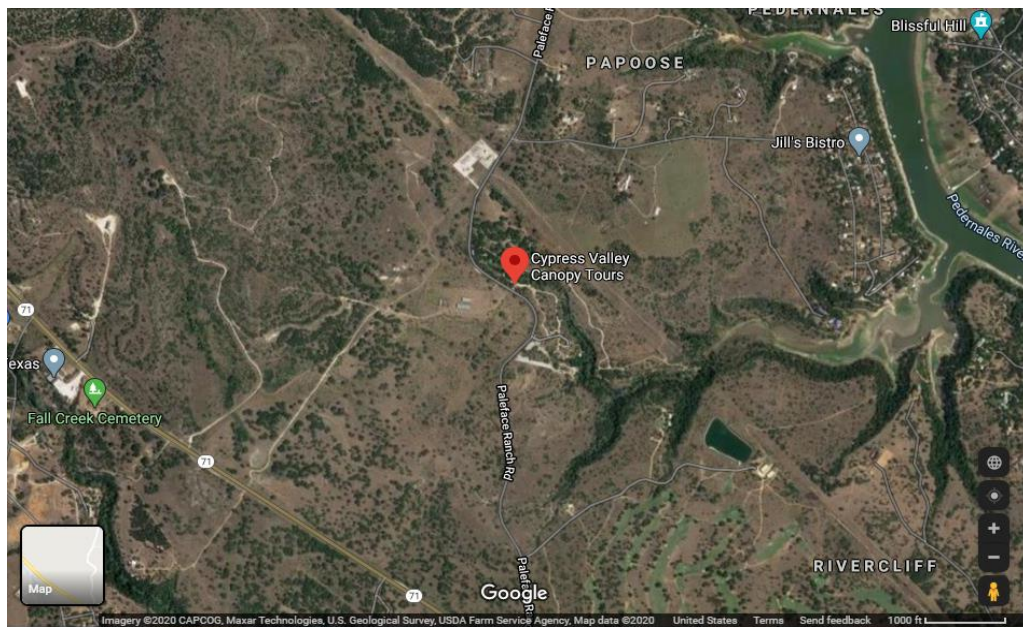


Figure 5 Location of Site B, Cypress Valley Canopy Tours (Google Maps, 2020b)

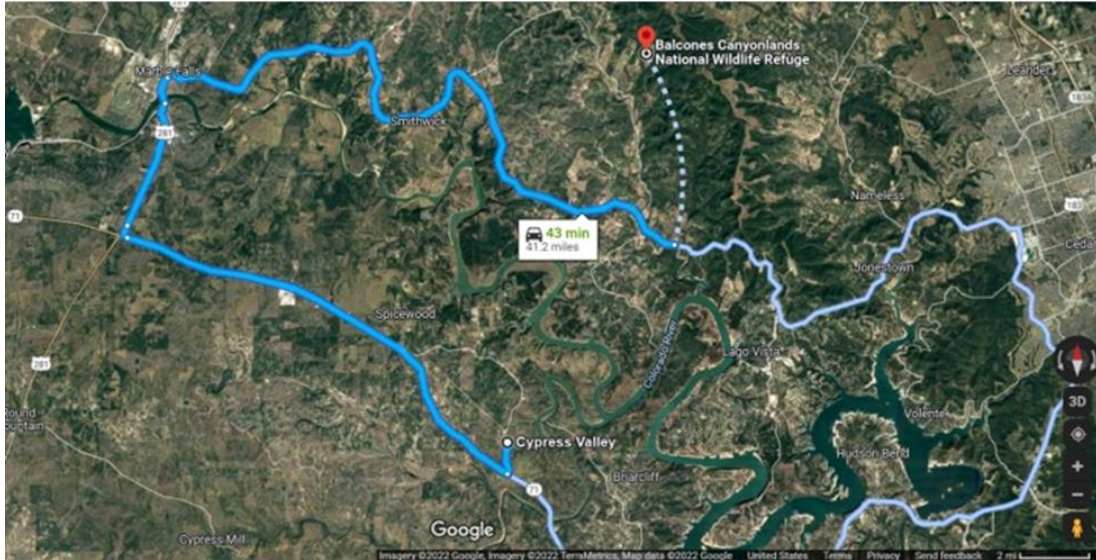


Figure 6 Location of Sites A and B (Google Maps, 2022)

The survey and focus group criteria emphasized that all participants must be adults (at least 18 years old). It was assumed that participants would be a combination of local and national tourists, and not all would identify as ecotourists. The surveys had straightforward close-ended questions for ease of response and analysis. The focus groups were composed of individuals responding to the survey who indicated an interest in participating in a one-hour focus group.

After IRB approval, I carried out the research via Qualtrics and focus groups via Microsoft Teams. The study was conducted at specific tourist sites in Central Texas, and therefore, before data collection occurred, permission from the sites to survey visitors via listservs was secured. Participants were recruited via an option to participate listed on the bottom of the participant surveys distributed to visitors who visited Cypress Valley Canopy Tours within the previous 12 months and members of the Friends of Balcones Canyonlands National Wildlife Refuge list serve. Focus group participants were read a

consent script approved by the IRB, and an agreement to participate was secured from participants at the beginning of the focus group sessions.

4.4. Data Analysis

After collecting all the data from the surveys and focus groups, I determined how respondents perceived their role as ecotourists at the given destination. I measured participants' perceptions and behaviors about their participation in ecotourism using quantitative graphics to illustrate and reflect the three components of Brunswik's lens model, perceived ecological validity and decision-making towards the travel destinations. The purpose was to elucidate the role of spatial perceptions in shaping ecotourism behaviors. Verbatim statements from the focus group participants illustrate and further clarify the findings. Though the number attending the Site B focus group was lower than anticipated, the responses from both focus groups helped give context to the quantitative Qualtrics survey data.

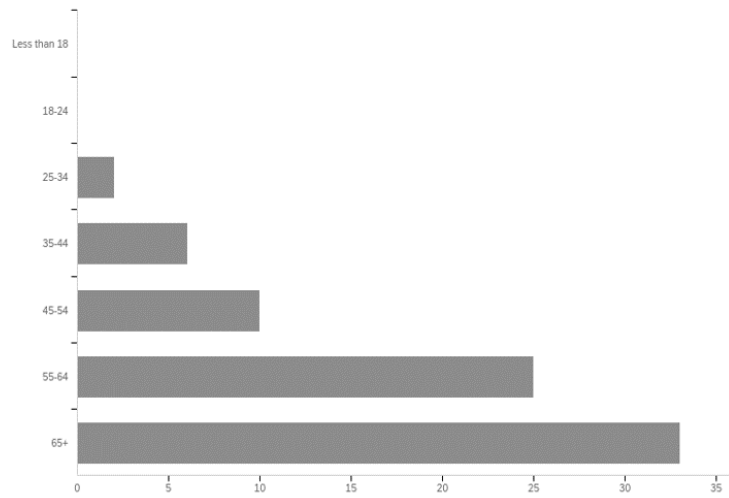
V. RESULTS AND ANALYSIS

Surveys were completed by 79 visitors to the BCNWR and 69 visitors to CVCT using the Qualtrics platform. Additionally, 12 of those who completed the BCNWR survey indicated they would be interested in participating in a virtual focus group, and 12 of those who completed the CVCT survey indicated they would be interested in participating in a virtual focus group. Invitations were sent via Microsoft Teams to all those who indicated an interest in focus group participation. Ultimately, five participants attended the BCNWR focus group, and only two attended the CVCT focus group. The CVCT focus group took place on a Monday evening, and the BCNWR focus group took place on the following Tuesday evening.

5.1 Participation as Ecotourists: Demographic

RQ1: What criteria do visitors use to identify and describe their involvement in ecotourism activities at study sites?

A.



B.

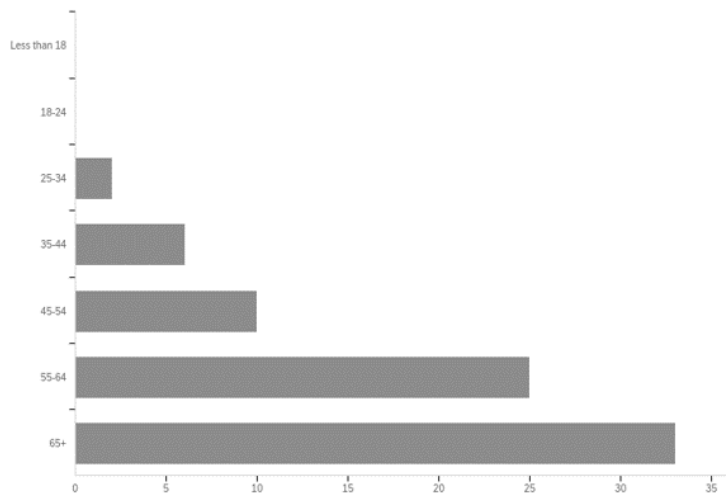


Figure 7 Ages of respondents from BCNWR (A) and CVCT (B).

A 2 (Site) x 7(Ecotourism aspect) mixed ANOVA was carried out to verify how the tourists defined their participation at CVCT and BCNWR. The Greenhouse-Geiser correction was used, as Mauchly's test of sphericity was significant, $X^2(DF=20) = 145.28, p < .001$. There was a main effect for Site, $F(1,132) = 38.55, p < .001, \eta^2 = .226$,

and a main effect for Ecotourism aspect, $F(4.37, 576.13) = 58.63, p < .001, \eta^2 = .308$.

The tourists were more affirmative about some aspects of ecotourism than others.

Moreover, visitors to BCNWR defined their participation as ecotourism more than visitors to CVCT. A small but significant interaction effect was also found between sites and the aspects of ecotourism $F(4.37, 576.13) = 4.51, p = .001, \eta^2 = .033$.

For this reason, a within-subjects ANOVA was conducted separately for both groups of tourists. Post hoc pairwise (LSD) comparisons were used to determine which aspects were more confirmed than others. For the BCNWR the strongest effect was found, $F(3.87, 278.92) = 39.22, p < .001, \eta^2 = .353$. It turns out that the tourists at the BCNWR significantly confirm most strongly that they appreciate the site's habitat conservation and the opportunity to see wildlife. Appreciation of conservation and wildlife was followed by the tourists confirming that staying someplace that preserves the natural environment is important to them, and they liked the fact that there were guided tours. People confirmed to a lesser extent that they considered themselves ecotourists and that they knew about the sustainability efforts. People agreed the least with the statement that they visited the site as an ecotourist. These results are visualized in Table 1 in the shaded columns.

In the BCNWR focus group, participants expressed that preserving the natural environment was very important. Learning, leaving a small footprint, and appreciating nature was important. Four out of five participants identified themselves as birders who value the opportunity to participate in birdwatching at BCNWR.

Table 1 Means and Standard Deviations on the Aspects of Identification of Ecotourism

		BCNWR		CVCT	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
1	I consider myself an ecotourist	3.66	0.89	3.20	0.87
2	I visited [the site] as an ecotourist	3.29	1.15	2.98	0.94
3	I visited [the site] knowing about their sustainability efforts.	3.75	1.03	3.01	1.21
4	I appreciate [the site's] habitat conservation	4.77	0.48	4.16	0.85
5	Staying someplace that preserves the natural environment is important to me	4.31	0.68	4.07	0.87
6	I like that there are guided tours at this site	4.16	0.86	3.29	1.00
7	The opportunity to see wildlife at [the site]	4.69	0.55	3.73	0.94

Note: A scale of 1-5 used for this table. 1= Strongly Agree, 2= Agree, 3= Neither Agree nor Disagree, 4= Disagree, 5= Strongly Disagree

The within-subjects effect for CVCT was also significant. The findings on this site were slightly different. As with the other site, people were relatively likely to agree that they appreciate the site's habitat conservation, but not as much with the opportunity to see the wildlife, which was second. Visitors were almost equally likely to confirm that staying somewhere that preserves the natural environment was essential to them. The statements that followed this, in order from most to least affirmative, were: "I like that there are guided tours at this site," "I consider myself an ecotourist," "I visited CVCT

knowing about their sustainability efforts,” and “I visited CVCT as an ecotourist” (shown in the white columns of Table 1). There are many factors that contribute to the differences in responses from participants from each site. Though some of the specific reasons are accounted for through the focus group responses below, additional factors may be the differences in ages of respondents from each site as well as the difference in what each site offers. BCNWR offers free entrance for daytime use, and CVCT offers an opportunity for guests to stay overnight in a treehouse cabin.

Participants in the CVCT focus group stated that they were not particularly aware of the sustainability efforts at the site, but they were interested in the natural environment. One participant was able to see wildlife at the site and was pleased by that, but another participant was unaware of wildlife and was not given any information or education from the staff. The participants expressed their appreciation for the conservation of the site. Focus group responses to the question of the elements of ecotourism were that money from ecotourism benefits the local area, there is an element of learning, sustainability is considered, and products are locally-sourced.

The responses of focus group participants support the survey results for how visitors define their visit to the site concerning ecotourism. Visitors to BCNWR were more likely to identify as ecotourists than visitors to CVCT. In the BCNWR focus group, several participants identified with the ecotourist term, whereas neither of the two CVCT participants considered themselves ecotourists. One participant stated that she believed the term to be extreme and did not identify as an ecotourist because she felt that it did not sound easy to be an ecotourist and required sustainably doing everything.

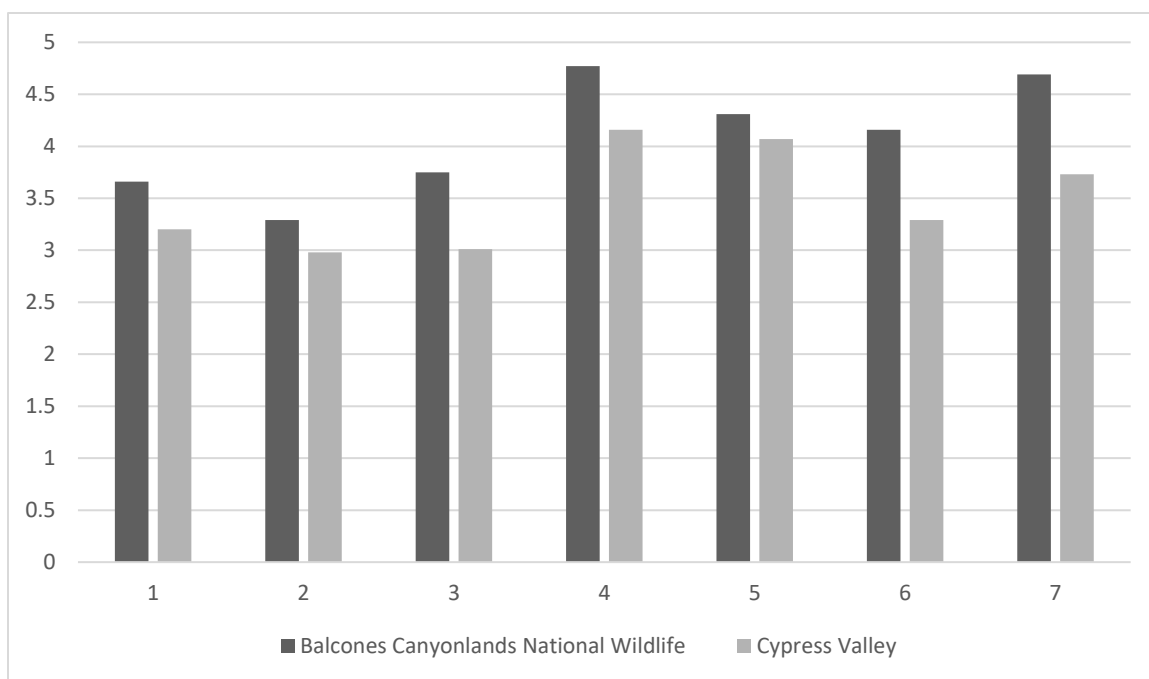


Figure 8 Mean Levels of Identification with the Different Aspects of Ecotourism for Both Sites

Note. 1 = I consider myself an ecotourist; 2 = I visited [the site] as an ecotourist; 3 = I visited [the site] knowing about their sustainability efforts; 4 = I appreciate [the site's] habitat conservation; 5 = Staying someplace that preserves the natural environment is important to me; 6 = I like that there are guided tours at this site; 7 = The opportunity to see wildlife at [the site].

5.2. Tourist's Perception of Ecotourism

RQ2: What are tourists' perceptions about the common elements of ecotourism?

(Nature-based, environmentally educational, and sustainable management)?

For both research sites, most of the tourists counted “nature-based”, “appreciation for nature,” and “protecting the natural environment visited” as ecotourism. Table 2 shows the percentages of tourists, for each of the two sites, who considered the various aspects surveyed to be identified as ecotourism. Culture was least-often seen as part of ecotourism. Only 12.7 % of the BCNWR tourists and 10.1 % of the CVCT tourists fully defined the concept of ecotourism and confirmed all the aspects mentioned as part of the

concept. On average, tourists chose four from the five aspects as part of ecotourism ($M = 5.08$, $SD = 2.81$ for the BCNWR tourists, and $M = 4.58$, $SD = 2.49$ for the CVCT tourists). Tourists from both research sites mentioned additional aspects. Tourists at the BCNWR indicated active recreation, bringing money into local economies, drawing and painting nature, protecting place and culture, not changing the place with capitalistic enterprise, and leaving the place unsculptured and untampered, with fewer humans. A tourist at CVCT indicated financially supporting causes/groups/areas, championing sustainability, and conservation. There are many factors which may contribute to the aspects respondents indicated to be part of ecotourism, through focus group discussion many individuals referred to experiences with their family of origin and lived experiences that contributed to their concept of ecotourism.

Table 2 Tourists who Considered the Various Aspects Surveyed to be Ecotourism

Variable	Tourists at BCNWR (%)	Tourists at CVCT (%)
Nature-based	77.2	66.7
Increasing environmental awareness	69.6	42.0
Appreciation for nature	73.4	78.3
Social responsibility	45.6	47.8
Protecting the natural environment visited	65.8	73.9
Sustainably managed	59.5	56.5
Increasing environmental education	54.4	39.1
Culture	24.1	15.9
Responsible travel	38.0	37.7

5.3. Ecotourism and Spatial Cognition Perception

RQ3: How do tourists' perceptions of the spatial cognition of the site, both before and after their participation, affect their perception of the activity as ecotourism?

Of the BCNWR tourists, a majority (65.3 %) did not consider themselves to be ecotourists at the time of prior visit. A binary logistic regression was used to examine whether the main characteristic the tourist had expected (natural beauty, birds/wildlife, outdoor activities, guided tours, or others) could explain which tourists had considered themselves to be ecotourists. However, this proved not to be the case; neither general expectations nor the inclusion of the aspects in the images had significantly improved the

percentage that could be correctly predicted compared to a simple intercept model, X^2 (DF =7) = 7.31, $p = .397$. In the CVCT, even 85.5% of tourists did not count themselves as ecotourists prior to the visit. Again, the expected natural beauty, birds/wildlife, outdoor activities, guided tours, or other aspects or images thereof could not predict whether they considered themselves ecotourists or not, X^2 (DF =8) = 5.20, $p = .736$.

After visiting the BCNWR, 52.7 % of the tourists indicated that they considered themselves ecotourists. This number does not take into consideration that the distance traveled to the site may or may not have influenced the identification of respondents as ecotourists. A multivariate analysis of variance shows that the tourists who perceived themselves as ecotourists afterward were significantly more positive about the site, Wilks' $\lambda = 0.79$, $F(5, 48) = 2.62$, $p = .036$, $\eta^2 = .214$. As shown in Table 3, independent sample, post hoc t-tests revealed that people who identified themselves as ecotourists afterwards were significantly more positive about the birds/wildlife, guided tours, and outdoor activities than those who did not. A binary logistic regression analysis was used to examine further whether the experience of the site in terms of size, pleasantness, navigability, and organization could predict whether people subsequently identified themselves as ecotourists. This was done for both the positively worded and negatively worded items. These variables could not predict identification as an ecotourist, X^2 (DF =7) = 8.27, $p = .309$.

After visiting the CVCT, 69.6% of the tourists indicated that they considered themselves ecotourists. Although there appears to be a trend for more positive site ratings for people who considered themselves ecotourists, no significant difference was found for the ratings, Wilks' $\lambda = 0.94$, $F(5, 52) = 0.71$, $p = .622$, $\eta^2 = .064$. Again, a binary logistic

regression analysis was used to further examine whether the site's experience in terms of size, pleasantness, navigability, and organization could predict whether people subsequently identified themselves as ecotourists. This was done for both the positively worded and negatively worded items. For the CVCT, the model turned out to be significant, $X^2 (DF = 9) = 22.25, p = .008$. Nagelkerke R^2 was 0.39, and the percentage correctly predicted was 76.8% (versus 69.6% with the intercept only model). Only one of the variables was significant, namely when the site was larger than expected, $B = 2.08, SE = 0.89, Wald = 5.48, p = .019$.

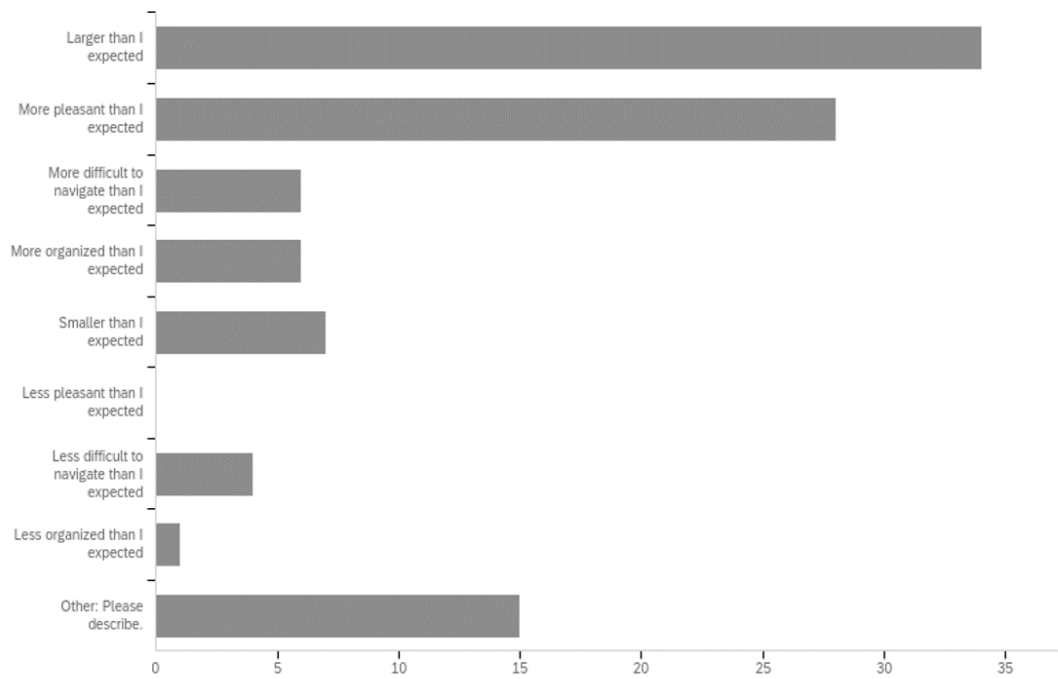
Table 3 Sites as Compared to the Tourists' Expectations

	Tourists at BCNWR		Tourists at the CVCT	
Variable	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>
Natural beauty	2.43 (0.49)	2.51 (0.50)	2.23 (0.70)	2.40 (0.58)
Birds/wildlife	2.24 (0.50)	2.62 (0.49)**	1.80 (0.52)	2.07 (0.71)
Guided tours	2.02 (0.62)	2.47 (0.67)*	1.55 (0.55)	1.78 (0.54)
Sustainable operations	2.16 (0.37)	2.37 (0.48)	2.11 (0.46)	2.32 (0.46)
Outdoor activities	2.08 (0.41)	2.34 (0.48)*	1.70 (0.73)	2.00 (0.67)

Note: A scale of 1-3 used for this table. 1= Fell Short of Expectation, 2= Met Expectation, 3= Exceeded Expectation.

* $p < .05$, ** $p < .01$

A.



B.

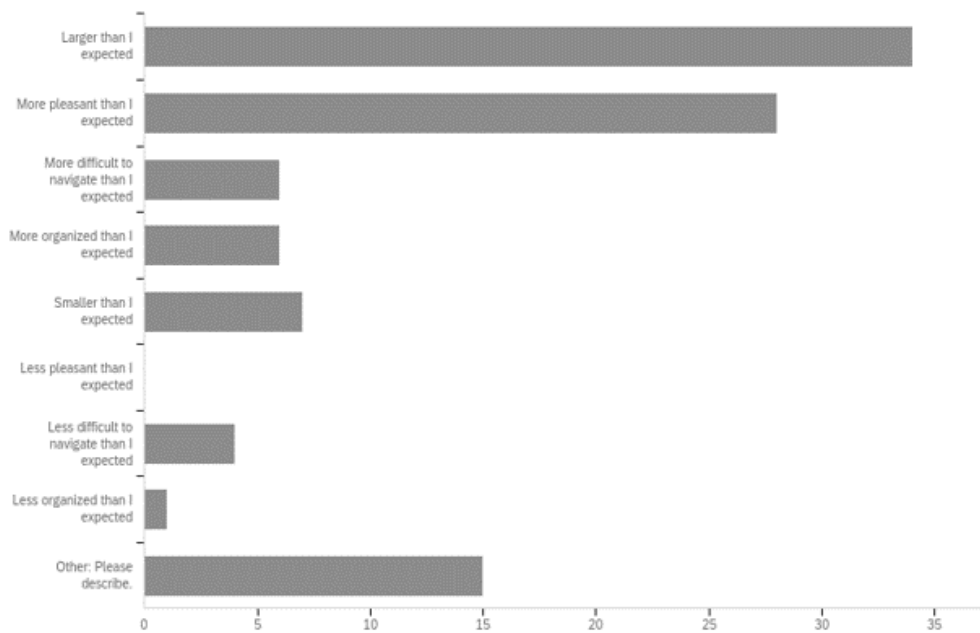


Figure 9 Responses from BCNWR (A) and CVCT (B) on how visitors found the site to be.

5.4 Ecotourists under Pandemic Environment

RQ4: What are the participants' assessments regarding COVID-19 pandemic's impact on their perceptions and visiting behavior?

Since visitors to the sites were dealing with the COVID-19 pandemic at the time of the study, an empirical check was made to see if any effects could be found on their visits and perceptions. The percentages of responses to the question on the influence of the COVID-19 pandemic on visits are shown separately for the two sites in Table 4. For both sites, a sizable group of visitors experienced the visit as more therapeutic and appreciated the environment more. A clear significant difference between the two sites was that CVCT had been visited by almost half of the visitors because of the COVID-19 pandemic, and this was the case for only a small minority of the BCNWR visitors. It did

not matter to the experience of being an ecotourist whether the site was visited because of COVID-19, $X^2(DF = 1) = 0.42$, $p = .516$. Though there are many opportunities to visit natural areas during the day that provided social distancing and safer COVID-19 practices, there were fewer opportunities to follow pandemic precautions for overnight stays. This may account for some of the higher number in affirmative responses to the question of whether the COVID-19 pandemic motivated the visit of the respondent.

Table 4 Influence of the COVID-19 Pandemic on the Visit

Condition of Visit	Tourists at BCNWR (%)	Tourists at CVCT (%)	$X^2(DF = 1)$
Delayed my visit	11.4	5.8	1.44
Motivated my visit	15.2	49.3	19.98**
Increased my appreciation of the environment	38.0	39.1	0.02
Limited my visit	8.9	18.8	3.14
Made my visit more therapeutic than in the past	19.0	26.1	1.07
Increased my awareness of the environment	11.4	15.9	0.65

In the BCNWR focus group, all participants had visited the site multiple times, some over decades. When asked to recall how the site compared to their expectations, they stated that it was even more biodiverse than anticipated and were surprised at the variety of plants. Some participants volunteered as tour guides and birding guides at BCNWR. Those participants shared their experiences as guides at BCNWR, or when bringing guests, was that they expressed surprise at how accessible the trails are, and the

natural beauty is beyond what they expected. The visitors to CVCT who participated in the focus group expressed that the site was more rustic than anticipated, and there was less water than shown on the website, but the site was beautiful, and they were pleased with the natural beauty of the site.

Both focus groups discussed the impact of the COVID-19 pandemic on their visit. The participants from CVCT were looking for a place in nature specifically because it felt more appropriate during the pandemic to be outdoors and socially distanced. For BCNWR, one of the participants said that as a board member of the Friends of BCNWR, their numbers showed a 65% increase in visitors to BCNWR in 2020 over 2019, which he attributed to the pandemic. All BCNWR focus group participants live within 1.5 hours of the site, but this did not hinder them from identifying their visit as ecotourism in the focus group. Some of them expressed that they visited more often because they considered it safe during the pandemic. Others did not go during the pandemic, as they were concerned about going to any public place.

VI. DISCUSSION

The purpose of this study was to increase insight into tourists' understanding of the concept of ecotourism, the common elements of ecotourism, and perceptions of ecotourism framed by their spatial interactions and experiences of the tourism site. In this chapter, the research and findings will be discussed. The Gestalt theory was used to understand the perceptions of visitors to ecotourist sites and data was collected through surveys and focus groups. The data showed that an appreciation for the tenants of ecotourism did not necessarily mean that visitors to the site identified their visit as ecotourism or that respondents identified as ecotourists.

6.1 Method

The research was approached from the Gestalt philosophy and the method was also constructed as such. A combination of qualitative and quantitative methods was used in order to find out more about the perceptions of visitors of ecosites. This provided rich data. The survey results could be understood in further depth by the focus group interviews. Still, there was a limitation of using self-reports, making it uncertain what the results mean for actual behavior, such as whether they will revisit the sites. Moreover, the survey had to be constructed for this study because there were no existing questionnaires that specifically tapped into the concepts and perceptions of interest. This means that the survey was not validated, something that is taken into account in this discussion.

6.2 Site and Samples

From Gestalt theory, it is plausible that visitors' experiences to the two chosen tourist locations (BCNWR and CVCT) are influenced by factors such as culture. This leaves it unclear to what extent the results are generalizable to other locations. Overall, this is a limitation of the available literature on ecotourism, which generally does not make comparisons across larger numbers of different sites in different places around the world. At the same time, as the sites were different in their aspects and type of visitors, valuable comparisons could be made. On the one hand, there were some differences between the sites. The most important difference was that visitors to BCNWR defined their participation as ecotourism more than visitors to CVCT. On the other hand, there were also some similarities. By having two sites, thus more information could be gained about general findings and site-specific findings. These will be further discussed below. With respect to the samples, the data were collected from people who participated voluntarily and may have differed in some respects from those who did not. For example, it may well be that participants experienced more time than people who did not choose to participate, which may play a role theoretically in reasons for visiting, which for non-participants, for example, might be more connected to the need for rest and relaxation. Furthermore, any bias in the focus groups could possibly be even stronger since only a minority signed up to participate in them. In fact, as all participants of the BCNWR focus group were returning visitors, we can assume that they were positive about the site, and that people with negative opinions about this site were not represented in the focus group. All participants in this focus group lived within 1.5 hours of the site. The results have to

be interpreted keeping this in mind, but the distance did not preclude focus group participants from identifying their visit as ecotourism.

6.3 Surveys and Focus Group

As already mentioned, the combination of using surveys and focus groups provided rich data. The survey was chosen as a method because it increases the likelihood that respondents answer the questions solely according to their own opinion. For this same reason, the focus groups took place afterwards. Even though the group can affect responses, people had already given their opinions and it was an opportunity for participants to build on each others experiences and responses. The focus groups gave context to the data and helped gain further understanding about experiences. This was important, especially since there was no validated questionnaire available. Brunswik's Lens Model guided the survey to help illustrate the perceptions and behaviors using spatial characteristics to identify ecotourism destinations. The questions are related to three main components of the ecotourist's experience, including: (a) the individual's environmental self-identification; (b) environmental features of the destination concerning the three critical components of ecotourism (nature-based, educational, and sustainable);, and, (c) spatial characteristics that influenced the individual to choose the particular site for ecotourist activities. Still, as this was not possible to know beforehand

if all topics that were relevant were covered by the survey and indeed the focus groups provided some further findings.

6.4 Ecotourism and Ecotourists

The research indicated that while site visitors appreciated aspects of ecotourism, this did not mean that they identified themselves as ecotourists. This was certainly the case for CVCT, where there were signs that for some, ecotourism had an extreme connotation of people who would do everything sustainably. There is currently a highly polarized political environment that may have contributed to this mindset. Most visitors to both sites did not have a full understanding of the concept of ecotourism; only less than 15% did. These results confirm previous studies that showed that ecotourism intentions are often not the main reason for visiting ecosites, but other factors such as relaxation can play an important role (Wong, 2016). It also confirms the confusion about the conceptualization of ecotourism (Bjork, 2000).

From the Gestalt view, some further lines of thought can be drawn about these findings. One is that what we call an "image" in Boulding's terms can be related to the cognitive schema that people have of a site, but perhaps it is even more important to define a similar model for the cognitive representation that people have of ecotourism. While it was known beforehand that ecotourism is not always a primary reason for visiting ecosites, this certainly emerged as a central theme to be considered in the current study, especially from the findings at the CVCT site. As Stea (2017) points out, people's cognitive schemas can contain flaws and imperfections. The fact that participants in the study generally did not have a complete picture of ecotourism indicates an incomplete

cognitive schema, and it emerged from the focus group that people may also sometimes include incorrect information in their schema. As Gestalt models assume, in order for people to show correct decisions and behaviors, they need to have the correct information and knowledge (Gifford, 2007; Stea, 2017). This indicates that perhaps ecosites should not only focus on offering people the various aspects of ecotourism but might also be able to achieve more by giving people a fuller awareness of what ecotourism entails, so that they can identify with it more and possibly become more motivated to behave as ecotourists.

6.5 Spatial Cognition

The tourists at both sites significantly confirmed most strongly that they appreciated the site's habitat conservation, but people agreed the least with the statement that they visited the site as an ecotourist. In their perceptions of the common elements of ecotourism, nature based was the one that was most confirmed. From the fact that increasing environmental awareness was also confirmed by a large part of the participants, support was also found for the environmentally educational element, as was sustainability. It seemed, however, that even though the three broadband elements of ecotourism were already concretized into five more survey elements, these were still perceived as too abstract as several more specific elements were mentioned in the open answers, even though these could have been considered as examples of the broader categories, such as drawing and painting in nature, that could be an element of culture.

As explained, most participants had not felt like ecotourists a priori. It was found that expectations or prior information played no role in whether or not they believed they

were ecotourists. From the Gestalt theory and previous research driven by this theory on other topics (Elliot & Papadopoulos, 2016), it was expected that the previous images and perceptions of people would play a role. Yet, at the same time, given the fact that people were motivated by various reasons to visit the sites, it can also be that they placed different values on different aspects. This is where the Gestalt theory rightly received critics about its lack of objectivity (Koffka, 2013). After all, what exactly forms the whole context or Gestalt of the individual's experiences is hard to determine and does seem to have been fully grasped by the current study. Some respondents had visited a site multiple times, over several years, and this passage of time since their original visit may have impacted their responses.

Actual experiences did play a role in whether people identified themselves as ecotourists afterwards. On average, there was no increase in the number of people who identified themselves as ecotourists after visiting BCNWR, but those people who did were more positive about the birds/wildlife, guided tours, and outdoor activities. For the visitors of CVCT, where 85.5% did not see themselves as an ecotourist beforehand, an improvement was seen with "only" 69.6% afterwards. For this site, it was more difficult to identify which aspects played a role, although those who identified themselves as ecotourists seemed to be more positive overall, but this was only evident in that they found the site larger than expected.

It became clear from the focus groups that there were not only differences in perceptions between sites, but also in perceptions between individuals visiting the same site. This is quite understandable from the Gestalt perspective. To give an example, the fact that one visitor was pleased to see wildlife on the CVCT site while another visitor

was unaware of the presence of wildlife could be explained from the figure-ground law (Elder, & Goldberg, 2002). Where one visitor may have focused on the possibility of seeing wildlife, and thus this was the focus for this person, this may not have been the case for the other visitor, who, for example, had the focus on an activity such as zip-lining and for whom the environment, with the wildlife present, was the background. As this study took place during the COVID-19 pandemic, this was considered as an important factor that could have affected visitors. The most important finding regarding the impact of the COVID-19 pandemic on visits and experiences was that people indicated that as a result, they perceived the visit as more therapeutic and appreciated the environment more.

VII. CONCLUSIONS

Data from this study indicates that the perceptions of tourists who visit ecosites do not do so primarily as ecotourists and mostly have a limited concept of what ecotourism is. This is limited, however, in this research because some of the visitors did not travel far to reach the site and may not have considered their visit ecotourism because of the lack of travel time to the site. Nevertheless, they do value aspects of ecotourism and appreciate the various possibilities of the sites, which makes this a potentially important group for strengthening feelings of ecotourism and stimulating sustainable behavior.

7.1 Implications

For policy makers and stakeholders, the study results have important implications. The results make it clear that visitors to the site, while they certainly found habitat conservation important, were not driven by ecotourism. The purpose of ecotourism is that it is nature-based, educational, and contributes to sustainability, and the fact that the majority of visitors still do not identify as ecotourists, even after the visit, is problematic. The short distance travelled by some respondents who reached the site may also contribute to the hesitancy to identify as ecotourists. It seems that the sites could improve their information about ecotourism both in a content sense, giving people a better concept of ecotourism, and in an image sense, so that people also become more willing to identify themselves as ecotourists. The fact that also in other research it appeared that participants in ecotourism trips have little knowledge of ecotourism (Wurzinger and Johansson, 2006) possibly indicates that this is not an easy task, and it may be necessary to deploy and test

an explicit strategy to this end in order to promote the principles of ecotourism.

The fact that the COVID-19 pandemic had resulted in people perceiving the visit as more therapeutic and also in people appreciating the environment more was in line with previous findings (Azehar et al., 2021, Georgialas et al., 2021). Perhaps then, reminding people of how they felt with fewer possibilities to be in nature can motivate them to invest in ecotourism. Generalizing these findings to other situations, it might also be that people are more open to suggestions of ecotourism in moments when they have had limited possibilities of spending time in nature, such as at the end of the workweek, which would imply for example that commercials aimed to attract people for specific ecotourism activities could best be broadcasted on Fridays.

7.2 Limitations

As already discussed, the study was limited by the fact that there was not yet a validated questionnaire available and in order to compensate as much as possible for this, the data from the focus groups was used in order to place the results more in context and to obtain a wider range of information. The possible bias in the sample has also been mentioned, as well as the fact that, although it is a strength of the study that not one, but two sites were used, there is a limit to the generalizability, as both sites were located in Texas. Additional bias may stem from participants being residents local to the sites and not identifying as tourists or ecotourists because of the location of the site not being a far enough distance for them to perceive their visit to be considered tourism by the visitor. The BCNWR and CVCT sites both meet the criteria of ecotourism sites- they have the components of being nature based, sustainable, and environmentally educational- and

CVCT specifically identifies as ecotourism.

Further, the use of Gestalt theory can be seen as a strength, but also a limitation. It is a strength because contextual factors certainly emerged, as evidenced by the differences between the two sites and the influence of the COVID-19 pandemic. On the other hand, it is a weakness because Gestalt theory offers little direction as to what aspects and interactions between aspects are important and determine the context of visitors to ecosites. However, in the absence of a pre-existing theoretical framework on the perceptions and experiences of visitors to ecosites (Wong, 2016), this was the most optimal choice. Indeed, as explained in Chapter 2, previous researchers from behavioral theory perspectives did not infer visitors' perceptions and experiences, thus providing no guidance for ecosite policy. As participants were surveyed after their visits and not prior, their expectations are self-reported responses that require them to recollect their expectations after they visited the site.

7.3 Future Research

Collectively, the findings and limitations of the study provide grounds for future research. First, future research could focus on further developing a theoretical framework for ecotourism. As discussed in section 6.2, this could include a further understanding of how people might form not only cognitive schema of ecosites, but also of the concept of ecotourism. The research findings indicate that following a Gestalt approach can be valuable, but at the same time, with the current research findings it can still not be fully understood why people do or do not identify themselves as ecotourists after a visit. Especially the lack of predictors at the CVCT site makes it clear that not all possible

aspects of influence have been considered. Based on previous findings, one could think of the quality of the guided tours that, at least at the sites studied, did not lead to a complete concept of ecotourism and for which previous research has shown that different guides can explain or omit different aspects (Sangpikul, 2020). A previously unexamined factor that tentatively emerged in the focus groups in this study is that people may have negative associations with the concept of ecotourism. In future studies, not only can people's attitudes toward ecotourism be explored through further questions, but experimental research could also be conducted to explore ways to make this image more positive. For example, by placing the concept in a broader, positive context, such as well-known individuals who identify themselves as ecotourists and are shown to visit the site.

Further research could also be done by including more sites in studies and especially sites in different cultures, to learn more about universal and culture-specific findings. It could also be interesting to include whether visitors are from the neighborhood or perhaps vacationing from other countries and cultures, and how this affects people's perceptions and behaviors.

A third important question that future research could focus on is people's actual behavior. In the present study, it was at least a given that the participants had been willing to visit an ecosite. At the same time, this does not make the study informative about perceptions of people who did not make this choice. Moreover, it will ultimately be important for ecosites to know what perceptions (potential) visitors have, but especially

how these link to their willingness to come (repeatedly), spend money on the site, and exhibit sustainable behavior.

APPENDIX A: SURVEY TEMPLATE

Hello, I am a doctoral student at Texas State studying ecotourism. I have selected [site] as my location to learn more from their customers about what aspects of their visit pertained to ecotourism and if so, what elements were of most importance to them. You could help me with my study by taking a few minutes to answer the survey below. Thank you in advance for your help.

Survey Template

1. Was this your first visit to [site]? ☐ Yes ☐ No

2. What brought you to [site] the first time (check all that apply)?

☐	To spend time in nature	☐	Staying at a location dedicated to sustainability
☐	Staying someplace unpolluted; away from the city	☐	Experiencing a treehouse
☐	I planned a stay-cation	☐	I wanted to stay someplace that is not a traditional hotel
☐	I was invited by someone I know	☐	A vacation; not tied to any of the above
☐	To do something serene; away from crowds	☐	To do something sensational; unique
Other:			

3. What does ecotourism mean to you (check all that apply)?

☐	Nature-based	☐	Sustainably managed
☐	Increasing environmental awareness	☐	Increasing environmental education
☐	Appreciation for nature	☐	Culture
☐	Social responsibility	☐	Responsible travel
☐	Protecting the natural environment visited	☐	Other:

4. Please rate how strongly you agree or disagree with each of the following statements by checking the appropriate box.

Item	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
I am an ecotourist.					
I visited [site] as an ecotourist.					
I visited [site] knowing about their sustainability efforts.					
I appreciate [site's] habitat conservation.					
Staying someplace that preserves the natural environment is important for me.					
I like that there are guided tours at this site.					
The opportunity to see wildlife at [site] is important to me.					

5. Before you visited [site], what did you expect to find (check all that apply)?

Mark if Yes	
	Natural beauty
	Birds/ Wildlife
	Outdoor activities
	Guided tours
Other: Please describe.	

6. Prior to your visit, which of the following were included in the images you had of [site]?

Mark if Yes	
	Natural beauty
	Birds/ Wildlife
	Outdoor activities
	Guided tours
	Sustainable Operations like solar, rainwater collection and other activities

7. How did the site match the images you had in mind before visiting?

Category	Fell short of expectation	Met expectation	Exceeded Expectation
Natural beauty			
Birds/ Wildlife			
Guided tours			
Sustainable Operations			
Outdoor Activities			

8. The site was (check all that apply):

	Larger than I expected		Smaller than I expected
	More pleasant than I expected		Less pleasant than I expected
	More difficult to navigate than I expected		Less difficult to navigate than I expected
	More organized than I expected		Less organized than I expected
Other: Please describe.			

9. Did you consider your visit to [site] to be ecotourism before your visit?

☐ Yes ☐ No

10. Did you consider your visit to [site] to be ecotourism after your visit?

☐ Yes ☐ No

11. The COVID-19 pandemic (check all that apply):

	Delayed my visit		Limited my visit
	Motivated my visit		Made my visit more therapeutic than in the past
	Increased my appreciation of the environment		Increased my awareness of the environment
Other:			

12. How far did you travel to get to Cypress Valley Canopy Tours?

	Less than 1 hour		1-4 hours
	5-10 hours		More than 10 hours

13. Check your age range:

	Less than 18		18-24
	25-34		35-44
	45-54		55-64
	65+		

14. How do you identify your gender?

☐	Male	☐	Female
☐	Non-binary	☐	Other:

Would you be willing to participate in a 1-hour, virtual focus group to discuss your responses to this survey? If so, please email: y_t11@txstate.edu. \$25 gift cards will be provided to focus group participants.

APPENDIX B: FOCUS GROUP GUIDE

Focus Group Guide

INSIDE THE MIND OF THE LOCAL ECOTOURIST: DO ENVIRONMENTAL ATTITUDES AND ACTIONS ALIGN?

Introduction

Thank you for attending.

I'm Yasmin Turk your moderator for this focus group. I am a doctoral student of environmental geography from the Texas State University, Department of Geography.

Focus group – We will be here for about 60 minutes discussing your thoughts about ecotourism and your perception of your experience at this site.

There are no right or wrong answers, I am interested in your honest and frank opinions and feelings.

Your responses will be used in my dissertation research and you are welcome to have a copy of the final paper once complete.

Let's start by introductions...

First name

Where you are from

I. What is ecotourism

First I'd like to ask you about your overall view of the terms ecotourism and ecotourist

- What do you think are the common elements of ecotourism?
- What are the characteristics of an ecotourist?

II. Identification as an ecotourist

Thinking about what you know about ecotourism:

- Do you consider coming to this site ecotourism?

A. If yes ask: In what ways do you consider coming to this site ecotourism? [PROBE]

B. If no ask: What do you think would make this site an ecotourism site? Any specific examples? [PROBE]

- Do you consider yourself an ecotourist? Why or why not?

III. Spatial Cognition

Thinking about your expectations of this site before coming here and afterwards,

- What words would you have used to describe the environment you perceived would exist at this site before you arrived?
- What words would you use to describe the feeling you perceived you would have at this site?
- Was the site as you expected it to be?
- Did your experience at this site change your perception about whether this site is an ecotourism site?
- Was your perception positive or negative before you arrived? After?

IV. Wrap up and thank you

Thank you for your participation.

Do you have any additional thoughts or comments you would like to share?

The results of this focus group should be available within 1 year. If you would like a copy, please email your name and address to ytdiallo@gmail.com.

Research Questions:

1. How do the tourists identify and define their participation at the site as ecotourism?
2. What are the perceptions of the tourists in relation to the common elements of ecotourism (nature-based, environmentally educational, and sustainable management)?
3. How do their perceptions of the spatial cognition of the site, both before and after their participation, affect their perception of the activity as ecotourism?

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