

**A COMPARISON OF PLACE ATTACHMENT AS A CULTURAL ECOSYSTEM
SERVICE IN SOUTH AFRICAN NATIONAL PARKS: AN ADAPTIVE
MANAGEMENT STRATEGY**

by

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DECLARATION

I, TANYA ERASMUS (UNISA Student Number 59520299), hereby declare that the thesis, A COMPARISON OF PLACE ATTACHMENT AS A CULTURAL ECOSYSTEM SERVICE IN SOUTH AFRICAN NATIONAL PARKS: AN ADAPTIVE MANAGEMENT STRATEGY, which I hereby submit for the degree of Doctor Of Philosophy: Environmental Management at the University of South Africa, is my own work and has not previously been submitted by me for a degree at this or any other institution.

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ABSTRACT

Ecotourism is one of the essential and fast-growing sub-sectors of tourism globally. The COVID-19 pandemic and its accompanying confinements have renewed the interest and importance of nature for the general well-being of people. This research focuses on the intangible benefits of visitors' subjective experiences within selected national parks in South Africa and highlights the benefits of these experiences to management. Research conducted in these national parks mainly considered the general motivations of visitors and focused on market segmentation. The South African National Parks' (SANParks) vision statement and aim are to be a world-class system of sustainable national parks reconnecting and inspiring society. This research proposes consecutive subjective experience stages with inter-relationships when people visit natural areas, ultimately leading to attachment. These could assist in SANParks' vision. The study found that the preferred parks were Kgalagadi Transfrontier Park (KTP) and Kruger National Park (KNP). These parks also receive ample tourists and are successful. The less preferred parks selected were Golden Gate Highlands National Park (GGHNP), Mapungubwe National Park (MapNP), Marakele National Park (MarNP) and Mountain Zebra National Park (MZNP). There was a mandate from SANParks to elevate the tourism potential of the smaller parks.

The research design for this research was a mixed-method, multiple case study approach that consisted of three phases. The population consisted of adult visitors to the parks. Simple random sampling was used for questionnaires, and convenience and purposive sampling was used for the semi-structured interviews. Quantitative data analysis consisted of basic descriptive and inferential statistics, while qualitative data were analysed using content analysis. The results were obtained from 1 895 questionnaires from phase one, 23 semi-structured interviews in phase two and 2 023 questionnaires from phase three.

Results showed that respondents had unique motivations to visit the respective parks, and these differed between the preferred (e.g. loyalty) and less preferred parks (e.g. accessibility and novelty-seeking). The attributes of each park were unique. Preferred park respondents focused on the iconic species and animal

interactions, while the less preferred parks' included aesthetics, unique species and other natural features. Cultural ecosystem services were deemed most important to the preferred park respondents overall. The existence value is the most important value to all respondents. KNP respondents had the highest level of place attachment, followed by KTP. All respondents indicated a strong connection to nature. Environmental problems overall were considered the most threatening to KNP respondents. The loss of wilderness was most threatening to KTP and GGHNP respondents, while wildlife poaching was most threatening to KNP, MapNP, MarNP and MZNP respondents. The most pressing future threats and current hindrances in all parks are increased commercialisation and tourism and the accompanying bad behaviour displayed (e.g. drinking, littering, speeding, noise, vandalism, etc.).

This research adds value to the respective parks' strategic adaptive management, and the results could be incorporated into their desired strategic direction for each park. The less preferred park managers should aim to improve the profiles of these parks by developing authentic activities that will attract and enhance visitors' recreational experiences, improving their loyalty and attachment. Furthermore, pro-environment behaviours could be encouraged by social marketing campaigns, environmental education programs, and the creation of infographics to increase awareness of intangible benefits.

KEY TERMS:

Place attachment; Place identity; Place dependence; Sense of place; South African National Parks; Ecosystem services; Cultural ecosystem services; Motivation; Disconnectedness; Nature connectedness; Nature-relatedness; Mindfulness; Biophilia; Threats; Mixed-method research; Case study.

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ABBREVIATIONS AND ACRONYMS

AVE	Average Variance Extracted
BTS	Barlett's Test of Sphericity
CAES	College of Agriculture and Environmental Sciences
CES	Cultural Ecosystem Services
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CMIN/DF	Chi-square/degree of freedom
CPF	Coordinated Policy Framework
CR	Composite Reliability
DFFE	Department of Forestry, Fisheries and the Environment
FMD	Foot and Mouth Disease
GFI	Goodness-Of-Fit-Index
GGHNP	Golden Gate Highlands National Park
GLTCA	Greater Limpopo Transboundary Conservation Area
IBM	International Business Machines Corporation
IMISA	Institute for Mindfulness South Africa
INS	Inclusion of Nature in Self (Scale)
IUCN	International Union for Conservation of Nature
KMO	Kaiser-Meyer-Olkin
KNP	Kruger National Park
KTP	Kgalagadi Transfrontier Park
MapNP	Mapungubwe National Park
MarNP	Marakele National Park
MEA	Millenium Ecosystem Assessment
MZNP	Mountain Zebra National Park
NEM:PAA	National Environmental Management: Protected Areas Act
NR-6	Nature-Relatedness (Brief version scale)
PCA	Principal Component Analysis
PD	Place Dependence
PI	Place Identity
POPIA	Protection of Personal Information Act
PPP	Private Public Partnership

REP	Recreation Experience Preference
RMSEA	Root Mean Square Error of Approximation
SAfMA	Southern African Millennium Ecosystem Assessment
SAM	Strategic Adaptive Management
SANBI	South African National Biodiversity Institute
SANParks	South African National Parks
SD	Standard Deviation
SDGs	Sustainable Development Goals
SEM	Structural Equation Model
SOP	Sense of Place
SPSS	Statistical Package for the Social Sciences
Std.	Standard
TFCA	Transfrontier Conservation Area
TLI	Tucker Lewis Index
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNISA	University of South Africa
VEP	Visitor Employed Photography
\bar{X}	Mean

CHAPTER 1

INTRODUCTION AND BACKGROUND

1.1 INTRODUCTION

People have long felt the need to visit natural areas and break away from their daily lives and stresses. It has been over three decades since Wilson (1984) wrote *Biophilia*, arguing for an evolved inclination among humans to associate with nature. The term biophilia (or 'Biophilia hypothesis') is widely researched in environmental psychology, and researchers recognise the importance thereof for people's well-being (Howell *et al.*, 2011; Liefländer *et al.*, 2013; Pasca *et al.*, 2021). Likewise, Coles and Bussey (2000) and Mock *et al.* (2022) stated that access to green space is highly valued by urban communities, contributing to better health and making people feel happy, relaxed, and close to nature. Various studies have demonstrated the positive effects that green space and natural areas have on people (Kellert, 1993; De Crom, 2005; Mayer *et al.*, 2009; Weinstein *et al.*, 2009; Ryan *et al.*, 2010). Pryor *et al.* (2005) explained that one can gain various personal benefits through participation in or exposure to natural areas. These include personal development through gaining new abilities, information, confidence, and physical and mental well-being (Pryor *et al.*, 2005; Willson, 2012). People can experience the advantages of being in nature in different locations, such as urban parks and gardens (Tzoulas *et al.*, 2007), rural areas (Phillips, 1998), and natural or wilderness settings (Fredrickson & Anderson, 1999).

This research focuses on the intangible benefits of visitors' subjective experiences of selected national parks in South Africa and highlights the benefits of these experiences to management. The research proposes that there are consecutive subjective experience stages with inter-relationships when people visit natural areas. These experiences include an initial motivation to visit a natural area whereby an individual becomes aware of the environment. Once aware of the environment, a person might feel connected or related to nature through meaningful nature experiences, which will assist with forming a sense of place or place attachment. The latter term is a component of the cultural ecosystem services (CES), which indicates the non-material benefits people may derive from nature. The research

also looked at the hindrances and potential threats in the national parks that could negatively affect visitors' experiences.

1.2 ORIENTATION AND BACKGROUND

1.2.1 Biophilia and human landscape preferences

According to Joye's (2007) research, people preferred landscapes resembling savannas and responded positively to natural surroundings compared to man-made environments. Similar findings were made by Kaplan and Kaplan (1989), Ulrich (1993), Kellert (1995), as well as Grinde and Patil (2009), where people from various cultures prefer natural environments, such as savanna-like landscapes rather than human-influenced environments. This is consistent with psycho-evolutionary theories that describe people's preferences for particular natural landscape types due to evolutionary processes that continue to influence people's choice of areas that offer refuge and renewal (Knopf, 1987; Hausmann *et al.*, 2016). Besides their preferences driven by these evolutionary processes, people also form attachments to an ecosystem's physical attributes, influenced by symbolic meanings (Hausmann *et al.*, 2016). This attachment, which is primarily formed in park-like or naturally occurring landscapes with trees or water features, is also a part of the sense of place that people form to a place (Stedman, 2003). Furthermore, an ecosystem's aesthetic aspects also influence people's landscape preferences and attachments (Hausmann *et al.*, 2016).

In particular, preferences for 'healthy' looking landscapes may lead to perceived environmental degradation concerns (Ulrich, 1983; Kaltenborn, 1998). Due to these preferences and a desire to connect with nature, both subjective evidence and robust empirical research support the notion that outdoor and nature-based experiences (including national park visits) are beneficial for human health and well-being (Maller *et al.*, 2005; Weiler *et al.*, 2013; Hassell *et al.*, 2015; Pasca *et al.*, 2021). Studies have consistently shown that natural landscapes that are aesthetically pleasing are more likely to evoke strong emotional responses (Kaltenborn, 1998; Larson *et al.*, 2013). Furthermore, researchers (Kaltenborn, 1998; Martín-López *et al.*, 2007; Groulx *et al.*, 2019) found that an attraction towards some species (e.g. white rhinoceros) or ecosystems (e.g. national parks or

protected areas) is positively correlated with people's attachment to, and willingness to protect, those natural resources.

1.2.2 Protected natural areas and tourism

Consequently, a significant growth in nature-based tourism was evident because of this admiration of the natural environment and charismatic species (Du Plessis, 2010). Rossi *et al.* (2016:1) supported this, noting that “the demand for access to many types of protected areas close to urban areas within Australia is continuously increasing”. Moreover, many people seek refuge in undisturbed natural areas due to the developing world and the technology that binds us together (Lubbe, 2003). In addition, the recent global COVID-19 pandemic confined people to their homes (Ramkissoo, 2020), further strengthening this urge to visit natural areas. Researchers (Betsch *et al.*, 2020; Ramkissoo, 2020; SANParks, 2022a; Bristowe & Heckert, 2023) are considering the adverse effects of place confinement on people's health. It is recognised that protected areas and national parks “provide a touchstone to the natural world; they are important spaces for developing social capital and for building a culture of conservation among citizens” (Wright & Matthews, 2015:11). These protected areas and parks worldwide are reservoirs for all fauna and flora's biodiversity. It provides various ecosystem services and ecological benefits.

However, there are increases in the support from these areas to “support economic, social, and cultural values – including providing nature-based recreation, tourism and education opportunities” (Wright & Matthews, 2015:11). The late minister of Environmental Affairs, Edna Molewa, said that “despite the trying economic times, South Africa continues to attract record numbers of tourists to the country” (SANews, 2017). In 2016, over 10 million tourist arrivals were recorded in South Africa, representing a 13 per cent increase from the previous year (SANews, 2017). A similar trend has been seen in protected areas within South Africa, where six million people visited the 19 parks managed by the South African National Parks (SANParks) during the 2016/17 financial year. The minister further explained that “one of the major tourist attractions is our national parks, nature reserves, and marine protected areas” (SANews, 2017). During the 2017/2018 financial year,

SANParks' tourism income received 12.5 per cent more than for the previous financial year due to increases in tourism tariffs as well as a 5.1 per cent year-on-year increase in the number of visitors to the national parks (SANParks, 2018a). However, in the 2018/2019 financial year, visitors to parks decreased by 7.74 per cent, but the tourism revenue increased by 9.5 per cent, mainly due to the increased tourism tariffs (SANParks, 2019a). In 2019/2020, tourism revenue grew by 6 per cent, and the visitor numbers decreased by 5.1 per cent year-on-year (SANParks, 2020a). The COVID-19 pandemic began to make its "presence felt before the national lockdown, with cancellations from international markets starting as early as January 2020" (SANParks, 2020a:11). Overall, "the total guests to parks decreased by -68.4 per cent from 6 326 488 to 1 996 667 persons through SANParks gates and the total revenue from SANParks' tourism operations declined by -67.2 per cent" (SANParks, 2021a:86). During 2022, "tourism performance showed green shoots of recovery although volumes were still 50 per cent below 2019 levels" (SANParks, 2022a:27).

Retief (2006:104) mentioned South Africa as the "third most biologically diverse country in the world". In protecting this biodiversity, Worboys *et al.* (2015) stated that protected areas, such as national parks, play a crucial role in the worldwide conservation of nature. The preservation of biodiversity in national parks is also stimulated by nature-based tourism (Du Plessis, 2010), as it generates extra funds, which are subsequently used for conservation purposes (Lindsay *et al.*, 2008).

In South Africa, SANParks is the leading conservation agency (Saayman & Saayman, 2008; Du Plessis, 2010; SANParks, 2021a; 2022a). In 2019, SANParks managed 19 national parks, covering 3 751 113 hectares of protected land (SANParks, 2017a). Still, lately, after the expansion of certain parks, they are now covering "4.2 million hectares comprising 68 per cent of the protected areas under state management, as well as 375 233 hectares of marine protected areas" (SANParks, 2021a:4). Additionally, the Meerkat National Park was declared on 27 March 2020 (SANParks, 2021b). However, "this park will not be a traditional national park with a strong emphasis on tourism experience through the provision of tourism products and activities" (SANParks, 2021b:11). The park is generally focused on research and not open to the public. Therefore, it was not considered in the

research. Furthermore, SANParks, as an organisation, is an important role player in wildlife-, nature- and ecotourism and conserves the indigenous fauna, flora, and landscapes in South Africa, including the country's cultural heritage and history (Botha, 2011; SANParks 2022a). The parks offer various accommodation facilities and activities catering to visitors' needs and wishes (SANParks, 2017a). Research done within South Africa's national parks has focussed primarily on these different needs of visitors by looking at the visitor profiles (Van der Merwe & Saayman, 2008; Slabbert & Viviers, 2012; Kruger & Saayman, 2014, Kruger, Saayman & Hermann, 2014; Saayman & Saayman, 2014; Hermann *et al.*, 2016; Kruger *et al.*, 2016) and motivations (Boemah, 2011; Botha, 2011; Engelbrecht, 2011, Slabbert & Viviers, 2012; Cini *et al.*, 2013; Slabbert & Viviers, 2014; Bosch, 2015; Engelbrecht, 2015; Grünewald *et al.*, 2016; Chikuta *et al.*, 2017) for visiting individual national parks. From these highlighted studies, the most significant subjective motivations for visiting various national parks within South Africa are to experience nature/wildlife, nostalgia, novelty, escape from routine, and relaxation. These again link with the biophilia hypothesis mentioned earlier (Wilson, 1984) and are also referred to as the 'push' factors to national parks (Dann, 1977; Slabbert & Viviers, 2012). Other motivations include the different activities, amenities (accommodation and hospitality) and attractions, photographic opportunities, education, and park attributes. These motivations are called national parks 'pull' factors (Dann, 1977; Slabbert & Viviers, 2012).

Regardless of the need and motivations to associate with nature or visit national parks, some people may still not experience this need to be in nature (Miller, 2005; Zylstra, 2014; Soga & Gaston, 2016; Mock *et al.*, 2022). Mock *et al.* (2022) ascribe this disconnect of people to several social factors and a culture of fear of nature.

1.2.3 Disconnection between people and nature

A steady increase in urbanisation has led to challenges for people accessing and having experiences in nature (Miller, 2005). According to UN-Habitat (2020:iii), "urban areas are already home to 55 per cent of the world's population, and that figure is expected to grow to 68 per cent by 2050". Wolf *et al.* (2015) supported Miller (2005), stating that as people become more urbanised and interact less with

natural environments, the function of national parks and "green space" in society is evolving. This increased urbanisation is also found in more recent studies by Pasca *et al.* (2021) and Mock *et al.* (2022). According to Mock *et al.* (2022), there is also uneven access to green space. This is partially due to the rapid urban growth, which led to growing pressure for recreational activities in protected areas (Pickering *et al.*, 2011), such as game viewing, hiking, and bird watching.

Consequently, modern lifestyles in many developed countries have created physical and psychological divisions between people and nature (De Crom, 2005). In other words, the physical division may be caused by the modern urban lifestyles of people (De Crom, 2005; Zylstra, 2014; Wolf *et al.*, 2015; Pasca *et al.*, 2021), increasingly sedentary lifestyles (Mock *et al.*, 2022), but also by habitat transformation and a decline of the biodiversity at an exceptional rate (Butchart *et al.*, 2010). Today's children do not spend much time outdoors (Weiler *et al.*, 2013). Kareiva (2008) furthermore declares that new generations are gradually becoming disconnected from nature and are ignorant about the value of nature due to increasing 'virtual' nature experiences. Louv (2008) invented the term 'nature deficit disorder', characterising children whose bodies and minds are no longer suited for experiences in nature. This disconnection is also extended to Millennials; for example, Smith and Kirby (2015) found that younger age groups are becoming more dependent on technology and increasingly detached from nature. Additionally, Pasca *et al.* (2021) and Mock *et al.* (2022) mentioned that there is competition for limited (and decreasing) time and resources available for leisure.

On the other hand, the psychological division between people and nature may refer to the disconnectedness between people and nature (De Crom, 2005; Zylstra, 2014; Soga & Gaston, 2016). Similarly, this disconnection has been ascribed to people's modern and urban lifestyles. This disconnection is noted in the following review by Soga and Gaston (2016) in Colléony *et al.* (2017:23): "Urbanisation and a Western way of life induce both a loss of opportunities and a loss of orientation to go to natural places and experience nature; the disconnection from nature induces, in turn, health and well-being changes, as well as emotional, attitudinal and behavioural changes, which then affect the importance assigned to nature. Based

on this feedback loop, Western modern societies face a vicious cycle regarding nature conservation.”

This disconnection from natural environments is also linked with the concept of ‘the extinction of experience’ (Pyle, 1978; Miller, 2005; Weiler *et al.*, 2013; Soga & Gaston, 2016; Colléony *et al.*, 2017; Kesebir & Kesebir, 2017). Therefore, Wright and Matthews (2015:11) expressed the concern “that if the populace becomes disconnected from the natural environment, there will be a parallel decline in support for parks and protected areas and other conservation initiatives”. We may, therefore, conclude that if people are disconnected from nature, they may not be able to form an attachment and sense of care, also supported by Maller *et al.* (2005) and Nisbet and Zelenski (2013) and are therefore not aware of the various ecosystem services and their benefits.

1.2.4 Introduction to ecosystem services

Ecosystem services within natural and conservation areas are essential in their protection and preservation (Millennium Ecosystem Assessment [MEA], 2005). The Southern African Millennium Ecosystem Assessment Report stated that national parks typically serve as the hub for private and community-based nature tourism operations (Biggs *et al.*, 2004). Ecosystem services are “the benefits people obtain from ecosystems” (MEA, 2005:1). Ecosystem services generally rely on biodiversity (Mace *et al.*, 2012) and sustain human well-being in everyday life (MEA, 2005). Ecosystems provide “material (for example, water availability, crop diversity, and climate regulation) and non-material (such as cultural, recreational, and spiritual) benefits to people” (Hausmann *et al.*, 2016:117). According to Costanza and Daly (1992), assessing material services is not only essential for educating the public about the value of natural capital, but it also yields data that can be used to guide decision-making processes (Daily *et al.*, 2009) and conservation planning (Egoh *et al.*, 2007). However, assessing the intangible benefits of most non-material cultural services has been mainly disregarded (MEA, 2005).

Cultural ecosystem services (CES) include the “sense of place” (or place attachment) that people develop to ecosystems (Russell *et al.*, 2013). It is a concept

that may link ecosystem science and environmental management (Williams & Stewart, 1998; Hausmann *et al.*, 2016; Barendse *et al.*, 2016). The concepts of sense of place and place attachment are described as ambiguous (Shamai, 1991) and indefinable (Williams & Stewart, 1998) and have been used to explain the interactions between individuals and their natural surroundings. Generally, it may assist in uncovering the values and meanings that people assign to places (Larson *et al.*, 2013; Williams & Stewart, 1998) and may include experiences of dependence, identity, satisfaction and attachment (Jorgensen & Stedman, 2001; Stedman, 2003).

1.3 PROBLEM STATEMENT

From the abovementioned, it is clear that natural areas provide people with many benefits that can range from health and well-being (Coles & Bussey, 2000), physical fitness (Pryor *et al.*, 2005) to psychological benefits (Kellert, 1993; Mayer *et al.*, 2009; Howell *et al.*, 2011). It is argued that because of these benefits, natural areas (which include urban green space, protected areas, national parks, and wilderness areas) are becoming increasingly more critical (Pickering *et al.*, 2011; Wolf *et al.*, 2015), not just because of these benefits to people, but also the conservation of the biodiversity of ecosystems and the species within (Butchart *et al.*, 2010). In contrast to this notion, various authors (for example, Pyle, 1978; Miller, 2005; Zylstra, 2014; Soga & Gaston, 2016) also mention a growing disconnect between people and nature.

As a result, there is “increasing recognition of the importance of less tangible or quantifiable benefits that people derive from nature and protected areas” (Barendse *et al.*, 2016:1). Such benefits may be referred to as “nature’s gifts” (Barendse *et al.*, 2016:1). Evaluating these intangible benefits as part of the ecosystem services has been primarily overlooked, even though they are included in the CES (MEA, 2005). Sense of place (included in CES) is neglected, and information on integrating it into conservation decision-making is limited (MEA, 2005; Hausmann *et al.*, 2016). The recreational and aesthetic services within CES have mainly been evaluated (Bateman *et al.*, 2013). These might form part of sense of place. However, “little empirical evidence exists about the ability of aesthetic and recreational values to

act as surrogates of sense of place in assessing the natural capital” alone (Hausmann *et al.*, 2016:4).

Ament *et al.* (2017) researched South African national park visitors' CES and found five main cultural ecosystem service clusters attracting them to different parks, namely 'natural history', 'recreation', 'sense of place', 'safari experiences', and 'outdoor lifestyle'. Even in their study, Ament *et al.* (2017:447) observed that “sense of place seemed to emerge as a combination of socio-cultural, psychological, and experiential aspects”. These aspects are recognised as dimensions of sense of place and place attachment (Ardoin, 2006; Lewicka, 2010). Cultural ecosystem services were also studied in three national parks managed by SANParks (Roux *et al.*, 2020). The focus was on staff assessments about possible CES based on 21 different activities offered by the respective parks. Also, Roux *et al.* (2020) grouped and explained sense of place and spiritual values. This again shows the ambiguous nature of sense of place. Another study within the Kruger National Park looked at the place attachment of visitors to specific camps – Tamboti and Satara (Douglas *et al.*, 2019). They found that visitors generally have a neutral feeling toward the camps, and management must increase place attachment towards them (Douglas *et al.*, 2019).

Understanding human preferences is relevant (Ament *et al.*, 2017), especially in protected areas where conservation success is influenced by profit generation through tourism (Clements *et al.*, 2016). Therefore, it is necessary to understand visitors' personal benefits and experiences within natural areas, specifically the protected areas managed by SANParks, to understand the visitation patterns and their willingness and contribution to conservation efforts. Research (Crompton, 2008; Newsome *et al.*, 2013) confirms that national parks increasingly serve a dual purpose: allowing visitors to experience and appreciate nature while safeguarding the earth's biodiversity. SANParks' vision is to be a sustainable national park system 'connecting society'. It is, therefore, essential to understand what relationships people form with a particular national park. In this research, the subjective experiences of visitors to selected South African National Parks are explored, namely, participants' level of nature connectedness, how they see themselves as part of nature, and how these experiences contribute to their place attachment in

each park. Thoughts about nature conservation have changed, and conservationists had to change their mindset (Weiler *et al.*, 2013; Wright & Matthews, 2015). De Crom (2005:106) further explained that “conservation became not a matter of saving a single species or part of an ecosystem anymore (although the conservation of species is becoming increasingly important). It is now a matter of taking care of whole ecosystems, with all the ecological and cultural components included; a step in the right direction to reconnect human beings to the natural environment.”

Extensive research has been conducted on the experiential benefits of parks, including new ideas or discoveries and the chance to push oneself as a result of the activities, settings, and experiences offered (Cole & Hall, 2009; Martin *et al.*, 2009). However, some refined personal benefits, such as psychological and physical health outcomes, result from satisfying experiences of visiting national parks (Crilley *et al.*, 2012) but measuring and linking them to participation has proven more difficult (Tomas *et al.*, 2003).

Limited research conducted in South African national parks focuses specifically on visitors' subjective experiences. However, this subjective aspect is gaining interest from several researchers (Ament *et al.*, 2017; Douglas *et al.*, 2019; Roux *et al.*, 2020). It should also be noticed that some parks, such as the Kruger National Park and Table Mountain National Park, are more frequently visited than others (SANParks, 2017c). SANParks has experienced steady growth in visitor numbers. However, it is recognised that “visitor numbers should be dispersed across a wider number of parks and not just focus on the more popular and stable parks” (SANParks, 2017c:92). Therefore, one of the critical drivers of SANParks' marketing and product development strategy is to “elevate the profiles of the less famous parks to domestic and international tourists, investors, and the travel trade” (SANParks, 2017c:92).

Therefore, the research primarily aims to determine and compare place attachment as a cultural ecosystem service in selected South African National Parks. It is essential to evaluate the place attachment to the preferred parks and compare it to the less preferred parks to determine strategies to improve their profiles. However,

this research suggests that place attachment is formed through various subjective experiences. These experiences are personal and may differ for every park. For this research, subjective experiences refer to how visitors become aware of a natural environment. However, to become aware, one might feel connected, related, or part of nature in a particular moment and place. By being aware of nature's values and feeling 'connected to nature' in a specific place, people become attached to a place (Erasmus & De Crom, 2015). Therefore, place attachment or 'sense of place' is determined by subjective experiences.

1.4 IMPORTANCE OF THE RESEARCH

The research will emphasise the respective parks' uniqueness regarding features, visitors' feelings, and behaviour and recommend management practices. This research results could be of fundamental value to the management of SANParks and contribute to the international literature on sense of place (place attachment) as a CES. It intends to provide an indication and suggestions of an adaptive management strategy whereby possible future threats to and negative experiences within the selected parks can be addressed to enhance visitors' nature experiences. It also aims to address visitors' ability to be aware and later become mindful of the specific environmental threats of the selected parks, and conservation efforts can be improved. In other words, the findings of this research may indicate what SANParks management can do to improve the experiences of visitors, which in turn could lead to better satisfaction, return visitation (Kil *et al.*, 2012), and enhanced pro-environmental behaviour (Hinds & Sparks, 2008; Ramkissoon *et al.*, 2012) as confirmed in the literature. Managers can better design management initiatives to prevent conflict and win over the public by predicting, understanding, and responding to people's relationships with places (Williams & Stewart, 1998) and hence 'connecting the society'. SANParks has also adapted its mission and vision statements from 2015 to 2020. The latest vision statement is: "A world-class system of sustainable national parks reconnecting and inspiring society" (SANParks, 2020a:3). This shows that they are moving towards including the views and experiences of their visitors as valued stakeholders. The management of SANParks needs to understand these experiences, the level of place attachment of visitors, and how they differ in the respective parks. This will enable SANParks to adapt their way of managing and marketing the individual parks.

1.5 RESEARCH QUESTIONS

This mixed methodology research will investigate the main research question: How do visitors' level and meaning of place attachment as a cultural ecosystem service compare between selected South African National Parks?

1.5.1 Sub-questions

From the main research question, the following sub-questions are formulated:

- Which national parks are preferred or less preferred, and why?
- What are the 'special features'/conservation attributes of the preferred and less preferred parks according to visitors?
- How do visitors value the different cultural ecosystem services?
- How attached are visitors to the respective national parks, and their reasons for feeling attached?
- How connected are the visitors to the natural environments within the respective national parks?
- What are the actual and potential threats during a nature experience at the respective national parks?
- What are the relationships between the variables (*cultural ecosystem services, place attachment, nature-relatedness and environmental threats/problems*)?

1.6 OBJECTIVES AND KEY QUESTIONS

Therefore, this mixed methodology research aims to determine and compare the visitors' level and meaning of place attachment as a cultural ecosystem service in selected South African National Parks.

Objectives with key questions derived from the sub-questions are:

- To determine which national parks are preferred or less preferred and the reasons provided by visitors for their choices.
 - Which parks are preferred?
 - Which parks are the less preferred?
 - What are the reasons provided for visiting the respective parks?
 - How often and for how long do visitors stay in the respective parks?
 - What is the socio-demographic profile of visitors to the parks?

- To describe the 'special features'/conservation attributes of the preferred and less preferred parks according to visitors.
 - What do visitors experience as highlights, and why do they regard them as highlights?
 - Do visitors have 'favourite' features? Why are they regarded as 'favourites'? (images may be included).
- To determine how visitors value the different cultural ecosystem services.
 - In which ways do visitors value cultural ecosystem services?
- To determine how attached visitors are to the respective national parks and their reasons for feeling attached.
 - Do visitors feel attached to the respective national parks, and to what extent (identity of dependability)?
 - How do visitors interpret their attachment to the respective national parks?
- To determine the connectedness of visitors to the natural environments within the respective national parks.
 - To what extent do visitors include themselves as part of the natural environment?
 - To what extent do the visitors feel related to the natural environment?
 - How and why do they feel connected to a specific park?
- To identify the actual and potential threats during a nature experience at the respective national parks.
 - To what extent do the potential environmental problems affect the future of the park?
 - Is the visitor aware of threats that may affect the quality of their experience and the future existence of the respective parks?
- To determine the relationships between the variables using structural equation models.
 - H₁: Nature-relatedness has a positive and significant effect on the awareness of environmental problems.
 - H₂: Environmental problems negatively and significantly affect place attachment (place identity and place dependence).
 - H₃: Environmental problems negatively and significantly affect cultural ecosystem services.

- H4: Nature-relatedness positively and significantly affects the cultural ecosystem services.
- H5: Nature-relatedness positively and significantly affects place attachment (place identity and place dependence).
- H6: Environmental problems mediate the relationships between nature-relatedness and place attachment (place identity and place dependence).
- H7: Environmental problems mediate the relationships between cultural ecosystem services and nature-relatedness.

1.7 RESEARCH AREA

Visitors have a choice between visiting various national parks in South Africa. Each of these national parks is located in various topographic biomes (SANParks, 2017b) and, therefore, has its own uniqueness related to location, fauna and flora. The research first focused on the 19 national parks managed by SANParks in 2017 (Figure 1.1) in the quantitative phase. The results of this phase determined the parks chosen for the follow-up qualitative and quantitative phases.

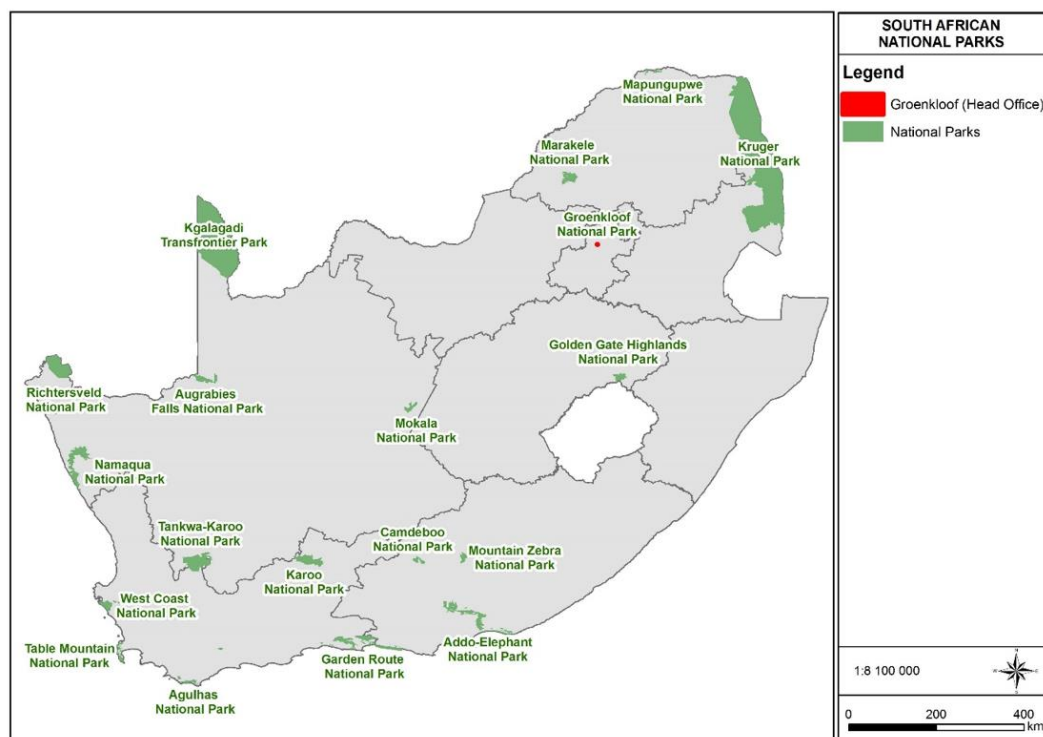


Figure 1.1: Location of the 19 national parks managed by SANParks in 2017.

(Source: Author's compilation.)

The following describes the different park management divisions, namely Kruger National Park and Parks Division (SANParks, 2024):

- Kruger National Park: This park is recognised by different vegetation regions that consist of savanna, thornveld and woodland eco-zones and forms part of the Greater Limpopo Transfrontier Conservation Area (GLTCA). Large African mammals and predators are present. Kruger National Park has 12 main rest camps, five bushveld camps, two bush lodges, four luxury lodges and four satellite camps.

The parks division consists of five regions:

- Arid Region: These parks fall in the Northern Cape Province and are recognised for their arid climate, sparse vegetation and sandy soils. Large African mammals are present in these parks. Augrabies Falls, Namaqua, Kgalagadi Transfrontier, |Ai-|Ais/Richtersveld and Mokala National Parks fall into this region. The newly declared Meerkat National Park also falls into this region. This park was not included in the research as it is not open to visitors.
- Cape Region: Falling within the South-Western reaches of the Western Cape Province, these parks are home to the endemic Cape Floral Kingdom. They may also feature mountainous, coastal, riverine or estuarine habitats. Bontebok, Table Mountain, Tankwa Karoo, Agulhas and West Coast National Parks fall into this region.
- Frontier Region: Located in the Eastern Cape and Western Cape provinces. Large African mammals are found in these parks, which have a variety of habitats, ranging from Nama-Karoo, grassland, montane, forest, valley thicket, fynbos, and coastline. Addo, Karoo, Camdeboo and Mountain Zebra National Parks fall in this region.
- Garden Route Region: Located in the scenic Garden Route on South Africa's southern coast, these parks feature a range of habitats, including rocky shorelines, temperate forests, lakes, rivers, estuaries and fynbos. The Tsitsikamma and Wilderness National Parks, as well as the Knysna Marine Protected Area, fall into this region.
- Northern (grassland and savanna) region: These parks are located in the northern provinces of South Africa and feature savanna thornveld, such as the

Mapungubwe and Marakele National Parks. The Golden Gate Highlands National Park is the only grassland park with sandstone mountains.

1.8 CHAPTER OUTLINE OF THE THESIS

CHAPTER 1: Introduction and background

This chapter introduces and provides a background to the concept of place attachment and other subjective experiences that ultimately lead to it. It also explains the problem statement and the importance of the research. The research questions, objectives, and research area are outlined.

CHAPTER 2: Literature review

This chapter gives a broad and in-depth overview of the literature focused on a conceptual framework. This framework is based on the different theories that include biophilia, motivational theories, disconnectedness from nature, connectedness to nature, place attachment and how these are connected according to literature. The environmental problems and potential threats in protected areas are outlined. The ecosystem services, and in particular, cultural ecosystem services, are discussed in detail.

CHAPTER 3: Research methodology

This chapter discusses the research design, paradigm, research population, and sampling methods of the research. Furthermore, the research instruments, methods, and analysis are described. This chapter also includes the validity and reliability or trustworthiness, the ethics and a detailed research area demarcation.

CHAPTER 4: Preferred and less preferred park profiles

This chapter provides the results of the preferred and less preferred park profiles in tables, figures, and quotes. The results first report on the quantitative data, followed by the qualitative data and discussions.

CHAPTER 5: Special features and conservation attributes

This chapter overviews the respective national parks' unique features and conservation attributes. Data are presented in tables, figures, and quotes from respondents.

CHAPTER 6: Cultural ecosystem services

The chapter covers the importance of the cultural ecosystem services within the respective national parks. The data are presented in table form with a discussion and respondent quotes.

CHAPTER 7: Place attachment

This chapter provides quantitative and qualitative data on place attachment and the memorable experiences that contribute to attachments in nature. Quantitative data are displayed in a table format, qualitative data are presented in word clouds, and respondent quotes are provided.

CHAPTER 8: Connectedness to nature

This chapter gives an overview of the respondents' perceived connectedness to nature. Quantitative and qualitative data are presented and interpreted sequentially.

CHAPTER 9: Threats affecting national parks

This chapter focuses on the actual and potential threats that may occur in the future. The extent to which environmental problems are experienced in the parks was also covered and presented in tables. Qualitative data are presented in narrative form and summarised in tables.

CHAPTER 10: Structural Equation Models

This chapter overviews the relationships between the variables in the preferred and less preferred national parks. Seven hypotheses are tested, the quantitative results are displayed in tables, and final models are developed.

CHAPTER 11: Conclusions, managerial recommendations, limitations and suggestions for future research

This chapter summarises the most salient findings and will indicate the gaps the research has or still needs to fill. The main results are analysed, and the final recommendations are outlined that can be followed by SANParks as part of their adaptive management strategic plans for the selected parks. It also refers to the research's limitations and possible avenues for future research.

CHAPTER 2

LITERATURE REVIEW

OVERVIEW OF PLACE ATTACHMENT, INTER-RELATED THEORIES, AND CULTURAL ECOSYSTEM SERVICES

2.1 INTRODUCTION

Place attachment is a complex, multi-dimensional construct which may be formed through various processes. Place attachment is one of the elements of sense of place, which also forms part of the cultural ecosystem services research. This chapter aims to provide an in-depth overview of the literature regarding place attachment as a cultural ecosystem service. Based on the extensive literature review and the range of theories and concepts explored in this research, a conceptual framework (Figure 2.1) was developed. This framework represents the researcher's view of a person's typical nature experience and how these consecutive subjective experience stages may form a place attachment. This chapter will address the following: firstly, explore and clarify the term 'Biophilia' and other 'motivational' theories. Secondly, the physical experience within nature and activities is explored and the possibility of having an awe-inspiring (subjective) experience versus a superficial experience might lead to the continued disconnection from nature. Thirdly, the meaning of a subjective experience will be discussed, along with the benefits of nature and emotions experienced during such an experience. Fourthly, the use of one's senses and an enhanced experience of the values of nature/wilderness through awareness are explored. Fifthly, the connectedness to nature and related concepts are clarified. Sixthly, place attachment and associated concepts and their benefits are discussed. Seventhly, the possible threats to national parks and place attachment are discussed. Lastly, ecosystem services and sense of place (place attachment) will be examined as cultural ecosystem services. Figure 2.1 indicates these variables and their relationships. A review of the research literature supporting the above propositions follows. Finally, an overview of SANParks as an organisation and an indication of the research's contribution is discussed.

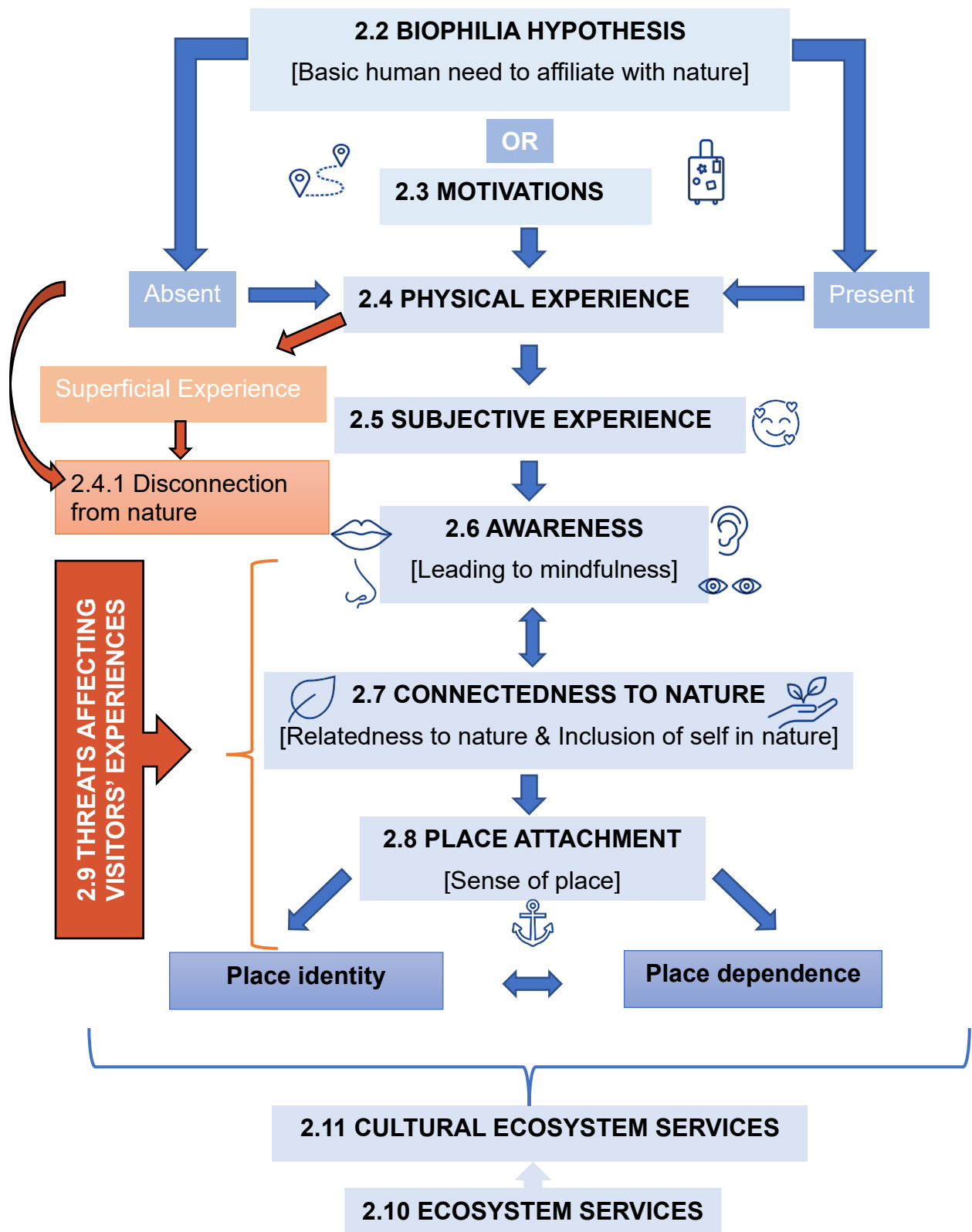


Figure 2.1 Conceptual framework and schematic illustration of the consecutive subjective experience stages and their inter-relationships in natural areas as proposed in this research.

2.2 DEFINING THE BIOPHILIA HYPOTHESIS

This concept has been explored by various early researchers (Wilson, 1984; Knopf, 1987; Kaplan & Kaplan, 1989; Ulrich, 1993; Kaplan, 1995; Kellert, 1995). The biophilia hypothesis proposes that people have an innate need to affiliate with or experience nature (Wilson, 1984), especially showing a preference for savanna-like environments (Joye, 2007; Grinde & Patil, 2009). The appeal of nature activities, zoos, gardening, our bond with animals, and our preference for natural landscapes are all indicators of the biophilia hypothesis (Ulrich, 1993; Kaplan, 1995; Nisbet *et al.*, 2009; Nisbet & Zelenski, 2013).

There are various standpoints about the origins of these preferences. The one origin refers to the psycho-evolutionary theories, where people are believed to function most optimally in similar natural settings from where they evolved, seeking refuge (Knopf, 1987; Farnum *et al.*, 2005; Hausmann *et al.*, 2016). Ramkissoon *et al.* (2018:345) refer to this as the “instinctive liking of the environmental settings, leading to strong emotional attachments to a place”. The other origin asserts that people's interpretations of natural settings are shaped by their social context and develop during early childhood (Knopf, 1987). This latter origin suggests that people choose areas based on their familiarity. Regardless of the origin, Kaplan and Kaplan (1989) explained that the inclination to satisfy particular needs drives humans' attraction to nature.

Firstly, it is essential to define what ‘nature’ means in this research. According to Milton (1998:83), nature can refer “to that part of the environment that is separated from human activity or to a scheme of things that encompasses everything and includes human beings along with everything else”. This research adopts Milton's (1998) definition, which demonstrates that nature refers to environments free from human activity but recognises typically that humans are, overall, part of nature. Nature in this research relates to natural environments, particularly national parks. Natural environments provide a range of psychological, social, and physiological benefits (Kaplan & Kaplan, 1989) that cannot be experienced at the same level in built environments. Therefore, Kyle *et al.* (2004:440) stated that the “expectation of these outcomes or benefits draws people toward specific natural environments and, over time, attachments to the setting develop”. Wilson (1984) described this

attachment as a profound bond with nature embedded within us. The development of positive attachments to natural places is also highlighted by various authors (Stedman, 2003; Farnum *et al.*, 2005; Hausmann *et al.*, 2016).

Nature-based tourism is increasing, with several tourists seeking more natural offerings, especially in national parks (Ramkissoon *et al.*, 2014). Visitors are drawn to green spaces for their leisure opportunities and restorative qualities, and the need to connect with nature is often described as being “driven or pressed by a desire to escape the routine” (Ramkissoon *et al.*, 2018:342). This was especially noted by earlier researchers who referred to city dwellers willing to travel to wilderness areas to escape the human-made environments (Dann, 1977; Espinoza, 2003). Likewise, Colley and Graig (2019) refer to links between perceived naturalness and perceived revitalisation, stating that these ‘wilder’ and ‘natural’ areas have a sense of ‘escape’ or ‘being away’ from everyday stressors. In addition, the recent global COVID-19 pandemic forced people into confinement. This place confinement direly affected people’s health (Ramkissoon, 2020). While Ramkissoon (2020) looked at the impact of this confinement on residents’ well-being, it was found that people became more aware of the importance of nature experiences. This was also realised by SANParks (2022a:27) as they found that “after the COVID-19 pandemic, there was a recovery to the domestic market with a revived interest in nature-based tourism and personal wellness”.

However, visitors to different destinations also have various internal and external reasons for choosing a particular place and wish to fulfil specific needs (Botha, 2011). This refers to their motivations for visiting specific national parks, which might follow the biophilia hypothesis. Botha (2011) further explained that there are resemblances and distinctions in tourists’ travel motivations to different natural areas. Also, Kirkpatrick *et al.* (2018) found diversity in motivations for individual places. Hence, tourists’ motivations for individual national parks might also differ significantly. The typical travel motivations and theories will be discussed next.

2.3 MOTIVATIONAL THEORIES

In general, “motivation is explained as various needs causing a person to take part in certain tourism-related activities, believing that this experience will satisfy these

needs” (Botha, 2011:38). Moreover, motivation was considered in the tourism literature as having a different role: it has been confirmed as a tool for market segmentation and mediator of visitor expectations and their attitudes toward some destinations while being an intermediary concerning destination image and intentions for visits (Line & Costen, 2011). Motivation is also described within the context of goal setting and goal-achievement (Line & Costen, 2011), where individuals are guided toward attaining a desired psychological or physical goal (Smith, 2019).

Closely related to goal attainment is the necessity to satisfy social, physiological and psychological (Moulay *et al.*, 2018). Motivation is also regarded as a multidimensional construct by Deci and Ryan (1985), who describe it as intrinsic motivations driven within the self, extrinsic motivations driven by outside forces, while amotivational is devoid of any motivation. Intrinsic and extrinsic motivations form part of goal attainment and satisfying needs; however, individuals are motivated by different factors. According to Smith (2019:55), motivation to participate in nature-based travelling or recreation is a behaviour that “extends beyond the activity itself but instead encompasses an array of psychological, social, and physiological outcomes that are interlinked with the natural setting”. In this study, uncovering these different motivations for visiting natural areas, especially the different national parks, is important. There are various motivational theories, each with its own advantages and disadvantages. The study’s primary purpose was not to understand the motivations for visiting the respective parks. The following serves as the background for the assessment of primary motivations. Figure 2.2 outlines three motivational theories commonly used in tourism literature.

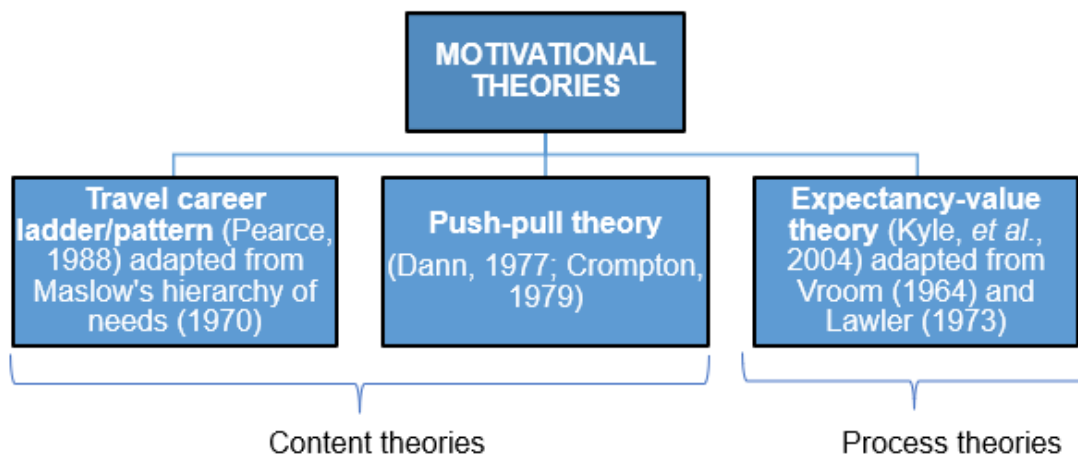


Figure 2.2 Motivational theories commonly used in tourism research.

Content theories

This is how we understand people’s basic needs as they change over time (Maslow, 1943; Maslow, 1970; Correia & Moital, 2009). The emphasis is placed on what motivates consumers. The well-known theories included here are the travel career ladder (Pearce, 1988) and the push and pull motivations (Dann, 1977; Crompton, 1979).

The needs-oriented motivation theories are frequently used in tourism literature. The hierarchy of human needs theory was developed by Maslow (1970) and later adapted for tourism by Pearce (1988), better known as the travel career ladder. This theory describes tourist motivation as “consisting of five different levels in increasing importance: relaxation needs, safety or security needs, relationship needs, self-esteem and development needs, and self-actualisation or fulfilment needs” (Pearce & Lee, 2005:227). This resembles Maslow’s theory in that the needs and motives of travellers were regarded as being organised into a ladder, following the same principles where a lower need will be satisfied before the higher-level needs. The core belief was that motivation was formed by the travel experiences of tourists who display changing motivational patterns over their life stages and travel experience – meaning that the more they travel, the higher level needs they might fulfil. However, it was suggested that the term had to be adapted from ‘travel career ladder’ to ‘travel career pattern’ (Pearce & Lee, 2005) as motivation are regarded

as dynamic, and the ladder signified having one motivation (or satisfying one need) at a time. This theory is not considered an all-encompassing theory to measure motivation.

Another popular motivational theory in the tourism industry is the push–pull framework (Dann, 1977; Crompton, 1979). According to Hosany *et al.* (2020), this theory posits that a destination’s characteristics act as ‘pull’ factors, while ‘push’ factors refer to the pursuit of tourists to fulfil their psychological needs. Escape, relaxation, excitement, and learning are common push factors in tourism research (Hosany *et al.*, 2020). Pull factors draw people toward nature-based experiences, offer an escape from their daily lives (Van Riper *et al.*, 2019), and play a significant role in arousing travel desire (Hosany *et al.*, 2020). These pull factors include destination attractions, amenities and services, to name a few. However, Espinoza (2003) found that this theory mainly focused on the inherent motivations of tourists, and their motives and behaviour are markedly self-oriented (meaning that these push factors will always be regarded as more important than the pull factors).

Process theories

These attempts to explain the “processes through which human needs are formed and could change and focus on the interaction between the variables influencing motivation and how they influence behaviour” (Correia & Moital, 2009:2). The most popular process theory of motivation is the expectancy-value theory (Vroom, 1964).

Various researchers have used one of the early motivational theories from Vroom (1964) and Lawler (1973) to suggest that people are drawn to natural environments seeking personal benefits. This is referred to as the expectancy-value model of motivation and has been adapted and used by various leisure researchers (Manfredo *et al.*, 1996; Kyle *et al.*, 2004; Kiatkawsin & Han, 2017; Smith, 2019; Van Riper *et al.*, 2019) to address nature travel behaviours. Initially, this theory explained that “individual behaviour is guided by the pursuit of specific outcomes, usually in a work environment” (Kyle *et al.*, 2004:441). The original theory (Lawler 1973) also argues that people partake in activities in specific settings to achieve psychological outcomes that they are familiar with, expect, or value (Smith, 2019). Expectancy theory comprises three principles which are thought to drive motivation, namely,

“valence, instrumentality, and expectancy” (Kiatkawsin & Han, 2017:79; Smith, 2019:55). Valence is the preference that an individual has for the outcome (e.g. a type of holiday taken, or a natural environment visited) and determines the appeal of the outcome. Instrumentality is the anticipation that a specific outcome will lead to a particular reward if the required effort is applied (e.g. relaxation, spiritual growth, knowledge). Expectancy is the anticipation that an action will lead to a specific outcome. The belief that visiting a natural environment is regarded as “an outcome with certain intrinsic value and attractiveness, but above all useful (instrumental) to attain physical and psychological recovery from stress” (Espinoza, 2003:7). Farnum *et al.* (2005:32) put this theory in perspective by explaining visitors’ “predetermined perceptions of what their experience ‘should’ consist of in a particular area, and what types of encounters are needed to have a ‘real’ experience”. This is regarded as an all-inclusive theory that combines the elements of previous theories.

This theory often uses the REP (Recreation Experience Preferences) scale. The REP was first developed in the 1970s and early 1980s. It was based on informal observation and informal interviews to understand why people visit nature for recreation (Driver & Tocher, 1970; Knopf, 1987). Initially, the scale consisted of 328 items representing 19 domains. However, various researchers refined the scale and adapted the items to their study settings (Manfredo *et al.*, 1996; Kyle *et al.*, 2004; Line & Costen, 2011; Smith, 2019). Kyle *et al.* (2004) found that the most common motivational domains were escape, solitude, closeness to nature, and social interaction. In another study by Line and Costen (2011), novelty, self-development, return to nature, knowledge and fitness, and escape were identified as critical motivational domains. Therefore, Smith (2019:55) noted that “motivation for participation in any given recreational activity is varied amongst individuals and settings”.

Within the place attachment research in the general tourism industry, motivations included escape, relaxation, socialisation and learning (Prayag & Lee, 2019). Prayag and Ryan (2011) further mentioned other tourist motivations (e.g. escape, socialisation, need for respect from others, kinship) contributing to destination attachment. Some motivations, such as nature exploration, stress relief, and physical activity, considerably predicted place attachment in national parks (Kil *et*

al., 2012). Van Riper *et al.* (2019) identified that motivations of escape, achievement, meeting like-minded people, learning, and enjoying nature influenced different place attachment dimensions in an Australian national park. Some of these universal motivations for natural areas, and in particular national parks in a South African context, include escapism, relaxation, experiencing nature, viewing wildlife, family recreation, education, novelty, socialisation, and destination attractions (Van der Merwe & Saayman, 2008; Kruger & Saayman, 2014; Botha, 2011; Bosch, 2015). Extensive research has been done within South Africa's national parks, especially in the Kruger National Park (KNP), concerning the 'push' and 'pull' motivations (Van Der Merwe & Saayman, 2014), visitor experiences (Engelbrecht, 2015), and visitor profiles (Kruger *et al.*, 2016). Researchers have explored the various motivations that make this park so popular and found the following:

- Engelbrecht (2011; 2015) identified critical success factors (wildlife experience, interpretation and luxuries, general management, various activities, accommodation, green management, hospitality management, and facilities).
- A regional approach to management and marketing should be applied in the KNP due to its size and diverse environments, camps, and activities (Kruger & Saayman, 2014).
- Activities found in the park are important to tourists (Slabbert & Viviers, 2014);
- Interpretation services are a drawcard; they should, however, be improved (Van Loggerenberg, 2015).
- Recognised franchised restaurants introduced were seen as a positive contributor (Ferreira & Van Zyl, 2016).
- Seeing wildlife, especially large predators, was the main reason for visiting the Kruger National Park (Grünewald *et al.*, 2016).
- Successful marketing in the park should be done according to clusters (international, domestic, and local) (Kruger *et al.*, 2016).

These motivations show a great deal of overlap across these abovementioned theories. The REP scale also had various outcomes in different studies. Thus, neither one of these theories nor a motivation scale was applied exclusively in this

research. An open-ended question was more suitable to discover visitors' motivations for the different parks.

However, some individuals might not 'feel' or recognise this need to experience nature because of 'amotivation', as Deci and Ryan (1985) expressed. This can also be ascribed to the growing disconnection from nature (Soga & Gaston, 2016). For some people, visiting any setting might just be a physical experience.

2.4 PHYSICAL EXPERIENCE

People might have a physical experience (actual visit to a natural area, for example, a national park) but only have a superficial experience (for instance, 'that is a nice-looking bird'). This is explained by McNee (2016:194), who refers to the "degraded or superficial nature of touristic experiences while visiting mountains (mountaineering) as this experience became less exclusive and less physically challenging". In contrast, an experienced climber wishes to have an embodied experience where all aspects (for instance, aesthetics, respect, and difficulty/skill) are appreciated (McNee, 2016). Another example is given by Hirons *et al.* (2016), who explain that mountaineering in the Scottish Highlands' pouring rain might be an enjoyable recreational experience for some; in contrast, the same experience might be dreadful for someone else. According to De Crom (2005:120), "an experience means more than merely a physical sensation, observation, or passive looking – it involves thought, feeling, doing, undergoing, handling, working (any sort of human involvement with the natural environment)". Furthermore, Santana-Jimenez and Hernandez (2011) found that tourists generally pay less attention to the local environment and focus more on their travel experiences and activities. This refers to a sense of mindlessness. Croy *et al.* (2020) also explained that non-users or first-time visitors to parks might have a superficial perception of the possible benefits offered by parks. These superficial experiences can then lead to continued disconnection from nature.

2.4.1 Disconnection from nature

The past few decades have seen an increase in indoor living (Smith, 2019; Mock *et al.*, 2022) and a decrease in outdoor living (Soga & Gaston, 2016). Furthermore,

Hassel *et al.* (2015) explained that the connection between people and nature has deteriorated due to rapid technological advancements, environmental catastrophes, and human misuse of resources. As mentioned in section 1.2.3, this may be ascribed to modern lifestyles that created physical and psychological divisions between people and nature (De Crom, 2005; Nisbet & Zelenski, 2013). As a result, disconnection from nature may contribute to our earth's deterioration (Nisbet *et al.*, 2009). Roos *et al.* (2011) alienation from nature may lead to several psychological, emotional and even physical health problems. Some reasons for this alienation are increased development, fewer opportunities to experience untouched nature, and more technological access (Roos *et al.*, 2011). These sources of disconnection are as follows:

Globalisation

The effects of globalisation, including the increased mobility of people, are transforming how people perceive their surroundings (Ratter & Gee, 2012). Some people will continue their daily fast-paced lives, but this might also cause some to seek stability in a fast-changing world (Ratter & Gee, 2012). The effects of globalisation also mean that more places are becoming monolithic and losing their cultural identity (Lewicka, 2010). Puren *et al.* (2010:859) highlighted “an inherent risk that localities can lose their character due to spin-offs of globalisation (e.g. tourism development) and degradation of the biophysical natural rural landscapes”.

Technological advances

Inglis *et al.* (2008) explained technological advances as one of the twenty-first-century societal factors that can influence values and affect place attachment. Technology also reinforces the disconnectedness between people and nature. This is supported by Zylstra (2014:46), who stated that “modern urban society is filled with powerful stimuli, for example, electronic media and advertising, which create a distance from nature”.

Urbanised environments

As most of the world becomes urbanised, this also contributes to the disconnection between people and nature (Miller, 2005; Pasca *et al.*, 2021; Mock *et al.*, 2022). Maller *et al.* (2005) and Nisbet and Zelenski (2013) specifically referred to urban-

dwelling people with limited or no connection to the natural world who may find it challenging to appreciate or nurture the natural world. Therefore, people disconnected from the natural world may contribute to environmentally destructive behaviour (Conn, 1998).

Peters *et al.* (2016) found that Chinese immigrants described the natural environments in their cities as being confined and poorly maintained. Nature within their available urban parks was “usually artificial, beautified, or degraded” (Peters *et al.*, 2016:69). As such, they lost interest in the cultivation and caring for the environment, a feeling referred to as ‘nature deficit’ (Louv, 2005; 2008). They only regained this care after they arrived in the United States and experienced its wide-open natural areas. Hausmann *et al.* (2016) posit that urban environments have been linked to several health risks, including an increased risk of anxiety, depression, and psychosis.

Psychological disconnect

The concept of ‘the extinction of experience’ (Pyle, 1978; Miller, 2005; Weiler *et al.*, 2013; Soga & Gaston, 2016; Colléony *et al.*, 2017; Kesebir & Kesebir, 2017) is linked with disconnection from natural environments and places in general. The term refers to a gradual shift towards a lack of normal, direct, meaningful connection with the natural world (Zylstra *et al.*, 2014). According to Thomas Berry (1988), an ecological theologian, many people in developed countries have developed a form of ‘autism’ and “have lost the capacity to hear, communicate, and engage with nature in a meaningful way” (Gruenewald, 2003:624).

Ironically, creating protected areas has often separated humans and nature (Barendse *et al.*, 2016). Marshall *et al.* (2019:581) stated that “culture (traditions, customs, and way of life) that forms around a natural environment can be so important to people’s lives that disassociation from the natural environment can result in disorientation and disempowerment”. Needless to say, these protected areas have the potential to offer opportunities for visitors to experience a connection with nature and benefits (Barendse *et al.*, 2016).

However, individuals might also have a subjective or affective experience following or during a physical experience in nature.

2.5 SUBJECTIVE EXPERIENCE

Experience, in general, has been described as an intricate and psychological phenomenon that is difficult to conceptualise and measure (Manning, 2011). Many scholars (Pine & Gilmore, 1999; O'Dell, 2005) describe experiences in subjective terms as an intangible, continuous and personal phenomenon unique to the individual (Pine & Gilmore, 1999; O'Dell, 2005). Experience is also defined as people's subjective mental state during a service encounter (Amuquandoh *et al.*, 2011). Places, in general, are a construct of experience; it is sustained not only by the tangible characteristics but also by the quality of human awareness (Tuan, 1975). Volo (2009) suggests that even when people do the same activity at the same location and time, people have different experiences. This research will focus on people's subjective experiences visiting natural areas, particularly national parks. De Crom (2005:4) described a nature experience as "any personal experience (where an individual experiences in his/her unique manner, irrespective of the nature or intensity thereof) that an individual has from being in a natural environment". Furthermore, it is often "difficult to find the vocabulary to express one's feelings and emotions accompanying a specific nature experience" (De Crom, 2005:51). Nature experiences for people can also be exhilarating, comforting, and spiritual, as well as frightening and alienating (Peters *et al.*, 2016), making it even more difficult to assess people's subjective feelings. It is often said that a physical experience cannot occur without being subjectively aware of one's surroundings. As Ratter and Gee (2012) explain, the pleasure of a walk on the beach cannot be thought of without the physical surroundings or the sense of beauty that can be felt in a certain landscape. The benefits and emotions experienced after exposure to nature will be discussed as subjective experiences. This will be followed by a description of the awareness of one's senses through mindful engagement with the environment and realising the values of nature.

2.5.1 Benefits of nature

There are several benefits that people may experience from visiting a natural area (Ried *et al.*, 2020). Hausmann *et al.* (2016) explained that interaction with nature increases physical, emotional and cognitive health and improves quality of life outcomes. Some of these benefits include recreational opportunities (Ried *et al.*, 2020); physical benefits (Roggenbuck & Driver, 2000; Kyle *et al.*, 2004; Ried *et al.*, 2020); psychological benefits (Kyle *et al.*, 2004; Ried *et al.*, 2020); transcendent emotions (Roggenbuck & Driver, 2000; Ratter & Gee, 2012; Scannell & Gifford, 2017; Ried *et al.*, 2020); educational benefits (Roggenbuck & Driver, 2000; Ried *et al.*, 2020); ecosystem services (Ried *et al.*, 2020); and social benefits (Roggenbuck & Driver, 2000; Kyle *et al.*, 2004). Due to these possible benefits, people may form attachments to natural settings after interacting with the setting (Kyle *et al.*, 2004).

Recreational opportunities

Recreational opportunities are often mentioned as a benefit of nature experiences, including the activities offered, the scenery, and the challenge of exploration (Ratter & Gee, 2012; Ramkissoon *et al.*, 2018; Ried *et al.*, 2020). Although these might not be regarded as specific benefits, they may lead to other intrinsic or extrinsic benefits. The natural environment sets the scene for these to occur. National parks offer distinctive environmental attributes and provide particular tourism activities (Ramkissoon *et al.*, 2018), allowing for interactions between people and nature. Some park activities might contribute to visitors' higher-order needs, improving their overall well-being (Ramkissoon *et al.*, 2018). The *scenery* of every national park or protected area varies greatly. Ried *et al.* (2020:7) explained scenery as the "admiration of the aesthetic beauty and being in a physical environment that distinguishes itself from the city where trees, mountains, and bodies of water generally stand out". The beauty of a place is associated with benefits, such as nature connectedness, relaxation, or positive emotions (Scannell & Gifford, 2017). The *challenge of exploration* refers to the perception of the "discovery of nature that involves physical and mental challenge and is linked to satisfaction" (Ried *et al.*, 2020:7).

Physical benefits

This refers to the physical restoration, health, and challenges that may emerge from a visit to nature (Kyle *et al.*, 2004; Ried *et al.*, 2020). According to Ried *et al.* (2020:7), *restoration* and health go hand in hand and refer to the ability to “recover certain physical abilities and qualities from being in a natural environment”. In this sense, physical restoration means one’s body feeling renewed, rested, and energised, leading to improved physical *health*. *Challenges* refer to the bodily limitations that one might exceed in a natural area (Ried *et al.*, 2020). People can participate in various activities offered by various national parks and are pushed to their limits.

Psychological benefits

Visiting natural areas encourages psychological restoration (Korpela *et al.*, 2001; Ried *et al.*, 2020) and recovery from mental fatigue (Kyle *et al.*, 2004). Compared to more formally constructed green spaces like urban parks, Colley and Graig (2019) generally associated *psychological restoration* with preferred locations defined as managed naturalistic settings (like national parks). *Tranquillity* (Ried *et al.*, 2020) and *relaxation* (Scannell & Gifford, 2017) are also important psychological benefits. *Well-being* is one of the major benefits of nature, or rather after one’s immersion in nature (Kyle *et al.*, 2004; Ratter & Gee, 2012; Ried *et al.*, 2020). Ramkissoon *et al.* (2013) found that natural environments provide visitors with psychological well-being. For example, experiences in wildlife tourism have been linked to well-being (Curtin, 2009), whereas urban parks, zoos and aquariums have also been found to be restorative environments (Vada *et al.*, 2019). Ramkissoon *et al.* (2018) state that interest in the relationship between participating in tourism activities and their potential to improve one’s well-being has grown. This is confirmed by Pyke *et al.* (2016), who posit that consumers seek a healthier lifestyle and are more likely to visit places encouraging positive outcomes for their well-being. Well-being is often studied within positive psychology (Pearce, 2009), where distinctions are made between hedonic and eudemonic well-being (Vada *et al.*, 2019). Hedonic well-being involves “positive emotions of happiness and pleasure (feeling good while engaging in activity)”, whilst eudemonic well-being “focuses on personal growth and performance” (Vada *et al.*, 2019:323). The larger field of quality-of-life studies also includes subjective well-being (Sirgy, 2012). However,

this is not included in the scope of this research. Subjective well-being was defined by Diener *et al.* (1999) as a broad category of phenomena that provides for people's emotional responses, assessments of their overall life satisfaction, and domain satisfaction.

Transcendent emotions

This benefit refers to inspiring experiences, including spirituality, personal growth and a connection that forms after a visit to nature (Ried *et al.*, 2020). These factors will also be discussed in more detail later regarding place attachment. *Spirituality* is mentioned by several researchers as a benefit of nature (Ratter & Gee, 2012; Ried *et al.*, 2020). According to Ried *et al.* (2020:8), it “appears as the benefit that emerges from perceiving a positive emotion by connecting with other planes (the divine or sublime)”. *Personal growth* refers to the “capacity that a transcendent emotion has to generate a change of thought or habit” (Ried *et al.*, 2020:8). This might also refer to a state of introspection (Ried *et al.*, 2020) that is connected to self-awareness or self-control (Scannell & Gifford, 2017) that might be experienced after a visit to nature. *Connection with nature* refers to being part of the natural world. Usually, it has to do with the encounters one has had with biological entities (like trees and animals) (Ried *et al.*, 2020) or the proximity to wilderness (Scannell & Gifford, 2017).

Educational benefits

These benefits refer to the “opportunities to learn something about nature and to generate environmental awareness in others (visitors, friends, and family) and may include the following: knowledge-exploration, teaching-learning, and environmental awareness” (Ried *et al.*, 2020:8). The process of discovery in nature that results in the acquisition of knowledge is known as *knowledge-exploration* (Chawla, 2015; Ried *et al.*, 2020). There are various opportunities for exploration and learning in national parks. These might include guided activities, environmental education centres, and interpretation centres. *Teaching-learning* differs from *knowledge-exploration* because an educational component comprises a clear conservation dimension (Chawla, 2015; Ried *et al.*, 2020). Finally, it is believed that exploration and learning in nature lead to *environmental awareness*. This also refers to a

perception of a pro-environmental attitude (Ried *et al.*, 2020) and instils care for nature.

Ecosystem services

Ecosystem services are generally referred to as the benefits of nature and include various services that range from provisioning, regulating, cultural, and supporting habitat services (MEA, 2005). Sense of place is recognised as one of the cultural ecosystem services (MEA, 2005; Ament *et al.*, 2017) and is also regarded as one of the benefits of nature (Roggenbuck & Driver, 2000; Ried *et al.*, 2020). Ecosystem services and sense of place will later be discussed in detail.

Social benefits

Social benefits were mentioned as a benefit of nature and can be understood in various ways (Kyle *et al.*, 2004). Overall, it refers to natural environments' ability to provide access to society and to improve their well-being. Ramkissoon *et al.* (2018) stated that since national parks are considered societal services for the community's welfare, admission is typically free or heavily subsidised in most countries. This is also true for national parks managed by SANParks, which offer free access to their parks to the public for at least a week – strengthening their objective of 'connecting society'. National parks and other green areas have been demonstrated to enhance social interactions, sustain community cohesion and pride, and reinforce family networks (Worboys *et al.*, 2015; Croy *et al.*, 2020).

However, research on wilderness experiences has also indicated sensitivity towards encounters with other users (Korpela *et al.*, 2001), especially in favoured natural areas where people expressed an emotional connection. Kyle *et al.* (2004) ascribe this to the fact that people have a stronger tendency toward choosing solitude and remoteness as important attributes in natural settings. Therefore, preferring not to have social interactions with other national park users. The abovementioned benefits further increase positive emotions in individuals (Ramkissoon *et al.*, 2014).

2.5.2 Emotions

According to Cohen and Areni (1991), emotions are affective states typified by episodes of strong feelings connected to a particular referent (such as a person, an object, or an event) and elicit certain response behaviours. These might include positive and negative emotions (Scannell & Gifford, 2017) or pleasure and arousal (Russell, 1980), which is referred to as a dimensional (valence-based) approach to conceptualise emotions (Hosany *et al.*, 2017). Another approach used to conceptualise emotions is the categorical approach, referring to distinctive affective states (joy, anger, sadness, surprise) (Izard, 1977; Plutchik, 1980). Measuring emotions in tourism has favoured the valence-based approach (Hosany *et al.*, 2017; Prayag *et al.*, 2017).

Following this research's dimensional or valence approach, positive emotions include happiness, joy, hope, excitement, surprise, and pride (Prayag *et al.*, 2017; Scannell & Gifford, 2017). Negative emotions, on the other hand, include fear, sadness, regret, and disappointment (Prayag *et al.*, 2017). This research focused on the general positive and negative emotions people experience while visiting national parks. It is essential to recognise that people experience nature differently, and their emotions will determine their overall satisfaction and future intentions to visit.

Furthermore, Hosany *et al.* (2017) found that positive emotions, negative emotions and satisfaction influence place attachment. A strong attachment is linked to feelings of passion, love, and affection (Mugge *et al.*, 2010). Correspondingly, Morgan (2010), Scannell and Gifford (2010), Yan and Halpenny (2019) and Kastenholz *et al.* Carneiro (2020) discovered that through person-place interactions, positive feelings toward a place will strengthen a sense of attachment. It is also necessary to cognise the negative emotions that people might experience, as relationships with places are not always positive (Relph, 1976; Scannell & Gifford, 2010; Colley & Graig, 2019). These negative emotions might arise from changes in place appearance, ownership, or painful memories (Scannell & Gifford, 2017) or occur after a specific threat to a place they feel attached to. Threats to national parks and one's place attachment will be discussed later in this chapter. Another important

subjective aspect is visitors' awareness when visiting a national park, which is linked to one's connectedness to nature.

2.6 AWARENESS (MINDFULNESS)

Depending on how many days it lasts, a national park experience can be entirely passive, entirely active, or a combination of both (Manning, 2011; Weiler *et al.*, 2013). Visitors to national parks may sometimes be disconnected or alienated from a 'natural' experience, also known as the extinction of experiences (Weiler *et al.*, 2013; Kesebir & Kesebir, 2017). As the literature above indicated, there are many reasons for this disconnection, and sometimes, people might not be aware of this disconnection (De Crom, 2005). They might also focus on their physiological needs or be preoccupied with future or past events. This is where the concept and practice of mindfulness become significant. During techniques introduced to build relationships with nature (Shaw, 2003) or to enhance human–nature connectivity (White, 2012), it was found that before people become 'mindful', they often first become aware of the environment using their senses. White (2012:347) furthermore explained that "when listening to people describing their nature experiences, many people find it easier to describe, for example, the appearance of objects, rather than fully express feelings, emotions and spiritual insights or reflections". Similarly, Bonnes *et al.* (2003:) state that motivations and emotions, which one is not always aware of, account for nearly all human behaviour. It is, therefore, necessary to explore this awareness and the process of becoming aware – often called a process of mindfulness.

According to Germer (2004), mindfulness is the practice of being in the present moment and connecting all experiences, positive, neutral, and negative, to enhance our general perspective on life in all circumstances. Consequently, mindfulness increases peoples' sense of well-being. Additionally, mindfulness may be defined as paying attention to and being aware of what is happening in the present (Brown & Ryan, 2003). It makes present-moment experiences more vibrant.

2.6.1 Awareness of senses

Experiences and senses are among the earliest ways people relate to places (Tuan, 1975; Cross, 2015). Raymond *et al.* (2017) stated that senses are essential to place perception. De Crom (2005:232) reported that visitors showed an “increased sense of awareness (mindfulness) of natural surroundings after spending some time in them”. She explained that “after a few days, they begin to take in their surroundings more fully and become conscious of the sights, sounds, and smells in their immediate vicinity” (De Crom, 2005:232). Raymond *et al.* (2017) concur and suggest that whether one is conscious of them or not, the senses (e.g. smell, taste, feel, sight, and spiritual elements) are the only ways to experience a location fully. This is also true for daily experiences, even in the corporate world. Guthey *et al.* (2014) explain that people look out their office windows at trees or mountains, smell the fresh air, taste the pollution, hear the birds, or get impatient when in slow traffic. Walker and Moscardo (2016) referred to multi-sensory experiences and Barendse *et al.* (2016) posit that using one’s senses will enhance one’s perception of a location. “These include what people do (e.g. hike up a mountain), feel (e.g. grass under their feet or warmth of the sun), hear (e.g. the sound of birds or the wind in the trees) and see (e.g. a seascape, forest or the bushveld)” (Barendse *et al.*, 2016:2). “Such experiences are likely to change over time (e.g. different seasons)” and between places and to be “mediated by the memory of previous such experiences” (Barendse *et al.*, 2016:2). Likewise, every place has unique sensory opportunities, and they may develop attachments to a particular place as they spend time in the place (Korpela *et al.*, 2001; Kyle *et al.*, 2004; Cross, 2015).

Visitors to natural areas most often refer to the aesthetics of a place (using their sight or visual sense). As a result, many tourist locations rely on their surroundings’ appeal to draw tourists (Ramkissoon *et al.*, 2013; Kiatkawsin & Han, 2017). In contrast, a recent study by Newell and Canessa (2018) found that respondents recognised sounds, smells, and temperatures as non-visual components of their imagined environments. Yet, their study focused on the geo-visualisations of coastal places. A move is being made toward multi-sensory experiences (e.g. touch, taste, and smell) rather than accentuating tourists’ visual experiences (Williams & Lew, 2015; Yan & Halpenny, 2019). According to Cross (2015:11), “the sights, smells,

temperature, weather, and local scenes are all part of the sensory experience that helps people to develop place attachments”.

Another emerging field of study that ties in with the use of one’s senses and awareness is virtual reality – “technology enabled travelling to virtual environments” (Pantelidis *et al.*, 2018:1). Pantelidis *et al.* (2018) found that virtual reality not only enhances spatial perception and improves tourist experience, but also and have a positive influence on place attachment to the Lake District National Park (UK). Other authors (Kjellgren & Buhrkall, 2010; Pasca *et al.*, 2021) studied simulated nature through videos and photographs with people not having contact with real nature and have found beneficial effects on their well-being, Although the authors warranted further exploration of virtual reality and simulated nature and recommended it as a marketing tool for managers at national parks. Furthermore, by engaging all of one’s senses, the question is whether people will be better aware (through mindfulness) of the specific values of nature and wilderness experiences.

2.6.2 Experiencing the values of nature

Borrie and Roggenbuck (2001) discussed six values of the wilderness experience. These include humility, oneness, primitiveness, timelessness, solitude, and care. In addition to these, De Crom (2005) added three fundamental values of a nature experience, namely remoteness, self-knowledge, and spirituality.

Humility is an individual’s true place in the natural world (Borrie & Roggenbuck, 2001) and being in awe of creation (De Crom, 2005). *Oneness* with nature refers to being immersed in nature (Borrie & Roggenbuck, 2001; De Crom, 2005), where the indication of manmade features is unnoticeable (Barendse *et al.*, 2016). *Primitiveness* refers to a sense of the past (Borrie & Roggenbuck, 2001) and remembering a simple time without modern conveniences (De Crom, 2005; Barendse *et al.*, 2016). *Timelessness* refers to the natural rhythms of life (Borrie & Roggenbuck, 2001), not caring about chronological time (De Crom, 2005), and “the feeling that time passes slower in nature than in cities” (Ried *et al.*, 2020:9). *Solitude* refers to a sense of privacy (Borrie & Roggenbuck, 2001; Barendse *et al.*, 2016), being in a secluded area away from other people (Kyle *et al.*, 2004; De Crom, 2005;

Gunderson & Watson, 2007), and experiencing overall peacefulness and tranquillity (De Crom, 2005; Ried *et al.*, 2020). Such values lead to *care* for the land, which leads to conservation priorities (Borrie & Roggenbuck, 2001; De Crom, 2005). *Remoteness* refers to feeling far away from the familiar home/work environment (De Crom, 2005; Gunderson & Watson, 2007; Colley & Graig, 2019). *Self-knowledge* refers to the heightened feelings and emotions that an individual experiences (De Crom, 2005) or a state of introspection (Ried *et al.*, 2020). *Spirituality* refers to a sense of connection to something greater than us (De Crom, 2005) and “may appear as a benefit that emerges from perceiving a positive emotion by connecting with other beings (the divine or sublime)” (Ried *et al.*, 2020:8).

It is supposed that if one experiences all or a number of these nine values of solitude, oneness, primitiveness, timelessness, humility, care, remoteness, self-knowledge, and spirituality (Thoreau, 1854; Muir, 1916; Olson, 1966; Borrie & Roggenbuck, 2001; De Crom, 2005) during a visit to nature, one will have the ultimate nature experience and possibly regain a connection to nature. These values of nature were not evaluated as part of this research but were mentioned frequently by respondents as part of their connectedness. Recognition must be given to these values and their roles in nature connectedness and place attachment, especially in South African national parks.

2.7 CONNECTEDNESS (CONNECTION) WITH NATURE

Howell *et al.* (2011) stated that the connection between mindful people and nature may be strengthened by the increased sensory impact of nature experiences. This is explained by Wilson (1984:103), who described the mind of a naturalist as follows: “he goes alone into the field or woodland and closes his mind to everything but that time and place so that life around him presses in on all the senses and small details grow in significance”. Similarly, Jarratt *et al.* (2018) posit that natural environments, such as the foreshore, offer enough sensual stimulation to enable people to feel restored and experience mindfulness, including a feeling of connection (Kaplan, 1995). Additionally, Cervinka *et al.* (2012) suggested that connectedness with the natural world could be utilised to enhance mindfulness, improving healing and people’s well-being. Furthermore, Brown and Ryan (2003) discussed that by increasing self-regulation, mindfulness helps people become more aware of their

basic needs and better control their behaviour to satisfy them. According to Kellert (1997), connecting with nature can satisfy important psychological needs like relatedness, competence, and autonomy. Therefore, “if mindfulness fosters meeting important needs, and if these needs can be met, in part, through experiences in nature, mindfulness and nature connectedness should be positively associated” (Howell *et al.*, 2011:167) and sought after.

Ried *et al.* (2020:8) refer to a connection to nature as an “idea of uniqueness or integration, that is, to feel part of nature, to be one with the natural world”. It is also essential to take note of the earlier definition of nature that this research adopted. Nature is considered an entity free from human disturbance or presence, yet humans are also considered part of nature. People’s value systems, which are context-specific and always changing, influence how they relate to nature (Chan *et al.*, 2012). Everyone will assess the meaning of nature according to their value system, which is unique for each person and different natural areas. Barendse *et al.* (2016:2) explained that “based on the different value systems of people, one might value a particular landscape for its tangible materials (for example, firewood). In contrast, another may value the same landscape for its intangible benefits (for example, relaxation or therapy)”.

Furthermore, connectedness with nature is also said to be formed through ‘meaningful nature experiences’ (Zylstra *et al.*, 2014). What makes experiences meaningful to people also differs substantially. Scannell and Gifford (2017) found that their participants’ reasons for feeling connected to nature included special wildlife encounters, hiking through the wilderness, relaxing and rejuvenating, and linking nature to their identity. In general, connection to nature also refers to the human-nature relationships that positively affect people’s health and well-being (Nisbet & Zelenski, 2013). There has been increasing interest in this topic regarding environmentally responsible behaviour (Mayer & Frantz, 2004; Nisbet *et al.*, 2009; Nisbet & Zelenski, 2013; Zylstra, 2014; Zylstra *et al.*, 2014).

Various methods and scales are used to measure or determine whether a person is connected to nature, although it has proven difficult (Nisbet *et al.*, 2009). Some of these include the ‘connectedness to nature scale’ (Mayer & Frantz, 2004), the

'Nature-Relatedness scale' (Nisbet *et al.*, 2009), the 'brief Nature-Relatedness scale (NR-6)' (Nisbet & Zelenski, 2013) and the 'Inclusion of Nature in Self (INS) scale' (Schultz, 2001; 2002). It is possible to identify minor distinctions between these scales; however, research has shown considerable similarities (Tam, 2013). These terms are also sometimes used interchangeably or referred to, in general, as connectedness to nature. The realisation of environmental concerns depends on how people see themselves as part of the natural world (Schultz, 2000). We often refer to our sense of inclusion in nature and our awareness of our interconnectedness with the earth as our "*ecological identity or ecological self*" (Nisbet *et al.*, 2009:3). An ecological identity encompasses the individual, the community of humans and non-humans, and the ecosystems of the planet (Conn, 1998), so that "damage to the planet is seen as damage to the self" (Nisbet *et al.*, 2009:3). According to Gosling and Williams (2010), Groulx *et al.* (2016), and Hausmann *et al.* (2016), connectedness to nature increases peoples' perceptions of sense of place and place attachment, encouraging individual participation in conservation. Colley and Graig (2019) confirm the latter ideas by linking nature connectedness, perceived wildness, or naturalness, and biospheric value orientations with the sense of place in natural environments. Along with these views, Ried *et al.* (2020:12) found that "leisure experiences in wilderness-protected areas are considered the generators of 'benefits' and a 'sense of place'". It is also believed that nature connectedness will contribute to people's level of attachment to the different national parks. These will then determine their level of awareness of environmental problems in the parks.

Having defined the connectedness to nature, the concepts of 'nature-relatedness' and 'inclusion of self in nature' will be discussed and explain how these constructs relate to place attachment. The reasons for choosing these constructs as measurement scales are also explained.

2.7.1 Relatedness to nature

This refers to how people relate to nature and is considered as a linkage between a person and nature (Groulx *et al.*, 2016). The theoretical background of nature-relatedness draws on Wilson's (1984) biophilia hypothesis and assists with an

explanation of people's connection with the natural world. According to Nisbet *et al.* (2009), nature-relatedness measures people's interest in, attraction to, and desire for nature contact and it also captures many aspects of human-nature relationships. Furthermore, it is a "broader concept that includes emotions, experiences, and an understanding of human interconnectedness with all other living things" (Nisbet & Zelenski, 2013:2).

The nature-relatedness scale was originally developed by Nisbet *et al.* (2009) and consists of 21 items. However, Nisbet and Zelenski (2013) created a shorter version of the scale (NR-6) with six items that were similar to the original and retained good psychometric properties. These six items are averaged to get a score, with a higher score indicating a higher nature-relatedness or connection to nature. This shorter scale was necessary as the longer version was "too unwieldy for certain research contexts" (Nisbet & Zelenski, 2013:2). This research will also make use of the shorter nature-relatedness (NR-6) scale as the main focus is on the place attachment construct. Additionally, studies on place attachment have used nature-relatedness (Gosling & Williams, 2010; Groulx *et al.*, 2016) and have demonstrated that it influences the formation of more distinct place connections (Halpenny, 2010; Ramkissoon *et al.*, 2013). Studies (Nisbet *et al.*, 2009; Gosling & Williams, 2010; Groulx *et al.*, 2016) have also shown a positive link between nature-relatedness and various protected environmental behaviours. A similar brief measure exists, called the inclusion of nature in self.

2.7.2 Inclusion of Nature in Self (INS)

This refers, in general, to the interconnectedness of the individual with the natural world (Colley & Graig, 2019). The Inclusion of Other in Self scale (IOS), which was developed by Aron *et al.* (1992), was used as the basis of the Inclusion of Nature in Self scale (INS) (Schultz, 2001; 2002). This scale measures the "extent to which an individual includes nature within his or her cognitive representation of self" (Raymond *et al.*, 2010:424). This scale consists of seven pairs of circles overlapping each other to a certain extent – each representing 'nature' and 'self' respectively. The "response options for the INS represent a seven-point scale, with higher scores indicating greater interconnectedness with nature" (Colley & Graig, 2019:73).

Schultz *et al.* (2004) suggest that people hold inherent mental associations between the natural environment and themselves, which indicates a connection to nature and may influence their environmental concerns. This means that the more these circles (representations of nature and self) overlap, the more connected people are to nature and the more care they will show towards the environment – or be more aware of environmental threats. This research also suggests (or wants to determine) that people more connected to the natural environment are also attached to the area.

It was suggested that these shorter measures are suitable substitutes and represent connectedness to nature in general. However, Tam (2013) asserts that in terms of outcome prediction, they appear less dependable, less strongly correlated, and somewhat different from the longer scales. These two constructs were chosen for the research as the length is beneficial, and only an indication of nature connectedness was sought. This brief nature-relatedness scale also proved to be highly correlated with the INS scale (Nisbet & Zelenski, 2013:6). Participants were also asked explicitly if they felt connected to nature in the respective parks.

From the above, it is clear that connectedness with nature may have various meanings, and therefore, a clear conceptualisation of place attachment and its related concepts is essential.

2.8 PLACE ATTACHMENT AND RELATED CONCEPTS

Literature and its contexts differ in their conceptions and classifications of place attachment. Place attachment is viewed as a multidimensional concept (Scannell & Gifford, 2010; Ramkissoon *et al.*, 2012; Chen *et al.*, 2014) because, to date, there is still not a single description or integrated view of place attachment (Nelson *et al.*, 2020). Some of these concepts are discussed to assist with the understanding of this broad construct.

2.8.1 Sense of place

A recent literature review confirmed a lack of a clear understanding of the term 'sense of place' (Nelson *et al.*, 2020). Throughout the last five decades, various authors from different fields have attempted to define sense of place (Altman & Low,

1992; Farnum *et al.*, 2005; Trentelman, 2009; Erasmus & De Crom, 2015). Various authors structure their explanations differently; some (for example, Scannell & Gifford, 2010) developed their model to assist with explaining this concept. Sense of place is also referred to as the “spirit of place” (Relph, 1976:76) or the ‘DNA of a place’ (Anholt, 2010). According to Puren *et al.* (2010), sense of place is crucial to a person’s identification with their community because it is what makes a place distinct or gives it ‘character’.

Farnum *et al.* (2005:6) state that “many address it based on its origin in one or more of four systems – biological propensities, environmental features, psychological developments, and sociocultural processes”. From this perspective, sense of place is created by the interconnectedness of these four systems and by interacting with the environment (Altman & Low, 1992). Furthermore, some scholars have explained the sense of place through a phenomenological perspective (Seamon 2014; Malpas 2018), emphasising the interconnectedness of various aspects of place and the relationship between people and place (Nelson *et al.*, 2020). This perspective focuses on the ‘drawing together’ of place elements (Seamon, 2014), including emotions, values, intentions, experiences, and actions. The argument is that dividing these place elements makes it impossible to comprehend sense of place (Seamon, 2014; Nelson *et al.*, 2020).

However, several scholars (Shamai, 1991; Jorgensen & Stedman, 2001; Lewicka, 2010; Stedman, 2016; Masterson *et al.*, 2017) have adopted a social psychology perspective. This perspective “emphasises that physical, psychological, emotional, and experiential elements that an individual or a group has with place can be (and should be) conceptually separated for analytic purposes” (Nelson *et al.*, 2020:238). Hence, a sense of place is often regarded as the overarching theory, consisting of different elements which differ between research contexts.

Some examples of different place elements found in previous studies include the following: Farnum *et al.* (2005) looked into the function of a sense of place in tourism and recreation centred around natural resources and discovered that it consists of several related concepts, such as place attachment. According to Trentelman (2009), ‘sense of place’ is usually used in context with residents or those with a

longer relationship with the location in question. Similarly, Genson (2010) suggests that a sense of place provides a more comprehensive understanding of how individuals interact with unique environments. However, "place attachment," which emphasises the intensity of one's attachment rather than a comprehensive connectedness, is more frequently used in the tourism industry (Jorgenson & Nickerson, 2016). Erasmus and De Crom (2015) categorised sense of place into three general themes, namely, affective, anthropogenic and the physical environment in research within a cultural world heritage site in South Africa. The affective themes included place attachment and belonging. Puren *et al.* (2010) researched the meanings that people living in and around a particular farm in the Vredefort Dome World Heritage Site attached to their sense of place and the integration of the affective dimensions in spatial planning. The affective dimensions identified after their first phase were contentment, escapism, novelty, hope, spirituality, emotional and physical safety, and projections of personal meaning (Puren *et al.*, 2010). Sense of place is important to consider in further developing any area.

Sense of place has been found to contribute to social-ecological systems research by creating ways in which it may be applied to analyse individual and social behaviours (Stedman, 2016; Masterson *et al.*, 2017). It has also been explained to be one of the most innovative and effective methods of understanding the connection between natural areas and people (Ried *et al.*, 2020). However, Nelson *et al.* (2020) confirmed that the most common terms that are used equivalently are place attachment (Altman & Low, 1992), place meaning, place identity (Proshansky, 1978), and place dependence (Stokols & Shumaker, 1981). A theoretical model is displayed in Figure 2.3, explaining the most common terms to describe a sense of place.

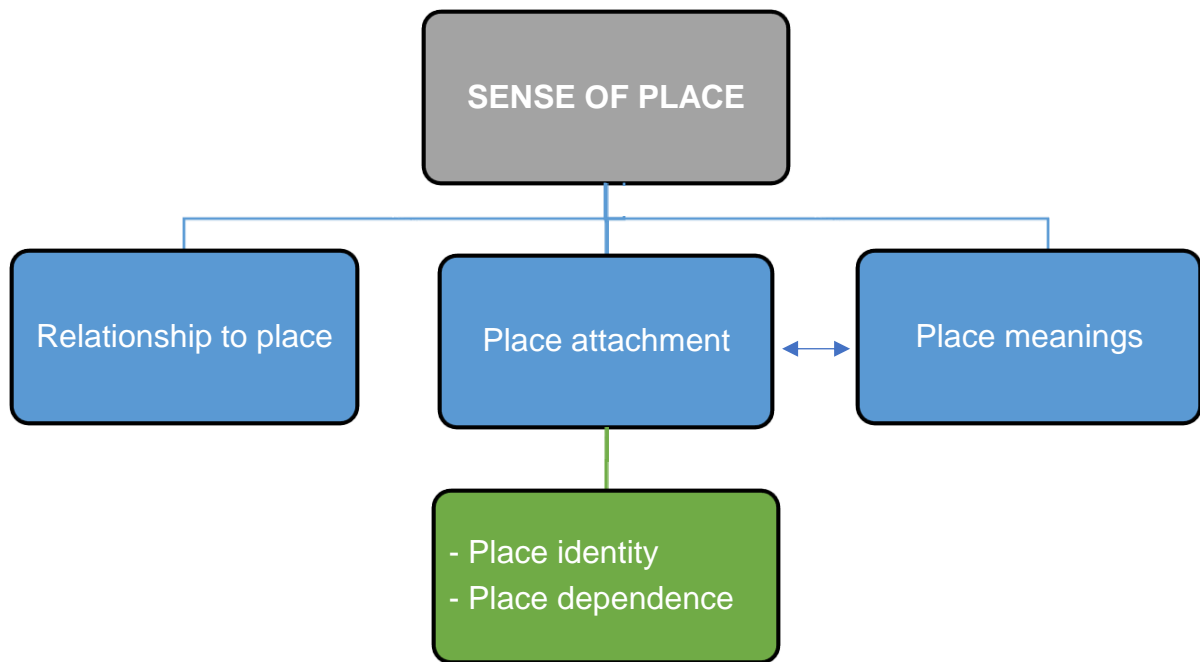


Figure 2.3 A theoretical model explaining sense of place and related place concepts.

(Adapted and compiled from Genson (2010), Chen *et al.* (2014), Masterson *et al.* (2017), and Nelson *et al.* (2020).)

Sense of place consists of various concepts that differ between research contexts and fields. Sense of place refers to relationships that people form with places or the connections they form with a place (Chen *et al.*, 2014). Chen *et al.* (2014) mention the following relationship typologies: biographical, spiritual, ideological, narrative, commodified and dependent. The depth and kinds of attachments to a specific place make up place attachment (Chen *et al.*, 2014), which mainly consist of the place identity and place dependence constructs (Jorgensen & Stedman, 2001; Williams & Vaske, 2003; Genson, 2010; Masterson *et al.*, 2017; Nelson *et al.*, 2020). Place meanings, on the other hand, refer to “descriptive (or symbolic) statements about what a place is, what it is like, and the kinds of images it conveys” (Masterson *et al.*, 2017:48). In general, people’s sense of place is strengthened when they have a positive perception of their surroundings (positive place meaning) and when they place a higher value on the advantages that come with visiting or living there (higher place attachment) (Williams *et al.*, 2008; Hausmann *et al.*, 2016). This study followed the model above to describe sense of place and will focus specifically on the attachment theory and place attachment.

2.8.2 Attachment theory

Attachment theory originated through the natural observation of the relationship between mothers and their infants or the affective link or tie between an individual and an attachment figure (Bowlby, 1969; 1975; 1980). It explains the formation of the attachment of the infant to the mother, which assists with the infant's survival (Bowlby, 1982; 1991) and provides a sense of security and comfort (Bowlby, 1969). Furthermore, Bowlby (1980; 1982; 1991) also studied the effects of disruption through separation, deprivation, and bereavement. This was then related to an attachment to a place which provides people with a sense of security and comfort (Scannell & Gifford, 2010), and any threat to these places might lead to negative emotions (Scannell & Gifford, 2010; 2017; Chen *et al.*, 2014; Colley & Graig, 2019).

The attachment theory has been evolving throughout the years and used in various research fields, including social relationships between adults (Hazan & Shaver, 1994), attachment to one's neighbourhood (Lewicka, 2010) and other places (Kyle *et al.*, 2004; Morgan, 2010). Originating from the attachment theory, 'place' attachment is people's emotional connection to their surroundings (Mazumdar, 2005). Place attachment to one's environment, in particular national parks, is the focus of this research.

The discussion that follows will give a full breakdown of place attachment and the constructs it may consist of. As illustrated in Figure 2.3 and the literature reviewed, place attachment is often formed through various interrelated processes. Likewise, there are other antecedents to the development of place attachment and its resulting consequences.

2.8.3 Place attachment

Places and peoples' experiences within, and their relationships with them, have been discussed by various early researchers from humanistic geography and environmental psychology backgrounds (Tuan, 1976, 1979; Relph, 1976; Greverus, 1979). Some of the terms that were developed include: 'topophilia', which represents the love of a place (Tuan, 1979); 'geopiety', which refers to emotional attachments between humans and their surroundings (Tuan, 1976); 'Heimat'

(Greverus, 1979) a German concept consisting of spatial, social and emotional components referring to the 'felt' connection to a place or a homeland (Ratter & Gee, 2012). It is argued that spaces become places only after people endow them with value, giving them meaning (Tuan, 1975).

As seen in Figure 2.3 and the description of sense of place, the term place attachment is complex. It incorporates several people-place bonding components, including affect, emotions, knowledge, and behaviour related to a location. (Ramkissoon *et al.*, 2012) and encompasses dimensions of person, process and place (Scannell & Gifford, 2010). Place attachment generally involves a positive affective bond between a person and a place (Altman & Low, 1992). According to some academics (Moore & Graefe, 1994; Jorgensen & Stedman, 2001; Williams & Vaske, 2003; Genson, 2010; Jorgensen & Nickerson, 2016; Masterson *et al.*, 2017; Ajuhari *et al.*, 2023), place identity (also known as emotional attachment) and place dependence (also known as functional attachment) are the two main components that conceptualise place attachment. Furthermore, place attachment is referred to as an affective component, place dependence as a conative or behavioural component and place identity as a cognitive component (Jorgensen & Stedman, 2001; Kyle *et al.*, 2004). It is, therefore, that this research decided to focus on these concepts. The literature review of Nelson *et al.* (2020) found that these are the most used dimensions.

However, several researchers have expanded on the dimensions (also called constructs) of place attachment, referring to it as multidimensional (Ramkissoon *et al.*, 2013; Ram *et al.*, 2016). These include social bonding (Raymond *et al.*, 2010), place affect (Halpenny, 2010; Ramkissoon *et al.*, 2013), nature bonding (Raymond *et al.*, 2010), and place satisfaction (Lewicka, 2010). Although social bonding and place effect are some of the most used dimensions in other studies (Halpenny, 2010; Raymond *et al.*, 2010; Ramkissoon *et al.*, 2013).

Place attachment is also believed to differ between groups of people. Differences in socio-demographic factors were observed in various studies (Lewicka, 2010; Raymond *et al.*, 2010; Groulx *et al.*, 2016; Scannell & Gifford, 2017; Kirkpatrick *et al.*, 2018; Newell & Canessa, 2018). Barendse *et al.* (2016) raised the specific

question of how place attachment experiences vary across groups of visitors in national parks managed by SANParks. However, socio-demographic differences concerning place attachment were not addressed in this research. Instead, a summary of the socio-demographic information was given. Additionally, differences are noted between residents of an area and visitors (Kyle *et al.*, 2004; Trentelman, 2009).

Residents versus tourists

Relph (1976) referred to the 'insidedness' and 'outsidedness' based on one's connection with a place. According to Relph (1976:49), "to be inside a place is to belong and identify with it," and "the more profoundly inside you are, the stronger is the identity with the place". It is noticeable that people within or 'inside' an area have a greater sense of place or attachment to place (Relph, 1976) due to rich and in-depth experiences with their environments (Tuan, 1975). This may be ascribed to the length of residence (Lewicka, 2010; Scannell & Gifford, 2010; Hausmann *et al.*, 2016; Newell & Canessa, 2018; Nelson *et al.*, 2020), memories of one's past (Kyle *et al.*, 2004; Hausmann *et al.*, 2016; Woosnam *et al.*, 2018), experience use history (Raymond *et al.*, 2010; Newell & Canessa, 2018) and social ties (Kyle *et al.*, 2004; Lewicka, 2010). Other studies investigated the role of sense of place on residents' participation in and tolerance of tourism-related businesses (Liu & Cheung, 2016; Zhu *et al.*, 2017). Lui and Cheung (2016) found a strong sense of place among locals, which aids in preserving their community's culture and sustainable tourism growth. Similarly, Zhu *et al.* (2017) found that people with a strong sense of place are more loyal and more likely to support tourism development if they know its advantages.

However, tourists can also foster an attachment to a place, and this is evident from several studies (Warzecha & Lime, 2001; Prayag & Ryan, 2011; Ramkissoon *et al.*, 2013; Groulx *et al.*, 2016; Jarratt *et al.*, 2018; Ramkissoon *et al.*, 2018). As visitors "interact with places, they may develop a bond with the place" (Budruk *et al.*, 2008:189). According to Moore and Graefe (1994) and Groulx *et al.* (2016), place attachment usually occurs after one or more visits to a specific location. However, even if an individual has not visited a place, they may "identify with the idea of national heritage, as symbolised by the national park system, or the idea of

wilderness” (Warzecha & Lime, 2001:63). Woosnam *et al.* (2018) confirm this by stating that visitors are attracted to special places because of the meanings they attach to them. Furthermore, Hausmann *et al.* (2016) found that a sense of place and place attachment plays a crucial role in tourism development – as it helps to uncover tourists’ perceived value of their experiences, expectations and satisfaction in a particular place (Kill *et al.*, 2012). In addition, if destinations connect with tourists emotionally, they will have a better chance of drawing and keeping them (Jarratt *et al.*, 2018). Therefore, place attachment studies are relevant to the tourism industry and in this research context of national parks managed by SANParks.

2.8.4 Place attachment constructs

Multiple constructs were studied under place attachment. As previously stated, this research will focus on place dependence and place identity as measurement constructs. These constructs are discussed according to their relevance in tourism research. It was recognised that researchers investigate other constructs; therefore, the most common constructs are briefly defined.

Place dependence

Place dependence is the extent to which the natural area fulfils the user’s need for certain leisure activities; it takes into account user characteristics (for example, age), activity-related factors (for example, degree of social interaction) and situational factors (for example, distance from the site) (Stokols & Shumaker, 1981; Moore & Graefe, 1994). In other words, it refers to a functional attachment. This place dependence might lead to repeat visitation and enhanced financial assistance for natural areas, such as national park infrastructure (Kyle *et al.*, 2004). In a study by Kyle *et al.* (2003), respondents who scored higher on the place dependence dimension tended to favour spending money on building and expanding facilities.

A mindful visitor is more likely to be content, remember the locations and details of their experiences better, and can, therefore, recommend experiences (Moscardo, 2009). Another interesting issue is how first-time versus frequent visitors are mindful of experiences within natural areas. Research conducted by Anwar and Sohail (2004) and Alant and Bruwer (2004) revealed that first-time visitors to natural areas

typically have higher expectations regarding the environment quality than those who have visited the same location more frequently. Du Plessis (2010:33) postulated that “first-time tourists perceive everything as well organised and of a good standard if not well informed about the product”, which means that after more frequent visits to an area, visitors might become more aware of adverse environmental impacts (Hammit *et al.*, 2004). De Crom (2005:244) found that the following factors negatively affected the nature experiences of people: “littering, destructive behaviour of people, environmental/ cultural damage, climatic conditions, safety, noise, crowding, attitudes (moods), domesticated species or tame animals, unethical guides and overdevelopment”. This may suggest that mindfulness increases with frequent visitation, where visitors become aware of more pressing issues and look to adopt more sustainable behaviour. Hinds and Sparks (2008:109) indicated that “a higher frequency of visitation to national parks leads to pro-environmental behaviours and more environmentally friendly tourism”. Similarly, Kollmuss and Agyeman (2002) found that pro-environmental behaviours minimise the negative or positive impact on the natural environment. This is affirmed by Barbaro and Pickett (2016), who highlighted that mindfulness, nature connectedness, and place attachment, also known as sense of place, ultimately lead to better decisions and pro-environmental behaviour that can assist with nature conservation efforts. This care that develops might refer to forming an identity with a place and understanding one’s role in nature.

Place identity

Place identity involves the degree to which a person identifies with a place, and it is recognised as a cognitive link between the ‘self’ and the physical environment (Proshansky, 1978). The emotional or symbolic significance that a person attaches to a particular place is known as place identity (Roger & Graefe, 1994; Williams & Vaske, 2003). It can be argued that mindful (and connected to nature) visitors benefit tourism and conservation management (Moscardo, 1996, 1998, 1999). Respondents who scored high on the place identity dimension in a study by Kyle *et al.* (2003) tended to support expenditures directed toward preserving and restoring the natural environment. These visitors are particularly important in heritage, protected, and natural areas such as the national parks managed by SANParks. Moscardo (2009:104) further explains that “mindfulness is also necessary for

visitors to learn, increase awareness, and change attitudes or behaviour”. This is described as ‘insightfulness’ by McIntosh (1999), who defines it as the appreciation, place attachment, and personal meanings that visitors can acquire from their experiences in heritage settings. These might also be applicable in natural environments and, more specifically, national parks and game reserves. Hernández *et al.* (2010:281) postulated, “when place identity concerning natural surroundings is analysed, it seems to enhance responsible behaviours”.

Research revealed that visitors to national parks experience a greater sense of place attachment and a sense of belonging the more often they visit (Kyle *et al.*, 2004; Hinds & Sparks, 2008; Du Plessis, 2010). As a result, visitors become more aware of environmental issues and can better recognise pressing problems like environmental impacts (Hammit *et al.*, 2004; Du Plessis, 2010). Vaske and Kobrin (2001) revealed that place dependence enhances place identity and favourably influences environmentally responsible behaviour among teenagers participating in a local natural resources programme. Furthermore, it was found that individuals with a strong place attachment are prone to display ecologically responsible behaviour (Legault, 2013). De Crom (2005:105) explained that human-nature relationships in natural areas should be “to establish a symbiotic relationship between man and nature”. Myers (1972) highlighted that viewing parks as ecosystems of natural resources rather than havens for wildlife and tourists from a congested world might assist in preserving and mobilising all exploitable resources. Higher levels of passion could result from stronger attachments to a location, especially when a familiar and beloved location is in danger, and people react by taking protective measures (Legault, 2013).

Social bonding

Researchers (Kyle *et al.*, 2005; Raymond *et al.*, 2010; Ramkissoon *et al.*, 2013) have suggested that place attachment research should consider place bonds’ social and geographic context. According to Ramkissoon *et al.* (2014), people associate meanings from various social interactions within specific places, but this has been neglected in tourism research. Kyle *et al.* (2005) and Ramkissoon *et al.* (2012) specifically investigated social bonding in a recreational context within natural settings. They found social bonding to be a primary source of creating meaning

through shared experiences. Ramkissoon *et al.* (2013) found social bonding to predict place attachment.

In contrast, previous research (Lewicka, 2010) has shown that a setting's natural features elicit a stronger and more enduring attachment than its social context (Kirkpatrick *et al.*, 2018). However, this research considers social bonding as part of the qualitative phase and will assess its importance as a cultural ecosystem service. Thus, it was not included as a place attachment construct.

Place affect

According to some researchers (Kyle *et al.*, 2004; Halpenny, 2010; Ramkissoon *et al.*, 2012; Ramkissoon *et al.*, 2014; Ram *et al.*, 2016), place affect should be considered a separate construct that focuses on the feelings of tourists towards a destination. Research has proven that exposure to natural settings, like national parks, promotes visitors' well-being (Ramkissoon *et al.*, 2013), which leads to positive emotions and an emotional attachment (Hinds & Sparks, 2008). Place affect is often called place attachment (affective or emotional). However, in this research, place attachment is regarded as the overarching concept for place identity and place dependence (Figure 2.3). Place attachment overall will be explained through mixed methods, where the emotional connections for each park are uncovered through the qualitative data.

2.8.5 Place attachment in the natural area context

From the above-mentioned literature, it can be concluded that people are more likely to develop an attachment to natural areas due to various processes. Larson *et al.* (2013) posit that the features or activities within natural environments are important to forming a place attachment. National parks have various distinctive features and activities (such as game viewing, hiking, birdwatching or beautiful landscapes), depending on their location. This research will focus on these distinct features and address how place attachment as a cultural ecosystem service to different parks varies.

National parks are considered popular tourist attractions because of their distinctive attributions and the social, physical and psychological interactions between people and nature (Ramkissoon *et al.*, 2018). Furthermore, national parks offer recreational opportunities for visitors to reconnect with nature while protecting these natural features (Ramkissoon *et al.*, 2012). Place attachment has been regarded as a developing goal for national parks for increasing return visitation (Benur & Bramwell, 2015) and perhaps positive word of mouth. Place attachment is also seen as a strategy for national parks to promote environmentally sustainable practices (Ramkissoon *et al.*, 2012) and improve visitors' pro-environmental behaviour (Hernández *et al.*, 2010; Hosany *et al.*, 2017). Proof thereof is interwoven throughout this literature review. In addition, as people spend time in natural areas, they form emotional bonds with these places, and they might become special and valued as favourites (Ried *et al.*, 2020).

According to Scannell and Gifford (2010), a person's favourite place can be any location where they have knowledge and beliefs specific to the area, signifying their special character and bond with it. It is suggested that people are most likely to develop an attachment to favourite places (Vada *et al.*, 2019) and will, therefore, visit them frequently for relaxation (Korpela *et al.*, 2001; Korpela *et al.*, 2010). This is particularly true for natural areas, such as national parks. Therefore, this research will explore place attachment according to visitors' preference for national parks managed by SANParks.

2.8.6 Place attachment: antecedents and consequences

In the context of the current research, antecedent processes refer to factors that lead to place attachment. At the same time, consequences refer to the outcomes of being attached to a place.

2.8.6.1 Antecedents

There are various antecedent processes to the development of place attachment. Some of these antecedent processes have been studied in "residential settings such as one's home, neighbourhood, city or country" (Kyle *et al.*, 2004:440). Some factors, such as time, memories, and social interactions, that influence the

development of place attachment in these residential settings will be discussed. After that, a discussion of the factors influencing place attachment in natural settings, such as a national park, will follow.

Time

Several researchers have found that place attachment and place bonds generally develop over time (Moore & Graefe, 1994; Kyle *et al.*, 2004; Raymond *et al.*, 2010). Similarly, Uusna (2015) suggest that a person's sense of place takes on a temporal dimension based on the length of time they spend there. Furthermore, length of residence, familiarity with a particular location, and history and memories are linked to time (Altman & Low, 1992; Bricker & Kerstetter, 2000; Brown & Raymond, 2007), with longer time frames leading to stronger place attachment (Hernández *et al.*, 2010).

Memories

Human-environment interaction has shown that place bonding is enhanced by previous experiences and the memories of those experiences (Kyle *et al.*, 2004). This is reinforced by Scannell and Gifford (2017), who found participants better able to evoke memories from recent and historical pasts when attached to a place. People's memories can also be triggered by certain smells or childhood events (Ratcliffe & Korpela, 2017). In a study by Morgan (2010:17), participants seemingly "re-experienced positive emotions such as pleasure when recalling natural or outdoor environments that were important to them as children".

Social interactions

Social interactions form part of the social bonding construct discussed earlier. Research has shown that place bonds could be created through significant social interaction and memories (Kyle *et al.*, 2004). More recently, Prayag and Ryan (2012) and Liu *et al.* (2019) found that on-site interactions and encounters may lead to higher levels of place attachment and should be encouraged.

Antecedent processes that are influential in the development of attachment to natural environments may differ due to the benefits offered by natural areas (Kaplan & Kaplan, 1989; Kyle *et al.*, 2004). These range from psychological, social, and

physiological benefits. According to Kaplan and Kaplan (1989), the need to satisfy particular needs motivates people's preference for nature. According to Yan and Halpenny (2019:9), recent "research has proposed several antecedents to place attachment in the recreational context, which includes motivation, destination image, and well-being".

Motivation

Motivation has been addressed earlier, where it is recognised as an antecedent or a predictor of place attachment (Kyle *et al.*, 2004; Van Riper *et al.*, 2019) – an individual is motivated to visit a particular area and therefore becomes attached to it (Xu & Zhang, 2016; Prayag & Lee, 2019; Smith, 2019; Yan & Halpenny, 2019). However, various studies have indicated that if an individual is attached to a place, it may motivate them to visit a natural area (Kyle *et al.*, 2004; Fredman & Heberlein, 2005). Hence, place attachment may be regarded as a "predictor variable that impacts the outcome variable of recreation motivation" (Smith, 2019:71).

Destination image

Destination image and destination attractiveness or uniqueness often influence place attachment (Prayag & Lee, 2019; Yan & Halpenny, 2019). Farnum *et al.* (2005) explain that people may visit an area with predetermined ideas encouraged by the area's destination image, sometimes shaped by media and popular culture.

Well-being

In several studies on place attachment and well-being (Scannell and Gifford, 2017; Vada *et al.*, 2019), place attachment was found to be a cause of either hedonic or eudemonic well-being. This means that if a person has a positive experience (leading to well-being) in a place, they are prone to develop an attachment to that place. A study by Vada *et al.* (2019) has shown that place attachment results from well-being following a memorable tourism experience.

2.8.6.2 Consequences

The consequences of place attachment are addressed throughout previous sections. However, some of the most prevalent consequences include pro-

environmental behaviour (Ramkissoon *et al.*, 2018), visitor satisfaction and loyalty (Ramkissoon *et al.*, 2013) and revisiting intentions through positive word of mouth (Vada *et al.*, 2019).

Pro-environmental behaviour

Pro-environmental behaviour is fundamentally regarded as a consequence of nature connectedness, and place attachment has been addressed in the above literature review to a certain extent. Various studies propose that highly attached people display more pro-environmental behaviour (Gosling & Williams, 2010) and are driven to preserve places with special meaning (Grenni *et al.*, 2020). Qu *et al.* (2019) also found that place-attached individuals tend to alter extrinsic motivations of satisfying their needs associated with a place in environmental activation. Some studies indicate that people with a stronger overall attachment to a location are more likely to be concerned about and engaged with climate change (Scannell & Gifford, 2013a; Nicolosi & Corbett, 2018; Groulx *et al.*, 2019).

In contrast, Ramkissoon *et al.* (2018) examined the possibility that people who exhibit pro-environmental behaviour and attitudes will likely exhibit higher levels of place attachment. They found that “promoting high levels of park citizenship among visitors may enhance levels of place attachment and the sustainability of park biodiversity” (Ramkissoon *et al.*, 2018:434). However, this research regards pro-environmental behaviour because of being attached to a place.

Visitor satisfaction and loyalty

Visitor satisfaction is seen as either an antecedent or a consequence of place attachment (Hosany *et al.* 2017). However, in this research, and supported by various authors (Prayag & Ryan, 2012; Ramkissoon *et al.*, 2013), satisfaction is regarded as a consequence of place attachment. According to Prayag and Ryan (2012), Hosany *et al.* (2017) and Liu *et al.* (2019), satisfied (and place attached) tourists are normally regarded as loyal visitors and more likely to suggest a destination to others. Therefore, providing tourist opportunities to form a place attachment is vital to national parks’ marketing and management practices (Ramkissoon *et al.*, 2013). This means that if tourists feel attached to a place, they will more likely be satisfied and willing to recommend a national park to others.

Repeat visitation

Being attached to a particular place (e.g. a national park) and feeling satisfied might also lead to repeat visitation. People return to the same destinations (Prayag & Ryan, 2012) when they experience and develop personal meanings and values towards places (Han *et al.*, 2019). Subsequently, returning visitors are viewed as an appealing and affordable market segment for many destinations (Vada *et al.*, 2019) and therefore, the importance of providing opportunities for visitors to develop an attachment to a destination increases. Some differences in the level of place attachment between first-time and repeat visitors have been observed. For example, some studies (Kyle *et al.*, 2004; Hinds & Sparks, 2008; Du Plessis, 2010) reported that place attachment was higher with a higher frequency of visits. Similarly, Abou-Shouk *et al.* (2018) discovered that returning visitors were likelier to form a place attachment than first-time visitors.

However, Cheng and Kuo (2015) stated that people develop relationships with places they have never been to. The same argument was made by Vada *et al.* (2019), who found that tourists who visit once or more can get attached to a place. Therefore, managers of destinations such as national parks should not only focus on repeat visitors but also create appeal for first-time visitors. This might be possible if managers of national parks understand their park's unique 'sense of place' and what attracts visitors to them.

From the literature mentioned above, it is clear that various interrelated theories and constructs support and assist with developing an attachment to a place. The benefits (consequences) of place attachment are also discussed. Therefore, it is also necessary to consider the physical factors that may threaten national parks and those that may threaten people's attachments to the park.

2.9 THREATS AFFECTING VISITORS' EXPERIENCES

Physical threats to national parks refer mainly to environmental problems. Subjective threats affect people's place attachment, although physical threats might also negatively affect it. This research addresses both possible physical and subjective threats.

2.9.1 Physical threats to national parks

In research conducted in the context of SANParks, Barendse *et al.* (2016:13) asked the question: “What are the main threats to, and modifiers of, natural or cultural viewsheds, and how do these affect the sense of place experiences of visitors?” This question was posed as part of a research agenda focusing on viewsheds of different parks. However, this current research aimed to answer part of this question about perceived threats to the sense of place and place attachment experienced by visitors to national parks managed by SANParks. Furthermore, Barendse *et al.* (2016) suggest that threats might be region- and context-specific. Hence, a brief discussion of possible threats will follow. More emphasis on threats will be placed in discussing results per respective park.

Each national park will have unique environmental problems (Barendse *et al.*, 2016), influencing the meanings people assign to places in general (Brown & Raymond, 2007). Individual (expressive), cultural (symbolic), instrumental (goal-directed), and intrinsic (aesthetic) meanings are a few examples of these meanings (Williams & Patterson, 1996). According to Kaltenborn (1998), meanings assigned to places influence how environmental conditions are perceived by and reacted to people. Nisbet *et al.* (2009) ascribe most of these environmental problems as a result of humans releasing chemicals into the land, air, and water. Similarly, Van Riper *et al.* (2016) refer to these as ‘anthropogenic threats’. These environmental problems include climate change, pollution, loss of biodiversity, loss of wilderness areas, non-native plants and animals, overcrowding of visitors to parks, poaching of wildlife, desertification or water scarcity, recreational development and expansion and urban development.

Climate change

Climate change is the main cause of the decline in biodiversity (Hausmann *et al.*, 2016). Additionally, it contributes to environmental changes like temperature increases, rising sea levels, and extreme weather (Hausmann *et al.*, 2016; Van Riper *et al.*, 2016). Ultimately, these changes to the physical features of places cause identity and emotional disturbances between people and ecosystems (Reser *et al.*, 2011; Scannell & Gifford, 2013a; Masterson *et al.*, 2017). A study by Ratter and Gee (2012) found that the two biggest threats that coastal residents on the

German North Sea coast felt were storm surges and climate change. Tourism also contributes to climate change due to increased mobility and resulting carbon emissions (Groulx *et al.* 2016).

Pollution

Pollution occurs in different ways and spheres, including air, land, water, noise and light pollution (Nisbet *et al.*, 2009). A sense of place can also be adversely affected by pollution, particularly when noise is present (Hausmann *et al.*, 2016) in a natural area such as a national park. Mutuga (2009) found that pollution from industries and urban development around the Nairobi National Park greatly affected the wildlife.

Loss of biodiversity

Some of the factors included in the loss of biodiversity are species extinction (Nisbet *et al.*, 2009), habitat transformation (Butchart *et al.*, 2010), overexploitation of resources (Ratter & Gee, 2012; Hausmann *et al.*, 2016) and natural resource extraction (Van Riper *et al.*, 2016). Local communities are allowed to harvest resources close to national parks. However, sometimes the harvest exceeds the production. An example is the harvesting of wood. First, only the dead fallen branches (from allowed species) are taken, but as wood becomes limited, all species are targeted, and living trees are first cut back and then felled (Van Jaarsveld *et al.*, 2005).

Loss of wilderness areas

Wilderness areas are becoming less abundant (Warzecha & Lime, 2001; Ried *et al.*, 2020) and are threatened due to increased development and habitat destruction (Hausmann *et al.*, 2016). Ratter and Gee (2012:133) explain an example regarding offshore wind farming, where participants expressed fears about the “loss of the open horizon” and the “loss of the perceived wilderness qualities of the sea. ”

Non-native plants and animals

Another threat to national parks is introducing exotic or alien species (Hausmann *et al.*, 2016; Van Riper *et al.*, 2016). Alien plant invasions can affect an environment negatively (e.g. soil erosion) (Pejchar & Mooney, 2009) and cause changes to landscape features and appearances (Barendse *et al.*, 2016). These changes might

affect a particular place's traditional customs and use (MEA, 2005). However, in their study about viewsheds in national parks, Barendse *et al.* (2016) found that tourists (non-scientists) regarded the non-native trees as contributing to their positive scenic or aesthetic experiences. This suggests that people may become used to the presence of non-natives and see them as part of a region.

Overcrowding of visitors to parks

Too many tourists to an area are linked to negative impacts on nature-based attractions (Ratter & Gee, 2012; Ramkissoon *et al.*, 2018), especially in a national park context. Warzecha and Lime (2001) found in their study that increased numbers of motorised watercraft, larger parties, and more parties travelling on the Green River may weaken the quality of experiences for many visitors. Some of the other negative impacts of crowding include littering, root and rock exposure, soil erosion and damage to vegetation (Price *et al.*, 2018). According to Inglis *et al.* (2008), to avoid crowds and noise, people would relocate or choose to visit at a different time.

Poaching of wildlife

Wildlife poaching has been a concern for national parks over the last decade (Reindrawati *et al.*, 2022). In southern Africa, iconic species such as rhinoceroses (i.e. white rhinoceros *Ceratotherium simum* and black rhinoceros *Diceros bicornis*) and African elephants (*Loxodonta africana*) are specifically targeted for their horns and ivory, respectively. Smaller mammals (e.g. ground pangolin *Smutsia temminckii*), reptiles (e.g. leopard tortoise *Stigmochelys pardalis*) and invertebrates (e.g. abalone *Haliotis* species and several beetle species) are also poached. Various plant species (e.g. cycads - *Encephalartos* species, and succulents [mostly *Conophytum* species]) are illegally harvested. Alterations in the physical features of national parks and the surrounding environment could impact the sense of place (Hausmann *et al.*, 2016).

Desertification or water scarcity

Landscape desertification is regarded as a worldwide occurrence, and likely causes are deforestation, over-cultivation, poor irrigation practices, and overgrazing (Potvliet, 2015). Desertification is "land degradation in arid, semi-arid and dry sub-

humid areas resulting from various factors including climatic variations and human activities” (Reynolds *et al.*, 2007:847).

Recreational development and expansion

Development, in this instance, focuses not only on the recreational context but also on the industrial context. Coghlan *et al.* (2017:2) reported concerns about development threats to the Great Barrier Reef in Australia due to “port development, shipping channels, dredging and spills, and new mines”. Van Riper *et al.* (2016) also refer to coastal development as a threat. Jordaan *et al.* (2009:3) posit that “areas with tourism value due to their strong sense of place are threatened by context-insensitive development”. These authors further explain that such development threatens to alter their place identity, which has led to its tourism value in the first place. The same could be said about developing protected areas such as national parks.

Urban development

The United Nations (2014) estimated that Africa’s urban population growth will grow from 395 million in 2010 to 1.339 billion in 2050, although the African continent is still primarily rural (Güneralp *et al.*, 2017). Similarly, UN-Habitat (2020) predicted that less developed areas of East Asia, South Asia, and Africa will account for about 96 per cent of urban growth. Increased urbanisation, whether formal or informal, is growing closer towards protected areas, increasing the demands of these populations on natural resources (Güneralp *et al.*, 2017). Furthermore, Basu and Nagendra (2021) found that the acceleration of urbanisation has decreased green cover significantly. This causes direct and indirect tensions in ecosystems. For example, the extension of transportation networks leads to the fragmentation of habitats (Mutuga, 2009; Güneralp *et al.*, 2017), loss of rare species and biodiversity (Mutuga, 2009), transfer of water over long distances (Showers, 2002), human-wildlife conflicts (Tryzna, 2007; Mutuga, 2009) and increased demand for bushmeat (Fa *et al.*, 2015). A study by Mutuga (2009:27) in the Nairobi National Park in Kenya highlighted these issues as “the combined effect of the increasing human urban population, the associated infrastructure development, the overall rapid establishment and expansion of unplanned and uncontrolled urban centres”. As

such, the same pressures accompanying urbanisation are imminent in South African national parks.

2.9.2 Threats affecting place attachment

All the above-mentioned threats may influence people's place attachment and sense of place overall. Davenport and Anderson (2005:630) specifically focused their research on landscape changes and their effect on the sense of place. They asked: "What happens to sense of place when places change? What happens when landscape change threatens place meanings and emotions?" Changes to landscapes and national parks might occur due to the threats above. Climate change and the 'Anthropocene era' are the most frequently mentioned threats.

Anthropocene epoch and climate change

The effects of human activity on the climate, biology, and geochemistry globally define this new era (Marshall *et al.*, 2019). Still up for debate, though, is whether this calls for official designation as a new geologic time unit (Barnett *et al.*, 2016). People are exposed daily to the implications of changes to and decline of their natural surroundings. This might lead to strong emotional reactions in individuals referring to 'global mourning' (Marshall *et al.*, 2019) or 'ecological grief' (Barnett *et al.*, 2016; Cunsolo & Ellis, 2018). People place values on specific species, ecosystems, and landscapes, and any global changes (for example, climate change) or losses of these values lead to emotional suffering (Barnett *et al.*, 2016; Cunsolo & Ellis, 2018).

It can also cause "disruptions to sense of place and place attachment, loss of personal or cultural identity, and ways of knowing" (Marshall *et al.*, 2019:580). Likewise, Wilkins and de Urioste-Stone (2018) posit that people's sense of place is one of the many aspects of society that are altered by climate change. When disrupted, place attachment can negatively affect well-being (Scannell & Gifford, 2017). This is confirmed by Berry *et al.* (2018), who stated that increases in both physical and mental illnesses have been linked to the long-term effects of development and climate change. Marshall *et al.* (2019) state that if climate change keeps impacting places people care about, it will be essential to recognise,

consider, and manage ecological grief. According to a study by Knez (2005), a person's impression of a place may be influenced by its climate, and it was found to have a significant impact on people who had a strong emotional attachment to their home. The same might be assumed for national parks where the effects of climate change on visitors' place attachment must be understood and managed. This is confirmed by Wilkins and de Urioste-Stone (2018), who state that climate change has impacted ecotourism by affecting where and when people choose to travel.

Disruption of sense of place and place attachment

Changes to landscapes cause disruptions to place attachment and might lead to a loss of place attachment (Inglis *et al.*, 2008; Potvliet, 2015), and several terms explain this loss. This might be referred to as 'outsiderness' (lack of interest or self-alienation from a place) or 'placelessness' (lacking the ability to identify a special place) (Relph, 1976). Additional terms that refer to the loss of place attachment include 'place interference' and 'displacement' (Inglis *et al.*, 2008)

Sameness of place

Western influences have led to the 'sameness of place' globally, especially in urban environments where people cannot be sure in which city they are (Lewicka, 2010). As a result, people long for a diversity of places instead of being lost in a worldwide Western monoculture (Lewicka, 2010). It is important to identify the unique character (sense of place) of the different national parks and uncover what contributes to people's attachment to each.

Increased mobility

Places have lost their exclusivity due to globalisation, where anyone can travel anywhere (Ratter & Gee, 2012; Groulx *et al.*, 2016). Another cause for increased mobility is climate change, which encourages visits to 'last chance' or 'disappearing' destinations (Groulx *et al.*, 2016). Examples include polar bear viewing in Churchill, Canada (Groulx *et al.*, 2016), diving at the Great Barrier Reef, Australia (Marshall *et al.*, 2019) and glacier viewing at Jasper National Park, Canada (Groulx *et al.*, 2019).

2.10 ECOSYSTEM SERVICES

A brief explanation of ecosystem services was provided in Chapter One (section 1.2.4) and Chapter Two (section 2.5.1) as one of the benefits of nature. Ecosystems include the “existence of biotic and abiotic resources and their complex interactions” (Kumar & Kumar, 2008:809), such as a forest, marine or freshwater ecosystem. Each of these ecosystems offers unique ecosystem services. At the same time, ecosystem services are universally defined as the benefits humans derive from ecosystems that ultimately reinforce human well-being (MEA, 2005). An appeal was issued for conservation planners to consider ecosystem services when evaluating priority areas for conservation (Egoh *et al.* 2007). Other attempts have been made to assess ecosystem services through economic valuation (Kumar & Kumar, 2008; Salles, 2011), but this has proven to be complicated. Other research focused on communities’ values on ecosystems (Raymond *et al.*, 2009) through mapping. According to De Groot, Alkemade *et al.* (2010:262), the importance (“value”) of “ecosystems and their services can be expressed in different ways, and it falls under three value domains, namely ecological, socio-cultural and economic”. These value domains are explained as follows (De Groot *et al.*, 2010:262):

- Ecological value involves the health state of a system, measured with ecological indicators such as diversity and integrity.
- Socio-cultural values include the importance people give to, for example, the cultural identity and the degree to which that is related to ecosystem services.
- Economic literature recognises two general kinds of values: use values (*direct, consumptive use values* – timber; *direct, non-consumptive use values* – recreation and aesthetic appreciation; *Indirect use values* – services provided by nature such as air- and water-purification, erosion prevention and pollination of crops) and *non-use value* (for example, existence and bequest values value).

Ecosystem services have been incorporated into research worldwide since the late 1990s and gained momentum in the early 2000s (MEA, 2005). There was also an increased interest in ecosystem research in South Africa, which formed part of the Southern African Millennium Ecosystem Assessment (SAfMA). The SAfMA “evaluated the relationships between ecosystem services and human well-being at

multiple scales, ranging from local to sub-continental levels” (Van Jaarsveld *et al.*, 2005:425). Some SAfMA studies found that all populations highly valued the less tangible (cultural) ecosystem services (Van Jaarsveld *et al.*, 2005). In the Kat River Valley, South Africa, locals ranked ‘cultural species’ as the second most significant ecosystem service, after water and before fuelwood, building materials, livestock, wild food and medicinal plants (Shackleton *et al.*, 2004). Local people often refer to ‘sacred’ pools, which usually contain more species (Shackleton *et al.*, 2004) and are valued and conserved as they are believed to provide protection for ancestral spirits and spirit mediums (Biggs *et al.*, 2004). Another study used mapping techniques to identify and consider the biophysical potential for providing ecosystem services (Egoh *et al.*, 2009). Identifying significance areas for ecosystem service management in South African grasslands was another focus of Egoh *et al.* (2011). In addition, Smit *et al.* (2017) investigated the intellectual ecosystem services flowing to and from the Kruger National Park.

Although most of these studies focused on local people, the current research focused on tourists visiting national parks managed by SANParks. Furthermore, at least four categories of ecosystem services can be distinguished, namely provisioning, supporting, regulating, and cultural (MEA, 2005).

2.10.1 Types of ecosystem services

As mentioned before, ecosystem services are unique for every ecosystem, region, and people (Kumar & Kumar, 2008). A study was done regarding the bundling of ecosystem services in Denmark to observe the trade-offs and synergies in a cultural landscape (Turner *et al.* 2014). Ament *et al.* (2017) and Clements and Cumming (2017) also found that different national parks had different bundles of ecosystem services (mainly focussing on cultural ecosystem services). Examples will be given for each of these services.

Provisioning services

These services mainly refer to the goods people obtain from ecosystems (van Jaarsveld *et al.*, 2005). Examples of these goods include food, water, medicinal

plants, and firewood (Kumar & Kumar, 2008; Egoh *et al.*, 2009). Other examples include livestock and crop production (Turner *et al.*, 2014).

Supporting services

These services are prerequisites for the supply of other services (Van Jaarsveld *et al.*, 2005). Examples include nutrient cycling, which keeps the conditions necessary for life on Earth (MEA, 2005; Kumar & Kumar, 2008); soil retention and formation (Egoh *et al.*, 2009); nursery habitat for breeding, feeding, or resting (De Groot *et al.*, 2010); gene pool protection (De Groot *et al.*, 2010).

Regulating services

These services are those responsible for keeping the ecosystem functioning bounded (Van Jaarsveld *et al.*, 2005). Examples include flood and disease control (Kumar & Kumar, 2008); water and wetland purification and regulation (Egoh *et al.*, 2009; De Groot *et al.*, 2010; Turner *et al.*, 2014); air quality regulation (De Groot *et al.*, 2010); climate regulation (De Groot *et al.*, 2010); waste treatment (De Groot *et al.*, 2010); erosion protection (De Groot *et al.*, 2010); forest carbon storage (Turner *et al.*, 2014).

Cultural services

These services or benefits enrich human existence (Van Jaarsveld *et al.*, 2005). Examples include spiritual, recreational, aesthetic appreciation, inspiration for art, music, and literature, existence value, sense of place, identity, physical and mental health, and cultural heritage benefits (MEA, 2005; Kumar & Kumar, 2008; De Groot *et al.*, 2010). Cultural ecosystem services are the main focus of this research and will be discussed in depth.

2.11 CULTURAL ECOSYSTEM SERVICES (CES)

The 2030 Agenda for Sustainable Development, which emphasises the concern for people's well-being and quality of life, has gained more attention (Masterson *et al.*, 2017; Ramkissoon *et al.*, 2018). This requires looking beyond environmental problems (Ramkissoon *et al.*, 2018) and focusing on integrated social-ecological systems (Masterson *et al.*, 2017). Thus, the emphasis must be on the issues that

matter to people and what inspires them to get involved in finding solutions to sustainability problems. This is where the importance of cultural ecosystem services and sustainable tourism development are realised. According to Ramkissoon *et al.* (2018), the triple bottom line, which states that there should be a balance between the environment, people, and the economy, is the foundation for sustainable tourism development.

Cultural ecosystem services mainly refer to the intangible or “non-material benefits that people obtain from ecosystems through spiritual enrichment, cognitive development, reflection, recreation, and aesthetic experiences” (MEA, 2005:40). Another way to think of ecosystems is as service providers of benefits for communities and human well-being (Flint *et al.*, 2013). In much of the literature, the terms ‘services’, ‘benefits’ and ‘values’ are used interchangeably.

However, some authors have found it difficult to quantify or track CES over time (Van Jaarsveld *et al.*, 2005). Gee and Burkhard (2010:349) explain that it is “resistant to monetary valuation since many aspects of ecosystems – such as their aesthetic or spiritual qualities – are valued because of the non-market benefits they provide”. There is also a lack of clear conceptualisation of the CES categories (Gee & Burkhard, 2010), and the concern of double-counting is raised (Gee & Burkhard, 2010; Chan, Satterfield *et al.*, 2012). Since many of nature’s services offer both material and non-material benefits simultaneously, this constitutes double counting (Satz *et al.*, 2013). These are often hard to separate; for example, “hunting provides economic and physical sustenance (two material benefits), but it is also a distinct way of life for some people and may also be connected to religious rituals” (Satz *et al.*, 2013:677). As a result of these difficulties, compared to more physical services, the integration of these intangible services into decision-making is still far behind (Chan, Guerry *et al.*, 2012; Chan, Satterfield *et al.*, 2012; Satz *et al.*, 2013; Hirons *et al.*, 2016).

Furthermore, different cultural ecosystem services might be experienced in different places. Cultural values integrate “both place-based values (such as attachment to place and place identity) as well as intrinsic values (such as aesthetic, scientific, or biodiversity-based values), which exist independently of place” (Marshall *et al.*,

2019:581). Chan, Guerry *et al.* (2012) also found that people often care more about the intangible dimensions (changes of a mainly psychological nature) than the material benefits (money and desirable physical changes). Various methods are applied to CES research; some conduct qualitative, quantitative, or mixed methods. Others used mapping (Plieninger *et al.*, 2013; Van Berkel & Verburg, 2014; Canedoli *et al.*, 2017). In South Africa, Roux *et al.* (2020) studied cultural ecosystem services as intricate results of interactions between nature and humans in protected areas.

2.11.1 Types of Cultural Ecosystem Services

Several authors have used different CES in their research. Table 2.1 summarises the possible services included in the literature. These are also the main services considered and measured in this research.

Sense of place, in particular, has gained more attention as Ried *et al.* (2020) ratified sense of place as the latest benefit that wilderness-protected areas provide people. Overall, a sense of place and place attachment provide the chance to evaluate the relational and subjective aspects of the benefits people receive from nature (Verbrugge *et al.*, 2019). It may further assist people with decision-making processes (Hausmann *et al.*, 2016; Masterson *et al.*, 2017).

Sense of place has value as a cultural ecosystem service in multiple ways (Masterson *et al.*, 2017). Ecosystem assessments use sense of place to assess the values and preferences of stakeholders (Plieninger *et al.*, 2013). For instance, determining the most important regions for environmental management and conservation (Raymond *et al.*, 2009) and providing guidance for land-use planning (Brown & Raymond, 2007). Additionally, it has been specifically included in a number of ecosystem assessments as a stand-alone ecosystem service (Raymond *et al.*, 2009; Plieninger *et al.*, 2013; Hausmann *et al.*, 2016; Canedoli *et al.*, 2017; Smith & Ram, 2017; Roux *et al.*, 2020). Sense of place is also an indicator of subjective well-being (Russel *et al.*, 2013; Masterson *et al.*, 2017).

Table 2.1 Cultural ecosystem services included in literature

Cultural Ecosystem Services	Sources	Specific descriptions
Spiritual value	MEA (2005:40)	<i>“Many religions ascribe spiritual and religious values to ecosystems or their components”.</i>
	Canedoli <i>et al.</i> (2017:6)	<i>“Rituals and ceremonies”</i> are included under spiritual value.
	De Groot <i>et al.</i> (2010:263)	Looked at the <i>“number of people who attach spiritual or religious significance to ecosystems”</i> , referring to spiritual and religious inspiration.
	Plieninger <i>et al.</i> (2013); Smith and Ram (2017)	Both mentioned places with exceptional personal meaning, spiritual, religious, or other significance.
	Hirons <i>et al.</i> (2016:5)	Referred to spiritual and/or emblematic value, including <i>“holy or spiritual places important to spiritual or ritual identity”</i> and <i>“emblematic plants and animals or national symbols”</i> .
	Ament <i>et al.</i> (2017); Clements and Cumming (2017)	Measured spirituality with statements such as ‘feel closer to God’, ‘refreshing of one’s spirit’, ‘being able to relax’ and ‘escaping modern conveniences’.
Cultural heritage	MEA (2005:40)	<i>“The diversity of ecosystems is one factor influencing the diversity of cultures. Many attach great importance to preserving historically significant landscapes, also known as “cultural landscapes” or culturally significant species”.</i>
	Plieninger <i>et al.</i> (2013); Smith and Ram (2017)	Sites applicable to local history and culture.

Cultural Ecosystem Services	Sources	Specific descriptions
	Hirons <i>et al.</i> (2016:5)	<i>“Historic records of a place; cultural heritage preserved in water bodies or soils, e.g. pottery remains, relics”.</i>
	Ament <i>et al.</i> (2017); Clements and Cumming (2017)	Experiences reminding people of their childhood and understanding their culture and/or history.
	Canedoli <i>et al.</i> (2017:6)	Values are linked with <i>“physical objects, places, practices, traditions, or languages passed on from generation to generation”</i> which are linked to certain places.
	Roux <i>et al.</i> (2020:3)	<i>“Appreciation of local history or culture”.</i>
Aesthetic value (scenery, landscape, sounds smells) or	MEA (2005:40)	<i>“Many people find beauty or aesthetic value in various aspects of ecosystems, as reflected in the support for parks, scenic drives, etc.”.</i>
	De Groot <i>et al.</i> (2010:263)	This refers to the <i>“appreciation of natural scenery and the visual quality of the landscape, based on e.g. structural diversity, ‘greenness’, and tranquillity”.</i>
	Hirons <i>et al.</i> (2016:5)	The <i>“artistic representations of nature”.</i>
	Ament <i>et al.</i> (2017); Clements and Cumming (2017); Smith and Ram (2017)	Aesthetics includes looking at different features, flora and fauna and enjoying the views.
	Canedoli <i>et al.</i> (2017:6)	Aesthetics may be <i>“derived from scenery, sights, sounds, smells and touch”.</i>

Cultural Ecosystem Services	Sources	Specific descriptions
Inspirational value	MEA (2005:40)	<i>“Ecosystems provide a rich source of inspiration for art, folklore, national symbols, architecture, and advertising”.</i>
	De Groot <i>et al.</i> (2010:263)	Referred to <i>“books, paintings, etc., using ecosystems as inspiration”.</i>
	Plieninger <i>et al.</i> (2013); Smith and Ram (2017)	These are also known as places that inspire fresh ideas, thoughts, or artistic expressions.
	Canedoli <i>et al.</i> (2017:6)	<i>“Inspiration is characterised as enrichment, experience, solace, enlightenment, fulfilment, renewal and reflection”.</i>
Identity	Canedoli <i>et al.</i> (2017:6)	<i>“A sense of identity is achieved through interactions with nature that give a sense of who and what someone is, within a family, a community or the universe”.</i>
	Csurgó and Smith (2021:80)	This study referred to terms such as <i>“local identity, national identity and local image”.</i>
Social relations	MEA (2005:40)	<i>“Ecosystems will influence the types of social relations that are established in particular cultures”.</i>
	Gee and Burkhard (2010:350)	For example, <i>“fishing societies, differ in many respects in their social relations from agricultural societies”</i>
	Plieninger <i>et al.</i> (2013:120); Canedoli <i>et al.</i> (2017:7)	It may also simply refer to a <i>“meeting point for friends or family”</i> or <i>“provide opportunities for group activities which create social cohesion and group sharing”</i> , such as a fishing group.
	Ament <i>et al.</i> (2017); Clements and Cumming (2017)	Social relations refer to spending time with family and friends and talking to other visitors.
	Roux <i>et al.</i> (2020:3)	<i>“Socialising with friends and meeting people”.</i>

Cultural Ecosystem Services	Sources	Specific descriptions
Environmental education value	MEA (2005:40)	<i>“Ecosystems and their components and processes provide the basis for both formal and informal education in many societies and include systems of knowledge created by various cultures”.</i>
	De Groot <i>et al.</i> (2010:263)	Considered the <i>“presence of features with special educational and scientific value/interest”.</i>
	Plieninger <i>et al.</i> (2013); Hirons <i>et al.</i> (2016); Smith and Ram (2017)	Refer to places that expand knowledge about fauna and flora.
	Ament <i>et al.</i> (2017); Clements and Cumming (2017)	Educational activities include learning more about nature and doing guided tours.
	Canedoli <i>et al.</i> (2017:7)	<i>“Opportunities for outdoor learning where observation, experience and experimentation lead to increased ecological knowledge and enhanced connectedness to nature”.</i>
	Roux <i>et al.</i> (2020:3)	The <i>“gathering of scientific knowledge from the study of ecosystems and instruction in ecological processes; raising of awareness about biodiversity and ecosystem services in visitor centres or educational activities”.</i>
Emotional well-being	Canedoli <i>et al.</i> (2017:7)	<i>“Viewing or being within a natural environment contributes to physical, emotional and mental health and well-being”.</i>
	Smith and Ram (2017:115)	The <i>“relationship between tourism and well-being is an increasingly important research theme, especially in the context of natural environments”.</i>
Physical health	Canedoli <i>et al.</i> (2017:7)	This refers to <i>“places where people can undertake physical activity and interact with nature which enable restoration and physical health”</i>

Cultural Ecosystem Services	Sources	Specific descriptions
Recreational opportunities	Smith and Ram (2017)	This refers also to feeling relaxed and calm.
	MEA (2005:40)	<i>“People often choose where to spend their leisure time based in part on the characteristics of the natural landscapes in a particular area”</i>
	De Groot <i>et al.</i> (2010:263)	<i>“Opportunities for tourism and recreational activities rely on the landscape and wildlife features”</i> of an area.
	Plieninger <i>et al.</i> (2013); Hirons <i>et al.</i> (2016); Ament <i>et al.</i> (2017); Canedoli <i>et al.</i> (2017); Clements and Cumming (2017); Roux <i>et al.</i> (2020)	Sites may be used for recreational activities such as walking, mountain hiking, horse riding, swimming, gathering wild foods, angling, game viewing, taking photographs, sunbathing and hunting.
Existence value	Kumar and Kumar (2008); Raymond <i>et al.</i> (2009); Canedoli <i>et al.</i> (2017)	This is the value attached to the knowledge that species, natural environments and other ecosystems exist, regardless of the use or intended use.
	Hirons <i>et al.</i> (2016:5)	<i>Existence value</i> is interpreted as the <i>“enjoyment and philosophical perspective provided by the knowledge of, and reflections on, the existence of wild species, wilderness, or land-/seascapes”</i> .
	Raymond <i>et al.</i> (2009); Hirons <i>et al.</i> (2016)	<i>Bequest values</i> are also included, which relate to the desire to protect ecosystems, flora, fauna, and land/seascapes for the enjoyment and fulfilment that comes from keeping a natural environment intact for future generations.
Sense of place	MEA (2005:40)	<i>“Many people value the ‘sense of place’ that is associated with recognised features of their environment, including aspects of the ecosystem”</i> .
	Plieninger <i>et al.</i> (2013:120)	<i>“Sites that foster a sense of authentic human attachment, in the German language commonly epitomized as Heimat (‘home’)”</i> .

Cultural Ecosystem Services	Sources	Specific descriptions
	Canedoli <i>et al.</i> (2017:6)	Refer to the “ <i>benefits derived from ‘sense of place’, a feeling ‘at home’, associated with environmental settings or features of the natural environment that provides a sense of belonging, relations, or connectedness</i> ”.
	Raymond <i>et al.</i> (2009); Smith and Ram (2017)	It has been evaluated in various cultural ecosystem service studies and confirmed as an important service.
	Roux <i>et al.</i> (2020:3)	SOP is defined as “spiritual or sensory experiences fostering a sense of authentic or emotional attachment and belonging”.

Source: Compiled by author.

2.12 SOUTH AFRICAN NATIONAL PARKS MANAGEMENT

As mentioned in section 1.7, national parks managed by SANParks are the overall research area. These concepts and the research findings contribute to the desired states of the national parks, which must be included in their management plans (Figure 2.4).

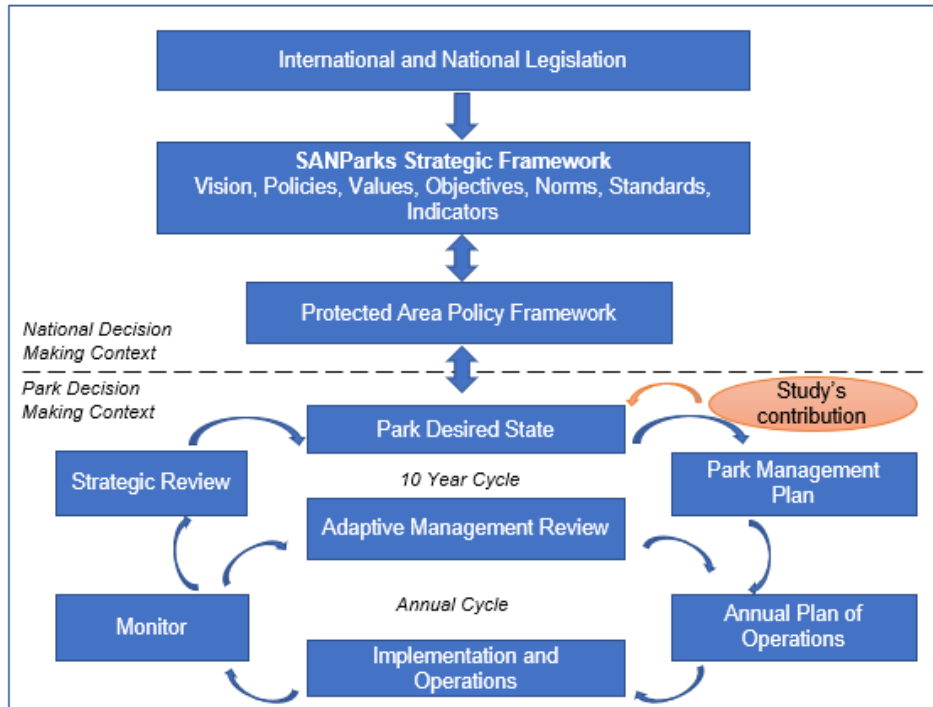


Figure 2.4 SANParks protected area planning framework.

Source: The author adapted this from SANParks (2016a; 2016b; 2018b; 2019b; 2020b).

SANParks and all other protected area management organisations are bound by the South African Constitution, international treaties, national laws, and government priorities (SANParks, 2014; 2016a; 2016b; 2018b; 2019b; 2020b). The National Environmental Management: Protected Areas Act (NEM:PAA) in Section 41 necessitates that management plans be situated within a coordinated policy framework (CPF) (South Africa, 2004). According to Cowan and Mpongoma (2010), the CPF guides the development of individual national parks regarding their institutional, economic, ecological, and social environments, as required by the Department of Forestry, Fisheries and the Environment (DFFE). Additionally, Section 17 of NEM:PAA states the purposes of the declaration of areas as protected areas are (South Africa, 2004):

- (a) to protect ecologically viable areas representative of South Africa's biological diversity and its natural landscapes and seascapes in a system of protected areas
- (b) to preserve the ecological integrity of those areas;
- (c) to conserve biodiversity in those areas;
- (d) to protect areas representative of all ecosystems, habitats and species naturally occurring in South Africa;
- (e) to protect South Africa's threatened or rare species;
- (f) to protect an area which is vulnerable or ecologically sensitive;
- (g) to assist in ensuring the sustained supply of environmental goods and services;
- (h) to provide for the sustainable use of natural and biological resources;
- (i) to create or augment destinations for nature-based tourism;
- (j) to manage the interrelationship between natural environmental biodiversity, human settlement and economic development;
- (k) generally, to contribute to human, social, cultural, spiritual, and economic development;
- (l) to rehabilitate and restore degraded ecosystems and promote the recovery of endangered and vulnerable species.

Managing protected areas is considered difficult as managers must focus on socio-ecological and -economic systems (Novellie *et al.*, 2016). Coupled with the rate at which environmental changes occur and unpredictability, adaptive management seems like the best solution (Westgate *et al.*, 2013), especially in complex natural areas managed by SANParks. Chaffin *et al.* (2014) define adaptive management as an array of exchanges between stakeholders, networks, organisations, and institutions to determine what social-ecological systems should aim to achieve. These stakeholders often have conflicting prospects or views about a particular environment. Due to these multi-stakeholder views and the balance that needs to be maintained between the social, ecological and economic systems, SANParks adopted the Strategic Adaptive Management (SAM) approach. This strategy aims to be participatory (encourage involvement and co-learning with stakeholders), adaptive (allow learning while doing), and strategic (enable action with foresight and purpose) (SANParks, 2016a; 2016b; 2018b; 2019b; 2020b). The SAM concept and public participation were first practised by KNP and then obligatory after NEM:PAA

was introduced in 2003 (Novellie *et al.*, 2016). SAM furthermore assist in determining the desired future state of the individual national parks after the review by all stakeholders. The desired state of the parks is determined by their distinctive and special features (SANParks, 2016a; 2016b; 2018b; 2019b; 2020b). The important stakeholders in this research are tourists, and the findings are incorporated into the strategic adaptive planning and management frameworks.

2.13 SUMMARY

From the above literature review, it is clear that a sense of place and place attachment are not formed in isolation. Many interrelated dimensions play a part in its formation. A nature experience is a complex process and is different for each person. People have different motivations to visit a natural area, such as a national park. Some have an innate need to affiliate with nature, and some are motivated by intrinsic or extrinsic goals or needs. Others are amotivational, for example, a group of students that need to visit a park for part of their coursework. For some people, a nature experience is only a physical experience (disconnected individuals) and a deeply subjective experience for others. A subjective experience refers to the total immersion of an individual during a nature experience.

Furthermore, the benefits of nature and emotions, how people become aware of their senses, and the values of nature experienced through awareness (possibly mindfulness) were explained. From the literature, it is presumed that awareness and experience of these subjective dimensions lead to the forming of nature connectedness. As a result, being connected to nature and feeling related to (included) in nature contribute to visitors' sense of place and place attachment, eventually leading to more pro-environmental behaviour. Pro-environmental behaviour is regarded as one of the consequences of place attachment, alongside satisfaction, loyalty, and repeat visitation. People's sense of place and place attachment are also subject to threats affecting biodiversity, as its development depends on the environment.

Lastly, ecosystem services and a sense of place (place attachment) are situated in this context. Sense of place is included under the cultural ecosystem services.

Valuing these services has been difficult, especially in terms of monetary value. Although research regarding sense of place as a cultural ecosystem service has been increasing, it still seems ambiguous.

The management of protected areas needs to understand these values and visitors' level of place attachment and help adapt their way of managing and marketing these areas. People have diverse experiences in natural environments, and various subjective reasons may exist that motivate individuals to visit different protected areas. Apart from the accessibility, facilities and services within the parks, visitors are also motivated by intrinsic needs and longing for interaction with nature.

Chapter Three provides a complete description of the methodology used in this research.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

Research refers to a “systematic process of collecting, analysing and interpreting information to increase our understanding of a phenomenon” (Leedy & Ormrod, 2015:20). The phenomenon in this research is place attachment and interrelated theories as discussed in the literature. This chapter aims to describe and justify the research methods chosen.

The research design chosen for this research was a mixed method, multiple case study approach and these concepts are explained in detail. Furthermore, this chapter defines the population, sampling, research instruments and data collection methods used. A description of how the data was analysed is included. In addition, the chapter addresses reliability and validity, as well as ethical considerations.

3.2 RESEARCH DESIGN

This section will discuss the reasons for choosing the paradigm, mixed method and multiple case study research design.

3.2.1 Paradigm

A paradigm refers to the lens from which a particular phenomenon is investigated, including “a loose collection of logically related assumptions, concepts or propositions that orient thinking” (Mackenzie & Knipe, 2006:3). Both constructivism and the interpretive paradigm focus on understanding the world and on the multiple realities whereby the researcher is regarded as an ‘insider’ (Jennings, 2001). Bergin (2018:18) asserts that “within the interpretivist tradition, there is no singular, objective reality, as every individual interprets the world in his or her own way”. Similarly, Hennink *et al.* (2011) explain the interpretive paradigm as seeking to understand people’s lived experiences from their own point of view. Therefore, interpretivist research occurs as actual fieldwork “in natural surroundings so that the researcher can capture the normal flow of events without a controlled experimental

setting” (Bergin, 2018:18). Moulay *et al.* (2018:33) also proposed that the “process of place attachment should be explored within the non-positivist paradigm, in order to understand the in-depth interrelations between its elements and their influence on public place utilisation”. In this research, public place refers to national parks.

The positivist paradigm contrasts the interpretivist paradigm and postulates that only one objective reality exists that a researcher can study through direct observation and experiments (Bergin, 2018). The positivist paradigm is also known as a ‘quantitative paradigm’ where the phenomenon being studied is unrelated to the researcher (Maarouf, 2019). As such, the researcher is regarded as an ‘outsider’ (Jennings, 2001) and measures causal relationships (Maarouf, 2019).

In practice, this divide between these two paradigms is not always clear-cut (Bergin, 2018), and researchers draw upon elements of both when designing their research and analysis (Maree, 2016). For this reason, pragmatism was chosen as the rationale for the mixed research approach. Pragmatism is all about the notion of ‘what works best’ for understanding a research problem (Maree, 2016; Maarouf, 2019). Creswell (2014a) explained pragmatism as a philosophy not confined by assumptions about the nature of knowledge. It furthermore permits the blending of paradigms, theories, approaches and methods of data collection and analysis (Creswell, 2014a; Maarouf, 2019). Van Riper *et al.* (2016) argue that human-place research should move beyond ontological and epistemological differences and consider using diverse methodologies simultaneously. Pragmatic researchers focus on designing and conducting research in the best way that aims to answer the research objectives irrespective of its underlying philosophy (Creswell, 2014a; Maree, 2016; Maarouf, 2019). Pragmatism has received criticism and is accused of being “anti-philosophical” or researchers adopting an “anything goes attitude” (Maarouf, 2019:10).

However, this research focuses on the benefits of both paradigms that fit the particular research objectives. Adopting the ‘what works’ stance of pragmatism, the qualitative objectives were examined from the interpretivist, subjective stance, whereas the quantitative objectives considered the positivist paradigm's assumptions. It must also be mentioned that social science knowledge differs from

natural sciences knowledge (Maarouf, 2019), meaning that the positivist paradigm in social sciences is not always so objective. As Ma (2012) explains, variables in social sciences, such as feelings, beliefs, attitudes, and intentions, are measured differently than those used in natural sciences. Hence, surveys also address unobservable mental variables, similar to qualitative methods such as interviews (Maarouf, 2019). Therefore, quantitative and qualitative data were collected and analysed using a mixed-method approach.

3.2.2 Mixed methods research design

A mixed-method approach was deemed best for this research, in line with the chosen paradigm. According to Maree (2016:313), a mixed-method approach is a “procedure for collecting, analysing and ‘mixing’ quantitative and qualitative data at some stage of the research process”. It is also known as a multi-method mode of inquiry (Maree, 2016). Creswell (2014b:2) explains it as an “approach to research in the social, behavioural, and health sciences in which the investigator gathers both quantitative and qualitative data, integrates the two, and then draws interpretations based on the combined strengths of both sets of data to understand research problems”. Furthermore, Snape and Spencer (2003:14) stated that “some qualitative approaches have sought to emulate natural science models, and not all quantitative studies are based on hypothesis testing but can produce purely descriptive and inductive statistics”. Hence, a deeper comprehension and insight into the social world can be developed by integrating these two methodologies and types of evidence than can be achieved by using either one on its own (Snape & Spencer, 2003). Masterson *et al.* (2017) strengthen this stance by explaining that integrating qualitative research into place meanings with place attachment measures can aid in assessing conflicting values and preferences. This approach allowed the researcher to deeply explore the complex phenomenon of place attachment within national parks by drawing on the strengths of both designs. Many of the questions that needed to be addressed required a type of measurement (for instance, the place attachment scale) and a greater understanding of the nature or origins of an issue (for example, when and how do visitors become attached within national parks?).

For this research, a modified mixed-method approach was used. An explanatory sequential mixed methods design was used for the first part of the research, which consisted of an initial online questionnaire followed by a qualitative phase. The main objective of the first phase was to determine the favourite (preferred) national parks. According to the results, the two most preferred and four less preferred national parks were selected for inclusion.

Typically, explanatory sequential mixed methods begin with collecting quantitative data, followed by detailed qualitative data to explain the quantitative results (Creswell, *et al.*, 2011). In this case, a third phase was introduced after the qualitative phase to collect additional information with a mixed questionnaire. In the context of this research, a mixed questionnaire is an online questionnaire that consists of both closed- and open-ended questions (Ratcliffe & Korpela, 2017; Kirkpatrick *et al.*, 2018). The simple methodological outline of the modified explanatory sequential mixed-method or multiple-method is shown in Figure 3.1.

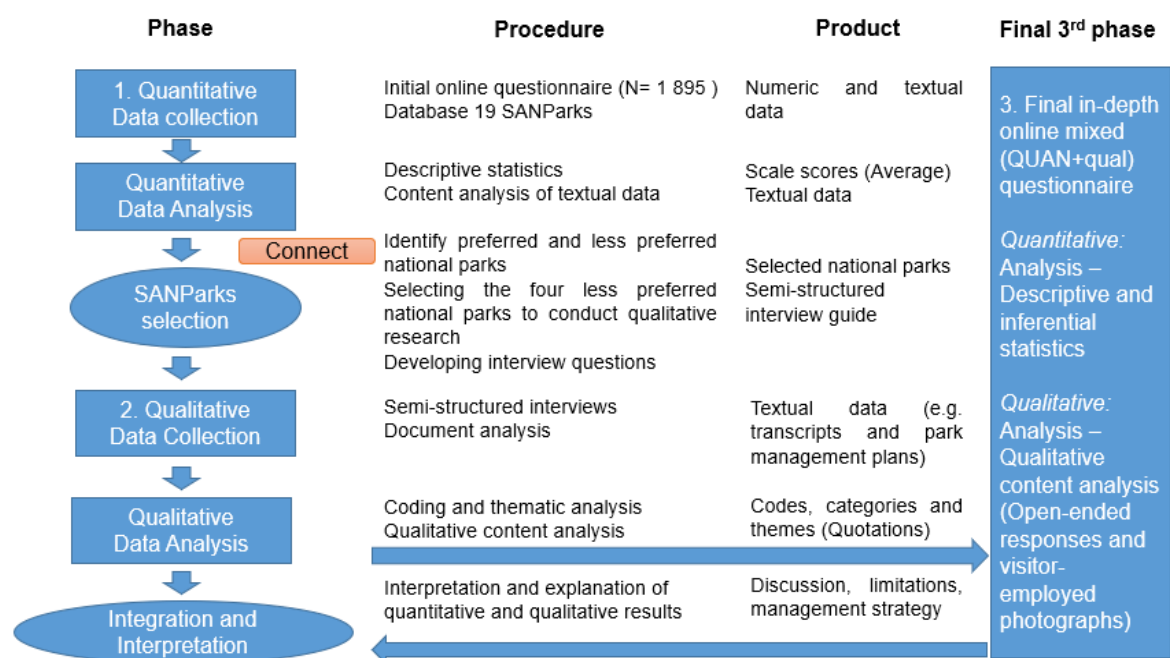


Figure 3.1 Modified explanatory sequential (multiple-method) mixed-method procedural diagram.

This process can be summarised as follows:

Quantitative

Part 1 (Phase 1): An initial self-completed online questionnaire (Annexure A) including closed- and open-ended questions. The online questionnaire was developed using an online survey software and tool called 'QuestionPro' (QuestionPro[®], 2018). Responses were collected from May 2018 to August 2018 via an online link (Annexure B) emailed to potential respondents by a SANParks representative. Respondents were asked if they would participate in further research activities by sharing an email address. These respondents were used in the piloting of the final in-depth questionnaire.

From the results obtained from the online questionnaire, the two preferred and four less preferred national parks were identified for further investigation. The idea was to explore and compare the national parks with high popularity (preferred) and those with lower popularity (less preferred).

Qualitative

Part 1 (Phase 2): The qualitative phase was conducted as a follow-up to the results from the online questionnaire. The following methods explored the subjective experiences that led to the visitors' place attachment. These included semi-structured interviews (Annexure C) and visitor-employed photography (VEP) conducted at the respective national parks. Document analyses were also done for each of the individual parks.

Part 2 (Phase 3): This phase was included to investigate further place attachment, cultural ecosystem services, nature connectedness and threats to the respective national parks. This final online questionnaire (Annexure D) comprised closed- and open-ended questions addressing each objective. The questionnaire was developed using the online survey tool 'SurveyMonkey' (SurveyMonkey[®], 2019). Responses were collected from January to June 2021.

Finally, the results were interpreted and integrated after all the data were collected and analysed. Results are displayed in tables, figures, and quantitative and qualitative data comparisons.

3.2.3 Case study design

Case study research refers to “an empirical inquiry about a phenomenon (e.g. a case), set within its real-world context” (Yin, 2009:18). Maree (2016:81) explains that “a ‘case’ is normally a bounded entity (a person, organisation, behavioural condition, event, or other social phenomena)”. The case in this research can be regarded as an organisation, namely SANParks. The study aims to determine and compare the visitors’ level and meaning of place attachment as a cultural ecosystem service in selected South African national parks. Due to time constraints, comparing all 19 national parks was impossible. Therefore, multiple cases (six national parks) were selected after Phase 1. According to Baxter and Jack (2008), multiple-case studies explore differences and similarities within each setting and across settings. Furthermore, the six national parks were grouped into two overall case studies: preferred (two parks) and less preferred (four parks) (Figure 3.2).



Figure 3.2 Multiple case study design.

3.3 METHODOLOGY

The methodology includes the sampling procedures, research instruments, and methods and is discussed as follows.

3.3.1 Population and sampling procedures

The population for this research was South African and foreign visitors (older than 18 years) to the 19 national parks managed by SANParks at the time of the study. The term visitors refers to both day and overnight visitors, as both were deemed necessary to be included in the study. The questionnaire had an option to differentiate between day visitors and overnight visitors. The sampling methods and procedures used in the quantitative Part 1 (Phase 1) and Part 2 (Phase 3), as illustrated in Figure 3.1, are discussed. The qualitative sampling used for Part 1 (Phase 2) is then discussed.

Quantitative

Part 1 (Phase 1): This phase focused on respondents to all 19 national parks managed by SANParks. The sampling method used was probability sampling. The sample for this phase was drawn from a SANParks database of visitors from April 2017 to March 2018. These were also only visitors who indicated an interest in participating in marketing and research activities.

During this phase, probability sampling was used. Maree (2016) describes this as a random method of selecting respondents where each person has an equal chance of being chosen (Maree, 2016). In particular, a simple random sampling method was used to select respondents' email addresses from the database per park. It must be mentioned that an exception was made for one of the parks – a random sample of 7 118 was drawn from the first 10 000 on the Kruger National Park database. This was done as the number of visitors to this park far outweighed the number of the other national parks.

The total sample consisted of 17 602 respondents. Table 3.1 shows the sample numbers per park. These numbers are not regarded as mutually exclusive as respondents may have visited more than one park during a year.

Table 3.1 Sample numbers per park from 1 April 2017 to 30 March 2018

South African National Parks	Sample per park
Addo Elephant National Park	953
Agulhas National Park	136
Ai-Ais/Richtersveld Transfrontier Park	112
Augrabies Falls National Park	372
Bontebok National Park	163
Camdeboo National Park	75
Garden Route National Park	2 331
Golden Gate National Park	816
Karoo National Park	1 493
Kgalagadi Transfrontier Park	1 701
Kruger National Park	7 118
Mapungubwe National Park	393
Marakele National Park	428
Mokala National Park	494
Mountain Zebra National Park	554
Namaqua National Park	140
Table Mountain National Park	133
Tankwa Karoo National Park	119
West Coast National Park	71
Total	17 602

The sampling and administering of the online questionnaire link (Annexure B) were done with the assistance of a representative from the SANParks Tourism Research Visitor Services Unit. This was done to protect the identities of the respondents. Due to the nature of the research and the number of parks to be included in the study's first phase, an internet questionnaire (QuestionPro[®], 2018) was the preferred method. From the sample of 17 602 questionnaires, 1 895 were completed, resulting in a response rate of approximately 11%.

The parks chosen to be included in the research are highlighted in Figure 3.3. The reasons for selecting these parks are discussed in section 4.3. The preferred national parks were the Kruger National Park and the Kgalagadi Transfrontier Park. The less preferred national parks were:

- Golden Gate Highlands National Park
- Marakele National Park
- Mapungubwe National Park
- Mountain Zebra National Park

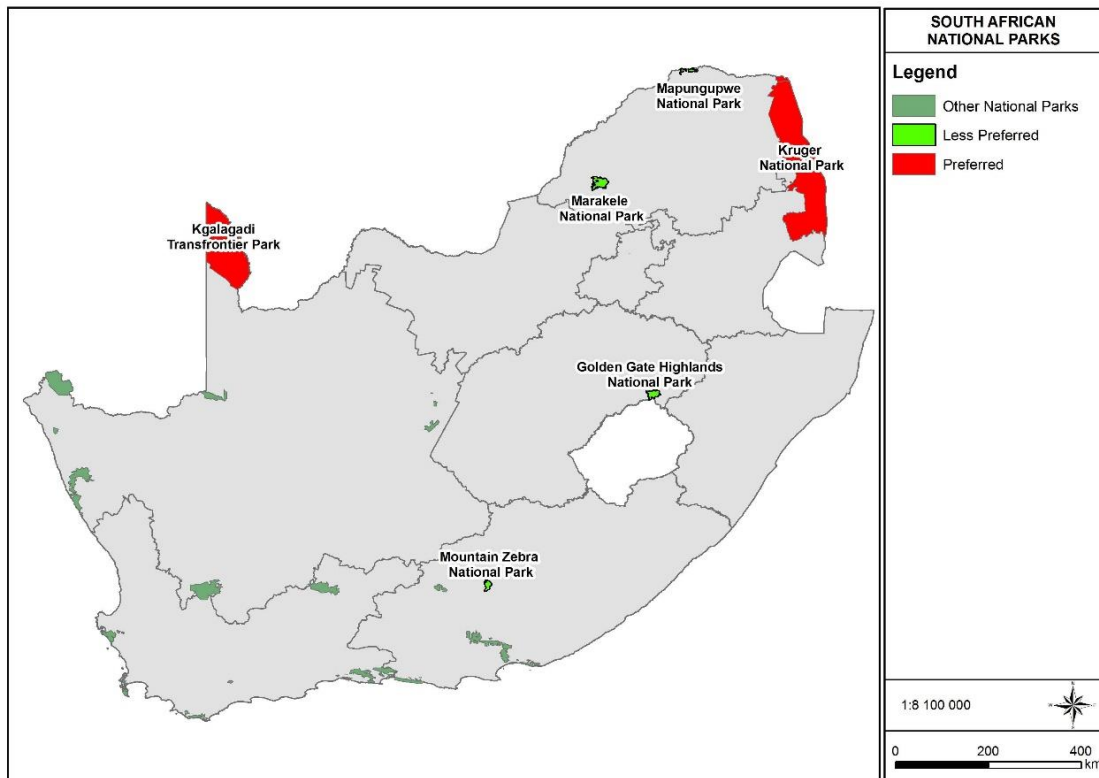


Figure 3.3 Preferred and less preferred national parks selected as the research setting.

(Source: Author's compilation.)

Part 2 (Phase 3): SANParks have a visitor email database indicating their interest in research and marketing activities. SANParks representatives also shared the online link for the questionnaire on the individual national park's Facebook pages (Annexure E).

A simple random sampling method was used to select the respondents to include in the research. The database for the preferred parks was much larger than the less preferred parks.

- A random sample of 3 000 was drawn from a sub-sample of the Kruger National Park and Kgalagadi Transfrontier Park databases.

- A random sample of 800 was drawn from the Marakele National Park and the Mountain Zebra National Park databases.
- A random sample of 600 was drawn from Golden Gate Highlands National Park and Mapungubwe National Park databases.

Qualitative

Part 1 (Phase 2) consisted of the qualitative part of the research. The primary sampling method used in this phase was non-probability sampling, meaning respondents were not randomly chosen and the results might not be generalised to the entire population (Maree, 2016). The following non-probability sampling approaches were used in this phase:

- Convenience sampling: included tourists and day visitors according to their convenience and accessibility to the researcher during the data collection. Visitors were approached at neutral or common areas such as the picnic areas, lookout points, camping sites and outside the main offices. An invitation for an interview was extended, and respondents could choose a place most convenient to them.
- Purposive sampling: included the selection of participants by the researcher based on their knowledge that met the research criteria, i.e., visitors at the respective parks who participated in activities offered by the park. The documents chosen for analysis were also purposive. Only documents based on the respective national parks, for example, the management plans, were included in the analysis.

The primary guideline in qualitative studies is to collect data until no new information is gained and, thus, saturation is reached (Guest *et al.*, 2006). According to Creswell (2007:160), this means that the “researcher attempts to look for examples that represent the category and to continue looking (interview) until the new information obtained does not provide further insight into the phenomenon”. Saturation was only reached after analysing the semi-structured interview transcripts and the open-ended questions from the phase three online questionnaire. Respondents provided detailed descriptions and narratives to the open-ended questions.

3.3.2 Research instruments and methods

Instruments used include online questionnaires, semi-structured interviews, visitor-employed photography (VEP) and document analysis. The instruments used were grouped according to quantitative and qualitative approaches. Furthermore, a “distinguishment can be made between primary and secondary sources of data” (Maree, 2016:88). All research instruments and methods in this research are regarded as primary sources, except for the document analyses, which are considered secondary sources. The methods used for each instrument are discussed as follows:

Quantitative

3.3.2.1 Self-completed online questionnaires

Self-completed online questionnaires (Annexures A and D) were used to collect quantitative data in the research. Questionnaires are convenient as the visitors may complete them at their own pace (Jennings, 2001; Maree, 2016). Benefits of the web-based method include “quick responses, flexibility, lower costs and ease of data handling” (Reynolds *et al.*, 2007:110). Different types of questions were used in the questionnaires, namely closed- and open-ended questions and Likert scales. Both online questionnaires included basic socio-demographic and visitor behaviour questions.

Part 1 (Phase 1)

In the first online questionnaire (Annexure A), visitors were asked to choose their preferred national park from the list of 19 parks (Objective 1). After that, the respondent was routed to the chosen national park, and the following questions were based on the selected park. A separate question assessed which other national parks were also visited. The primary purpose of this questionnaire was to identify the preferred and less preferred national parks. Furthermore, standard scale data was collected, which addressed objectives one, two and four.

Part 2 (Phase 3)

Based on the good response rate of the first online questionnaire, it was decided to develop the final questionnaire as an online questionnaire (SurveyMonkey®, 2019). This questionnaire (Annexure D) includes standard scale survey data, such as to what extent the different cultural ecosystem values are valued (objective three), the level of place attachment (objective four), and the level of overall connectedness to nature (objective five). Connectedness to nature consists of two scales, namely the 'Relatedness to nature' scale (Nisbet & Zelenski, 2013) and the 'Inclusion of Nature in Self scale (INS)' (Schultz, 2001; 2002). Respondents identified the actual (how threatening environmental problems are) and potential threats during a nature experience at the respective national parks (objective six). The aim is to determine the relationships between the variables using structural equation models (objective seven).

The online questionnaire's Likert scale measures were adapted from various scales to include constructs and dimensions, as discussed in the literature review (chapter 2). Table 3.2 provides an overview of these Likert scale measures.

Open-ended questions addressed the objectives and included an option to upload and interpret photographs of the respective parks. This is known as visitor-employed photography (section 3.3.2.3), and it was used as an additional source of information.

Table 3.2 Constructs and dimensions included in the research

Scale (Constructs)	Dimensions/items	Adapted from
Cultural Ecosystem Services	Aesthetic value, Cultural heritage, Emotional well-being, Environmental education value, Existence value, Identity, Inspirational value, Physical health, Recreational opportunities, Sense of place, Social relations, Spiritual value	MEA (2005); Raymond <i>et al.</i> (2009); De Groot <i>et al.</i> (2010); Plieninger <i>et al.</i> (2013); Ament <i>et al.</i> (2017); Canedoli <i>et al.</i> (2017); Clements and Cumming (2017); Smith and Ram (2017); Roux <i>et al.</i> (2020).
Place attachment	Place identity Place dependence	Williams and Vaske (2003)
Nature connectedness	Relatedness to nature Inclusion of Nature in Self	Nisbet and Zelenski (2013) Schultz (2001; 2002)
Environmental problems/threats	Climate change, Loss of biodiversity, Desertification or water scarcity, Loss of wilderness areas, Non-native plants and animals, overcrowding of visitors to parks, Poaching of wildlife, Pollution, Recreational development and expansion, Urban development	Nisbet <i>et al.</i> (2009); Butchart <i>et al.</i> (2010); Ratter and Gee (2012); Barendse <i>et al.</i> (2016); Hausmann <i>et al.</i> (2016); Van Riper <i>et al.</i> (2016).

Qualitative

3.3.2.2 Semi-structured interviews

Semi-structured interviews were used to gather qualitative data in part one, phase two. A semi-structured interview guide (Annexure C) was developed, consisting of questions that encouraged further explanation that was not explicitly covered in the questionnaires. According to Qu and Dumay (2011), semi-structured interviews enable respondents to respond more freely since the researcher uses a variety of probing questions to elicit more narratives and improve clarity. It is highly advised that resolving people's interpretations of a spatial setting be considered equal to assessing the level of attachment (Stedman, 2002; Davenport & Anderson, 2005). This is confirmed by Verbrugge *et al.* (2019:675), who found that "qualitative research provides more tangible results about residents' attachment to specific places, as the respondents can express themselves verbally, and this might disclose more insights into the nature of the attachment". This was thought to be similar to respondents in this study. However, the researcher found that the open-ended responses in online questionnaires provided equally rich information. Verbrugge *et al.* (2019) also concur that open survey questions on place meanings serve similar purposes to interviews.

Furthermore, the researcher visited the respective national parks to interview visitors. The researcher used these opportunities to get acquainted with the special features of the parks. As Kaltenborn (1997) and Jarratt *et al.* (2018) stated, these visits are important, as each place has specific physical features contributing to place attachment. As such, these visits to the respective national parks assisted with providing the researcher with an understanding of these physical features (Ryan, 2009) and other relevant aspects, such as the potential and current threats.

Each interview was conducted face-to-face, taking between 20 and 60 minutes to complete. The assistance of a fieldworker was deemed necessary for the interviewing at the national parks. The fieldworker was trained before the visit and assisted with the record-keeping, interview process, and inter-coder reliability afterwards. In addition, the fieldworker had to sign a confidentiality form (Annexure F). The researcher used a voice recorder during interviews with the

respondents' permission. The voice recordings were saved on a password-protected computer and transcribed for analysis. The semi-structured interview procedure was conducted as follows:

- Written permission was obtained from the respective national parks before the planned visit.
- On arrival at the national park, the researcher contacted the park manager to discuss the research procedure.
- Participants' engagement occurred in public spaces within the parks, such as the booking office, activity sites, picnic areas, and camping sites.
- As per the sampling (convenience and purposive) methods, participants were approached at a convenient time. The researchers formally and briefly introduced themselves and the research to potential participants. If interested in an interview, they could choose a preferred time and location.
- Before the interview, participants were informed of the study's voluntary, confidential, and anonymous nature and asked to sign an informed consent form (Annexure G). The researcher also asked permission to use a voice recorder.
- Rapport was established and maintained by following the interview guide (Annexure C). Based on the feedback during the interviews, various probing questions were asked.
- At the end of the interview, the researcher thanked the participants for their time and shared contact details if they would like to follow up on the research later.

3.3.2.3 Visitor-employed photography (VEP)

The grouping of visual data usually includes "visuals created by others that the researcher examines, and researcher produced visual representations" (Bailey & McAtee, 2003:45). This research used the first group. The respondents were asked to share photographs of their favourite places or features they encountered on their most recent visit to a specific national park. They also had to briefly explain why they had taken each photograph and what it meant to them. It was essential to include the visitors' descriptions with each photograph as some of the challenges with using this method is its heterogeneous and ambiguous nature (Bailey &

McAtee, 2003). This means that the interpretation of a particular photograph will differ between the researcher and the respondent. (These questions were included in the final online questionnaire (Annexure E, Q14-15).)

Visitor-employed photography (MacKay & Couldwell, 2004; Stedman *et al.*, 2004; Rathmann *et al.*, 2020) is also known as photovoice (Kerstetter & Bricker, 2009). In most studies, disposable cameras (MacKay & Couldwell, 2004; Stedman *et al.*, 2004) or digital cameras (Rathmann *et al.*, 2020) are given to respondents where they are instructed to take pictures of the site's features that are relevant to the study's goals. This research asked respondents to upload photographs to the online survey.

Photographs are cultural dimensions that provide proof of historically, culturally, and socially particular perspectives on the world (Kerstetter & Bricker, 2009). Stedman *et al.* (2004) also state an apparent lack of photo-based methods in sense of place research. Therefore, visitor-employed photographic documentation of visitors' impressions of the landscape and recreational quality is a promising advancement in place-based research techniques.

3.3.2.4 Document analysis

The documents included in the final research method were the annual SANParks reports and the management plans of the selected national parks. These are approved documents published on the official SANParks website and are regarded as secondary data. A systematic approach was followed with the review of these sources by using the search function to look at the research objectives of this research. Keywords used include unique features, experiences, sense of place, place attachment, ecosystem services, cultural ecosystem services (including the dimensions in Table 3.3), connection to/with nature, environmental problems, and threats. The data gathered were used to validate or contradict empirical results.

3.3.3 Pilot study

Various stages of piloting occurred during the online questionnaire development on the QuestionPro[®] and SurveyMonkey[®] software. A small sample of respondents reviewed a paper-based questionnaire; after that, the online versions were created.

The final questionnaire link was sent to 80 email addresses collected in Phase 1 of the research for Kruger National Park, where 30 people responded. This was used for a reliability analysis conducted on IBM Statistical Package for the Social Science (SPSS) version 27. This analysis aimed at identifying the possible limitations in the structure of the constructs. This improved the questionnaires by identifying possible glitches in the routing function, ambiguous or double-barrel questions, and potential bias or sensitive questions. Any other inconsistencies identified were corrected. A representative from SANParks also revised and approved the final online questionnaires. The interview guide was piloted with four respondents in June 2019. Based on the initial interviews, necessary changes were made to address the research objectives better.

3.4 DATA ANALYSIS

Data obtained in the online questionnaires were downloaded to Microsoft® Excel®. The data analysis consisted of both quantitative and qualitative methods, which are discussed as follows:

3.4.1 Quantitative analysis

Descriptive statistics

The data from questionnaires were analysed using descriptive statistics. Descriptive statistics aim to organise and summarise data, and data presentation can be either graphical or numerical (Maree, 2016). This also includes reporting on “central tendency (mode, median or mean), spread or variation, and the shape of form of data” (Maree, 2016:207). Measures of central tendency were employed to evaluate the degree of centrality in the distribution of the research’s constructs. The mean point of the five-point Likert scale is 2.5 (5/2), and mean scores below 2.5 indicate that most respondents tend to rate the statements as not at all important or slightly important. Meanwhile, mean scores between 2.5 and 3.4 suggest that most respondents rate a construct moderately important. All the mean scores equal to or more than 3.5 indicate that most respondents believe the statements are either very important or extremely important, respectively. The five-point Likert scales used in the research were ‘not at all important’ to ‘extremely important’, ‘strongly disagree’

to 'strongly agree' and 'not threatening' to 'most threatening'. In addition to the mean scores, the standard deviation, skewness and kurtosis are also indicated.

Inferential statistics

Further statistical analyses were done using IBM SPSS 27 software. The data analyses involved were factor analysis (Principal component analysis – PCA) and the reliability of constructs. The structural equation modelling (SEM) analysis was conducted using IBM SPSS AMOS version 27.

Factor analysis determines if the items assess the same dimension or factor (Maree, 2016). The general guidelines set out by Maree (2016:245) were considered and met for most of the measured factors. According to Bandalos and Finney (2010:97), exploratory factor analysis is “best used in a situation where minimal research has been conducted regarding the structure or construct”. Instead, a PCA was conducted for each of the following constructs where the composition of the measurement items was explored: *cultural ecosystem services*, *place attachment*, *nature-relatedness*, and *environmental problems/threats*. The PCA was done according to the preferred and less preferred national park data and reported side by side.

The Bartlett's Test of Sphericity (BTS) and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy were calculated using SPSS to “determine the adequacy and factorability of the data” (Pallant, 2010:183). A BTS should be significant at $p \leq 0.05$ (Pallant, 2010; Field, 2013) to be suitable for factor analysis. “The KMO index ranges between 0 and 1, where 0.6 is the minimum value required for good factor analysis” (Pallant, 2010:183). According to Hutcheson and Sofroniou (1999), the KMO statistic values between 0.7 and 0.8 are *good*, values between 0.8 and 0.9 are *great*, and values over 0.9 are *superb*.

Maree (2016:243) states that the “eigenvalue greater than one” rule should be followed where the number of factors is considered for the eigenvalues greater than one. This rule was adhered to in this research, and every item with a factor loading higher than 0.30 was regarded as contributing to a factor. However, Maree (2016) mentioned that the factor loading cut-off value of 0.40 is better.

In addition, it was necessary to calculate the reliabilities for the factors and the Likert scale using Cronbach's alpha (α) (Pallant, 2010; Maree, 2016). The closer the α coefficient is to 1.0, the greater the internal consistency of the items in the scale. However, George and Mallery (2021) provide the following considerations: $> 0.9 = \textit{Excellent}$; $> 0.8 = \textit{Good}$; $> 0.7 = \textit{Acceptable}$; $> 0.6 = \textit{Questionable}$; $> 0.5 = \textit{Poor}$; and $< 0.5 = \textit{Unacceptable}$. It is important to note that these may be used as a guideline, as Schrepp (2020) pointed out several concerns with interpreting the α coefficient. For example, a high α does not imply one-dimensionality but rather depends on the number of items in a scale, and the α also depends on the sample size (Schrepp, 2020). The mean inter-item correlation values should be reported in addition to the abovementioned measures. Clark and Watson (2019) state that the ideal mean inter-item correlation values range from 0.15 to 0.55.

Ramlall (2017) explains that structural equation modelling (SEM) is a versatile and thorough approach to developing, estimating, and testing a theoretical model to account for most of its variance. This analysis aims to evaluate the structural relationships of the variables specified in the conceptual model (Figure 3.4). The hypotheses are outlined in section 1.6.

There are various steps in the SEM process. Firstly, a normality assessment should be done before examining the model fit indices. Confirmatory factor analysis (CFA) will follow, as well as the goodness of fit and validity of the measurement model (Hair *et al.*, 2014) (Table 3.3).

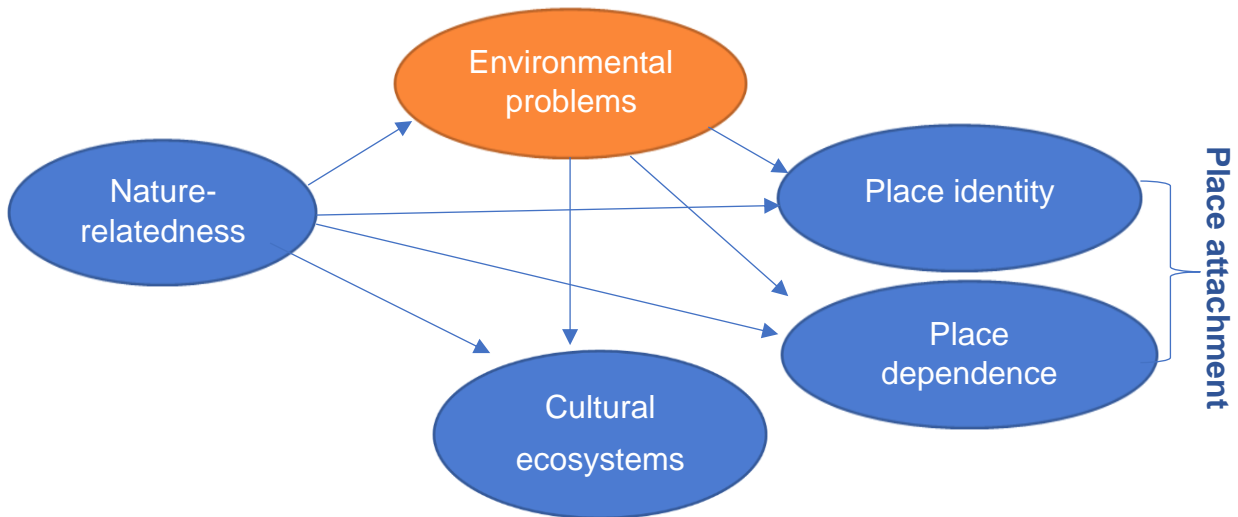


Figure 3.4 Conceptual model of the hypothesised relationships.

Table 3.3 Goodness of fit indicators and thresholds

Fit Indicator	Threshold adapted from Hair <i>et al.</i> (2014: 579–580)
CMIN/DF (Chi-square/degree of freedom)	Less than 3 (good) Between [3-5] (acceptable) Above 5 (bad)
RMSEA (Root Mean Square Error of Approximation)	Less than .05 (good) Between [.06-.1] (acceptable) Above .1 (bad)
CFI (Comparative Fit Index)	Less than .90 (bad) Above .90 (good)
TLI (Tucker Lewis Index)	Less than .80 (bad) Between [.80-.90] (acceptable) Above .90 (good)
GFI (Goodness-Of-Fit-Index)	Less than .80 (bad) Between [.80-.90] (acceptable) Above .90 (good)

The reliability of the scales, convergent validity and discriminant validity were then assessed. The maximum likelihood method was used to test the structural model using IBM AMOS 27, and the predictive effects of the independent variable on the dependent variables were used to determine whether the hypotheses should be accepted or rejected. According to Pallant (2010), the direction and the strength of the relationship are indicated by the beta (β) values, while the p -value (Sig.) estimates the significance of the predictive effect. Mediation analysis was carried

out on IBM AMOS 27 to explore whether *environmental problems* mediated the relationship between *nature-relatedness* and *place attachment* (place identity and place dependence) and between *cultural ecosystem services* and *nature-relatedness*.

3.4.2 Qualitative analysis

Content analysis was used to analyse the data collected from the semi-structured interviews, open-ended questions, and photographs with their narratives. The steps involved in content analysis are finding the data, categorising it, evaluating the categories' strength and relevance, and reporting the results (Jennings, 2001; Creswell, 2009).

The ATLAS.ti (version 9) program (ATLAS.ti, 2020) was used to capture the qualitative data. This computer-aided data analysis assists in storing and coding, creating categories, and producing graphics such as word clouds (Maree, 2016). Besides the advantages of using this program, the researcher read and reread through the sources, coded them, and, most importantly, interpreted and made sense of the data. These general steps, as described by Maree (2016), were followed:

- Organising and preparing data: All voice recordings of the semi-structured interviews were transcribed and stored under the respective national park folders. The photographs and descriptions were also systematically arranged and saved according to the individual folders.
- Reading the data: All data were reviewed for a general sense and understanding.
- Coding the data: Data were uploaded to the ATLAS.ti 9 software, where open and prior coding was done.
- Identifying categories and themes: Codes were reviewed and grouped into categories (Group codes in ATLAS.ti 9). Categories were further reduced to themes according to the research objectives.
- Discussion of themes: The themes were interpreted and integrated with quantitative results.

Qualitative data was presented as tables with frequencies of the identified categories and themes. These tables were created for each open-ended question from the online questionnaires and the interview transcripts through data transformation. Themes and categories were further interpreted by using direct quotations from respondents. The respondent numbers were assigned to each interview transcript and questionnaire before the analysis. The respondents were referred to according to the park abbreviations and the number assigned to their data. For example, GGHNP25 refers to the 25th questionnaire respondent of the Golden Gate Highlands National Park. Interviews are displayed as GGHNP_T02, which refers to the second interview transcript from the Golden Gate Highlands National Park.

Where applicable, joint displays are provided in the summaries of the chapters where quantitative and qualitative data are consolidated. Joint displays show the integration of mixed method research during interpretation level and could be in a tabular, visual or graphic form (Guetterman *et al.*, 2021). The integration strategies used in this research, based on Fetters (2019), were:

- Enhancing: Generating information using qualitative and quantitative analysis to comprehend a phenomenon better.
- Expansion: Using both qualitative and quantitative data collection techniques to create a broad and overlapping perspective on a phenomenon.
- Corroborating: Finding information from one data form to support the other.

3.5 QUALITY ASSURANCE: VALIDITY, RELIABILITY AND TRUST-WORTHINESS

Reliability and validity are often used in quantitative research to describe quality assurance, whereas, in qualitative research, the term trustworthiness is used (Maree, 2016). Reliability and validity are discussed for the quantitative data as a mixed method study, and the trustworthiness dimensions are discussed for the qualitative data.

Quantitative

Reliability refers to the “consistency with which a measurement instrument yields a certain, consistent result when the measured entity has not changed” (Leedy & Ormrod, 2015:116). After the piloting of the questionnaire, a reliability test was carried out to assess the internal consistency of the different constructs. The Cronbach alpha coefficients exceeded the acceptable 0.7 estimate (Maree, 2016).

Validity indicates the degree to “which the instrument measures what it is meant to measure” (Leedy & Ormrod, 2015:114). However, it is essential to note that when measuring social or psychological characteristics (for example, human emotions), the reliability may be lower, and the validity may be affected (Leedy & Ormrod, 2015; Maree, 2016). The validity of an instrument can take several forms (Leedy & Ormrod, 2015; Maree, 2016):

- Face validity: Does the instrument appear to measure what it intends to measure? This was assured by asking peers, experts and SANParks representatives to review the instrument.
- Content validity: Does the instrument cover the complete content of the constructs? This was assured by writing a clear motivation for including the chosen constructs and their dimensions.
- Construct validity: Does the instrument measure a characteristic that cannot be observed directly – but can be assumed by looking at the construct? This was assured through the standardisation of the instrument using factor and item analysis.
- Criterion validity: Do the results of one assessment instrument correlate with another assumed related measure? This was assured in the same questionnaire where the researcher, for example, asked respondents to rate the importance of different cultural ecosystem services, and another scale measured the place attachment. Two cultural ecosystem services, namely ‘sense of place’ and ‘identity’, are related to place attachment. Therefore, the researcher assumed that a high score for these items would also reflect a high attachment to the parks.

Qualitative

Trustworthiness refers to research that can “establish truth value, provides the basis for applying it, and allows for external evaluations about the reliability of its procedures and the neutrality of its findings or decisions” (Erlandson *et al.*, 1993). To increase trustworthiness (reliability) in a qualitative study, several authors (Lincoln & Guba, 1985; Shenton, 2004; Denzin & Lincoln, 2005; Maree, 2016) advise focusing on one or more of the following dimensions: credibility, transferability, dependability, and confirmability:

- Credibility (internal validity) refers to how consistent or believable the findings are. Credibility is assured by adopting well-established research methods, such as interviews, and by providing detailed accounts of events and procedures and correct (verbatim) transcripts.
- Transferability (external validity): This refers to the generalisability of findings. This research calls for using a designated sample and detailed explanations of the research context supplied by the researcher. The sample population was chosen using the previously mentioned criteria (visitors to the respective national parks). A thick description indicates detailed and exhaustive descriptions of the research context, which was done by developing and submitting a research proposal for approval by the Departmental Research and Innovation Committee, the UNISA-CAES Health Research Ethics Committee, and the Tourism Research Visitor Services Unit of SANParks to ensure rigour. All documentation of decisions and the data constitute an audit trail that can facilitate the transferability of the research.
- Dependability (reliability): Recording all research methods and processes so that another researcher can replicate them and get comparable results. The raw data and all interview recordings were provided to the research supervisor for verification. The researcher also kept meticulous records of all procedures and processes during the study.
- Confirmability: Refers to the “extent to which the respondents shape the findings and not by researcher bias, motivation or interest” (Maree, 2016:125). This was assured by acknowledging possible bias by the researcher and the research limitations. Member checks and feedback from colleagues and experts in the field (including inter-coder reliability) were sought. Careful

consideration was given to quotations to keep the integrity of the respondents' views.

The trustworthiness of this research was additionally confirmed by triangulation, which is the process of verifying or extending conclusions drawn from data using various techniques and sources (Ritchie, 2003). Qualitative researchers have widely embraced and developed the concept of examining the "convergence" of the data and the conclusions drawn from them (Denzin, 1994). Since this research employed a mixed method, it is more likely to achieve triangulation. Bergin (2018:29) states, "It can be achieved by applying different data analysis, datasets, and researchers' perspectives to examine the same research question or theme". In this research, the following triangulation methods were used (Decrop, 2004):

- Data triangulation incorporates the use of various data sources. The researcher used primary and secondary sources, namely semi-structured interviews, open-ended responses to questionnaires, photographs, and documents. Member checks were conducted whenever feasible to ensure the conversation's true meaning and version were recorded. Member checks were employed to help guarantee the data's trustworthiness (Lincoln & Guba, 1985).
- Method triangulation involves using multiple methods to research a single problem – thus, a combination of qualitative and quantitative methods. The researcher used mixed methods, including semi-structured interviews, online questionnaires, photographs, and fieldworkers that might have related differently to the participants than the researcher.

Another term used to enhance trustworthiness in research is called 'crystallisation' (Janesick, 2000; Maree, 2016). According to Janesick (2000:392), "crystallisation provides a deeper, complex, thoroughly partial understanding of a topic". This is ascribed to the unique shape of a crystal that consists of more than three sides if compared with triangulation. However, triangulation was regarded as sufficient by the researcher.

3.6 ETHICS

The UNISA-CAES Health Research Ethics Committee and the Tourism Research Visitor Services Unit of SANParks reviewed the research proposal and all relevant documents. Ethical clearance was obtained through the College of Agriculture and Environmental Sciences Health Ethics Committee at UNISA [Reference number: 2018/CAES/011] (see Annexure H). SANParks also approved the research [Project reference number: PAC/2018/02] (Annexure I).

Respondents were informed that their participation was both voluntary and anonymous. All data and transcriptions extracted from online questionnaires and semi-structured interviews are anonymous and confidential. All respondents must remain anonymous so they can record their actual concerns comfortably. If participants consented to provide personal information, they understood it would be kept private and accessible only by the researcher. To further protect the identity of the respondents in the online questionnaires and conform to the Protection of Personal Information Act (POPI Act) (POPIA, 2022), a representative from the Tourism Research Visitor Services Unit of SANParks handled the database of visitors. This person also assisted with sampling and distributing the links for the questionnaire to the sample through email and social media invitations. An audio recording was made only with the full permission of the research participants. The researcher keeps these transcripts and other recorded materials in a safe place for five years and will be destroyed afterwards. All participants had to sign an informed consent letter (Annexure G) before an interview. Respondents gave informed consent before an online questionnaire by clicking *accept* or *continue*.

3.7 SUMMARY

This chapter described the design and methodology of the research by providing a philosophical positioning of mixed-method research, which was a pragmatic approach. A modified explanatory sequential mixed method and a multiple case study design were adopted for this research. A significant characteristic of case study research is the use of various methods to collect data. Data were collected using an online questionnaire, semi-structured interviews, visitor-employed photographs, and document analysis.

The chapter also summarised the population and sampling procedures and how the data was analysed. Issues of reliability and validity as quantitative quality assurance and trustworthiness as qualitative quality assurance related to the data collection procedures were examined. Lastly, the ethical considerations for the research were described.

The following chapters comprise the results and discussion of each research objective. Results are organised firstly according to the research objectives in separate chapters and secondly according to their quantitative and qualitative nature.

CHAPTER 4

PREFERRED AND LESS PREFERRED PARK PROFILES

4.1 INTRODUCTION

This chapter addresses the research's first objective: determining which national parks are preferred and less preferred and the reasons visitors provide for their choices. To be able to answer this objective, the following key questions were addressed:

- Which parks are preferred?
- Which parks are less preferred?
- What are the reasons provided for visiting the respective parks?
- How often and for how long do visitors stay in the respective parks?
- What is the socio-demographic profile of visitors to the parks?

The results of this chapter will be discussed in the sequence of the key questions.

4.1 PREFERRED AND LESS PREFERRED NATIONAL PARKS

The study's first objective was to determine preferred (favourite) and less preferred parks based on the sample described in section 3.3.1. Each respondent could choose only one favourite national park – a decision which guided all further responses. Due to “differences in the overall visitor numbers to the different parks” (SANParks, 2017c:94), the number of respondents who chose their preferred park was not considered representative of the general population visiting each park. Also, the SANParks annual overnight visitor database was not considered representative of each park's visitor population. Each respondent was thus asked to indicate which other parks they had visited from 2015 to 2018. A summary of these visitation numbers can be seen in Annexure J and Table 4.1. These visitation numbers allowed the researcher to determine which parks the respondents visited, thereby addressing the issue that the respondents chose a specific park because it was the only one they visited.

Table 4.1 shows that the six most visited parks by the respondents between 2015 and 2018 were the Kruger National Park (KNP) (85%), the Garden Route National Park (54%), the Addo Elephant National Park (AENP) (53%), the Karoo National Park (51%), the Kgalagadi Transfrontier Park (KTP) (49%) and the Table Mountain National Park (TMNP) (49%). The SANParks Annual Report of 2016/2017 showed that the following parks received the highest number of overnight guests: the KNP (60%), the Garden Route National Park (10%), the KTP (9%) and the AENP (4%) (SANParks 2017c:94). The respondents' indication of their previous visits to parks corresponded with the numbers of the SANParks annual report.

Table 4.1 Respondents' visits per park for 2015–2018 and their preferred parks (N = 1 895)

South African National Parks	Visitation (n)	% ^a	Preferred park (n)	% ^b
Kruger National Park	1 608	85	1 132	70
Garden Route National Park	1 014	54	74	7
Addo Elephant National Park	1 008	53	87	9
Karoo National Park	962	51	25	3
Kgalagadi Transfrontier Park	933	49	398	43
Table Mountain National Park	931	49	13	1
West Coast National Park	873	46	6	1
Golden Gate National Park	815	43	8	1
Augrabies Falls National Park	798	42	11	1
Mountain Zebra National Park	765	40	52	7
Agulhas National Park	668	35	5	1
Mokala National Park	653	34	33	5
Camdeboo National Park	645	34	0	0
Bontebok National Park	585	31	3	1
Namaqua National Park	544	29	8	1
Marakele National Park	541	29	8	1
Tankwa Karoo National Park	528	28	4	1
Ai-Ais/Richtersveld Transfrontier Park	490	26	15	3
Mapungubwe National Park	478	25	13	3
<i>Total</i>			1 895	

^a Percentage of respondents that visited each park (respondents per park (n) / total respondents (N))

^b Percentage of respondents' preferred park in relation to the number of respondents per park (preferred parks (n) / respondents per park (n))

Based on the results of the first questionnaire and by comparing the numbers of the chosen 'preferred' parks with the number of respondents that visited each park, the two preferred and the four less preferred parks could be identified – see Figure 3.3 (section 3.3.1) for the research setting. The two most preferred parks were Kruger National Park (70%) and Kgalagadi Transfrontier Park (43%). Meyer (2015) also found these two parks most preferred when tourists view iconic animals.

After assessing the results in Table 4.1 and a personal consultation with SANParks representatives, it was agreed to include the following parks as less preferred: Golden Gate Highlands National Park, Marakele National Park, Mapungubwe National Park and Mountain Zebra National Park. Respondents did not indicate these parks as a preferred choice. The first three of the less preferred parks are targeted by SANParks for growth in tourism revenues (L. Slabbert, email, 2 February 2019). According to (SANParks, 2021:86), “the primary marketing focus was and continues to be on stimulating the growth of these parks identified in the organisation’s ten-year Tourism Revenue Growth Plan 2016/17–2026/27 as having the greatest probability of commercial success”. Additional reasons for including these less preferred parks in the research are:

- Golden Gate Highlands National Park: This park has many available beds and a variety of activities not allowed in other wildlife parks. It is within easy reach for Free State, KwaZulu-Natal and Gauteng visitors for a quick getaway.
- Marakele National Park: This park has similar wildlife experiences to preferred national parks and is within easy reach from Gauteng. However, the park does not receive a record number of visitors.
- Mapungubwe National Park: This park has wildlife experiences similar to those of preferred national parks. It offers a rich cultural heritage experience and was declared one of South Africa’s Cultural World Heritage Sites. The park is relatively close to Kruger National Park and one of SANParks’ targeted parks for growth in tourism revenue.
- Mountain Zebra National Park: This park has three of the big five species: lion (*Panthera leo*), African buffalo (*Syncerus caffer*) and black rhinoceros (*Diceros bicornis*) and offers similar wildlife experiences to popular national parks. Although SANParks did not target this park for growth in tourism

revenue, it was included as a park with high potential but still has low visitor numbers.

4.2 REASONS FOR VISITING

In addition to determining the preferred and less preferred national parks, respondents were also asked why they chose to visit the respective parks. Two themes emerged from the categories: push- and pull motivational factors. The push motivational factors include *escape*, *loyalty*, *nature experience*, *novelty-seeking*, *relaxation* and *social interaction*. The pull motivational factors include *accessibility*, *activities*, *aesthetics*, *not being crowded* and *species diversity*. These themes and categories are displayed in Table 4.2. In addition, Table 4.3 shows representative quotations based on the categories highlighted by respondents.

Preferred national parks

Results in Table 4.2 show that respondents' loyalty to the parks was the primary motivation for visiting the preferred national parks (a push motivational factor). The loyalty to natural areas forms after park visitation's perceived psychological, physical, and social benefits (Mock *et al.*, 2022). In KTP (31%) and KNP (38%), *loyalty* referred to statements about it being their 'favourite park', an expression of 'love for the park', 'regular visitation' and 'sentimental value'. In KTP, a strong emphasis was placed on 'childhood memories'.

In the KTP, two pull motivational factors also attracted respondents to the park. These are *species diversity* (23%) and the fact that the park is *not crowded* (23%). In the KNP, *species diversity* (23%), a pull motivational factor, is an essential attraction to the park, followed by *nature experiences* (18%). Nature experience is a push motivational factor that refers to subjective experiences while visiting the park. For example, respondent KNP154 explains:

"I have many great sightings over the years, but there is nothing better for the soul than to sit around a campfire in the evening and to listen to the sounds of the African bush, with the roar of a lion, the sounds of hyenas and jackals, and the sound of the African Night Jar".

Table 4.2 Themes and categories identified as respondents' reasons for visiting the preferred and less preferred national parks

REASONS FOR VISITING (Categories)	PREFERRED		LESS PREFERRED			
	KTP <i>n</i> = 724	KNP <i>n</i> = 563	GGHNP <i>n</i> = 94	MapNP <i>n</i> = 147	MarNP <i>n</i> = 153	MZNP <i>n</i> = 314
THEME: Pull motivational factors						
Accessibility	32 (4%)	8 (1%)	34 (36%)	8 (5%)	42 (27%)	103 (33%)
Activities	94 (13%)	58 (10%)	31 (33%)	34 (23%)	24 (16%)	27 (9%)
Aesthetics	131 (18%)	8 (1%)	7 (7%)	27 (18%)	15 (10%)	51 (16%)
Not crowded	170 (23%)	0	0	8 (5%)	6 (4%)	9 (3%)
Species diversity	170 (23%)	128 (23%)	0	24 (16%)	21 (14%)	70 (22%)
THEME: Push motivational factors						
Escape	73 (10%)	78 (14%)	12 (13%)	11 (7%)	16 (10%)	14 (4%)
Loyalty	225 (31%)	215 (38%)	16 (17%)	26 (18%)	14 (9%)	82 (26%)
Nature experience	86 (12%)	104 (18%)	8 (9%)	15 (10%)	7 (5%)	18 (6%)
Novelty-seeking	54 (7%)	0	9 (10%)	46 (31%)	33 (22%)	71 (23%)
Relaxation	72 (10%)	89 (16%)	4 (4%)	7 (5%)	10 (7%)	12 (4%)
Social interaction	19 (3%)	38 (7%)	0	7 (5%)	10 (7%)	11 (4%)

Black and bold – most frequently mentioned

Red and bold – second most frequently mentioned

Red – third most frequently mentioned

Table 4.3 Representative quotes based on the reason for visiting themes and categories highlighted by respondents

		PREFERRED	LESS PREFERRED
Theme	Categories	Representative quotes	
Pull motivational factors	Accessibility Activities Aesthetics Not crowded	<p><i>“One can experience nature at its best as there is no crowd and most of the time you experience wildlife on your own” (KTP91).</i></p> <p><i>“We love to visit the park mainly the wildlife” (KNP105).</i></p> <p><i>“To look at the vast array of wildlife in the park and escape to nature for a while” (KNP366).</i></p>	<p><i>“One of my favourite stopovers on the way to KZN from Cape Town” (GGNP41).</i></p> <p><i>“I love our national parks and Marakele is unique and close to Gauteng” (MarNP153).</i></p> <p><i>“Convenient stopover to the coast combined with wanting to experience the Karoo landscape and visit a national park” (MZNP43).</i></p>
	Species diversity		
Push motivational factors	Escape	<i>“I have been visiting since 1978. It is my favourite of all places to visit” (KTP520).</i>	<p><i>“We plan to visit every national park within the country, and this seemed like a very good option” (MapNP18).</i></p> <p><i>“We have always wanted to visit Mapungubwe because we heard so much about it from other people” (MapNP108).</i></p>
	Loyalty Nature experience	<i>“First visited some 35 years ago and have been regularly since. It grows on you!” (KTP43).</i>	
	Novelty-seeking Relaxation Social interaction	<i>“I simply love the Kruger National Park. My grandparents worked in the park and as a child, we visited them every holiday. After they retired, the frequency changed to once a year” (KNP54).</i>	

Orange text: Evident in the less preferred parks and quotations are focused on the highlighted category.

Green text: Evident in the preferred parks and quotations are focused on the highlighted category.

From the above, it can be inferred that push factors significantly motivated respondents to the preferred national parks. Preferred national park respondents are very loyal to the parks and usually have more extended stays (Table 4.4). Lin *et al.* (2014) demonstrated a significant correlation between the frequency and duration of visits to urban parks in Australia and a sense of connection to nature. Furthermore, loyalty is a vital push factor internally motivating them to visit. National park visitors value the parks more when they experience positive outcomes from their visits (Mock *et al.*, 2022), and repeatedly returning to a particular place might indicate a strong place attachment (Farnum *et al.*, 2005). According to Pinkus *et al.* (2016) and Leung *et al.* (2018), this increase in value manifests as greater behavioural loyalty and psychological commitment, and it has numerous financial, political, and management implications for protected areas. This loyalty should also be encouraged at the less preferred national parks. As Mock *et al.* (2022:5) stated, the “fostering of loyal visitors is important for several reasons: return visitation ensures fee-based revenues, loyal visitors tend to be more satisfied with experiences, more forgiving of service failures, less resource intensive to serve, less price sensitive and tend to spend more”.

Less preferred national parks

Results in Table 4.2 show that for three of the less preferred parks, *accessibility* was the primary motivation for visiting, referring to the theme pull motivational factor. Respondents to the GGHNP (36%), MarNP (27%) and MZNP (33%) mentioned the following under the *accessibility* category: “close to home” and “en-route destination”. These three parks are located on main routes, and, therefore, easy to access for an overnight stay can be understood as a reason for visiting. The GGHNP is situated in the northeastern Free State with the R712 provincial road that winds through the park’s centre – connecting towns such as Clarens and Harrismith (SANParks, 2020b). According to Botha (2012), these towns serve as an additional marketing tool for GGHNP. Marakele National Park is located in Limpopo, about 250 km north of Johannesburg and 15 km northeast of Thabazimbi (SANParks, 2014). The MZNP is situated in the Eastern Cape, on the R61 road, 12 km from Cradock on the road to Graaff-Reinet, and 262 km from Port Elizabeth (SANParks, 2016b). It is also 800 km from both Johannesburg and Cape Town. The MapNP, on the other hand, is located on the northern border of the Limpopo Province, where

the Limpopo River forms the northern boundary and the R572 and R521 provincial tar roads include the southern and western boundaries respectively (SANParks, 2019b).

In MapNP, the primary motivation for visiting was *novelty-seeking*, referring to the theme, the push motivational factor. *Novelty-seeking* (31%) included statements about the park being on respondents' "bucket list", their "first visit to the park", and "family or friends recommended" it. Table 4.3 contains representative quotes from respondents.

Another category highlighted as a reason for visiting the GGHNP (33%) and MapNP (23%) was *activities*, a pull motivational factor. The activities referred to in the GGHNP were "attending an event", "birding", "camping", and "hiking". Activities in MapNP were "camping" and visiting "cultural and historical sites". According to Hassel *et al.* (2015), camping in national parks is a way to become physically immersed in nature and offers people the opportunity to reconnect with nature. Hiking was an important activity in the GGHNP, and a similar finding was made by Botha (2012), where the Ribbok hiking and herbal trails were favourites.

Novelty-seeking (22%) was also an important push motivational factor for respondents visiting MarNP, as many indicated it was their first visit to the park. In the MZNP, *loyalty* (26%) was considered an important category. This is also a push motivational factor where respondents referred to it as their "favourite park", expressed their "love" for the park and indicated that they are "regular visitors".

Overall, pull factors were a major motivation for respondents to the less preferred national parks. The respondents indicated that the main reason for visiting was accessibility (GGHNP, MarNP, MZNP). These parks were convenient stopover destinations, corresponding with fewer nights spent than respondents to the preferred parks. A study by Scholtz, Kruger and Saayman (2013:7) in the KNP found that "visitors would rather travel to parks close to home to reduce expenses during economic crises, the location, proximity and accessibility of the park to surrounding provinces (Limpopo, Gauteng and Mpumalanga) should also be highlighted in the marketing campaign". Likewise, marketing the less preferred parks should highlight

the main routes on which these parks are located. Another reason for visiting the less preferred parks (especially the MapNP) was to experience a new place (novelty-seeking) – a push motivational factor. A study conducted in MapNP by Hermann *et al.* (2016) observed many first-time guests, which helped the park’s market expand. “Novelty-seeking is a desire to seek novel and uncommon experiences during travel” (Hanai, 2016:90). According to Gray (1970), novelty-seeking also refers to people seeking “wanderlust”. These people want to explore various environments, seek new and unique experiences, immerse in the culture, and acquire new information. The MapNP is a relatively new park listed as a UNESCO (United Nations Educational, Scientific and Cultural Organisation) world heritage site (UNESCO, 2008). This might be one of the enticing factors for future visitors to the park. Even though the park attracts new visitors, they must extend their focus on repeat visits, which might be fostered by understanding place attachment in the park.

4.3 VISITATION BEHAVIOUR

The visitation behaviour of the respondents to the respective parks is displayed in Table 4.4. The respondents’ characteristics were extracted from the final questionnaire (Annexure D – Questions 8, 9, 10). When asked to indicate their most recent visit to the national park, most respondents specified that their most recent visit was between 2019 and 2020, before the nationwide lockdown. Research shows that recent visits to natural areas have positive associations with increased positive affect (Pasanen, Neuvonen & Korpela, 2018). Several authors (e.g., Restall & Conrad, 2015; Cleary *et al.*, 2020) state that a person’s ability to connect with nature is thought to develop through regular, direct experience.

The next question addressed how often they visited the particular national park. A clear distinction existed between the preferred and less preferred parks.

Table 4.4 An overview of the respondents' visitation behaviour for the respective parks

	PREFERRED		LESS PREFERRED			
VISITATION BEHAVIOUR CHARACTERISTICS	KTP <i>n</i> = 733	KNP <i>n</i> = 574	GGHNP <i>n</i> = 96	MapNP <i>n</i> = 149	MarNP <i>n</i> = 153	MZNP <i>n</i> = 318
Response rate	33%	26%	22%	35%	29%	56%
Completion rate	73%	75%	73%	69%	66%	71%
A most recent visit to the national park?	2019 (40%) 2020 (42%) 2021 (18%)	2019 (26%) 2020 (45%) 2021 (29%)	2019 (38%) 2020 (38%) 2021 (24%)	2019 (51%) 2020 (30%) 2021 (19%)	2019 (36%) 2020 (52%) 2021 (12%)	2019 (38%) 2020 (39%) 2021 (23%)
How often do they visit the national park?	Yearly (35%) Every couple of years (30%)	Yearly (41%) Twice a year (24%)	Every couple of years (39%) It was my first visit (20%)	It was my first visit (55%) Every couple of years (20%)	It was my first visit (45%) Every couple of years (18%)	It was my first visit (35%) Every couple of years (31%)
How many nights did they spend at the national park?	Seven or more nights (56%)	Seven or more nights (35%) 5 to 6 nights (28%)	1 to 2 nights (54%)	3 to 4 nights (54%)	3 to 4 nights (47%)	3 to 4 nights (51%)

Respondents to the preferred national parks mainly visit yearly, whereas respondents to the less preferred parks indicated that it was their first visit to these national parks. According to Ajuhari *et al.* (2023), one's attachment to a place can grow with the number of visits and time spent there. Similar findings were reported by Hailu *et al.* (2005), Lewicka (2010), and Wynveen *et al.* (2021), where the repeated visits enhanced their respondents' attachment. An exception can be observed with respondents from the GGHNP, which highlighted visiting every few years.

The average number of nights spent at KTP (56%) and KNP (35%) was seven or more. This could refer to the vast sizes of these parks and the number of attractions or activities they offer. Saayman and Dieske (2015) found that KTP visitors' interest in the park's attributes and their motivation for escape increased with the number of nights they spent. Respondents stayed fewer nights in the less preferred parks. In MapNP (54%), MarNP (47%) and MZNP (51%), respondents remained for an average of three to four nights. Respondents to the GGHNP tend to spend the least nights, with 54 per cent indicating staying one to two nights.

4.4 RESPONDENTS' SOCIO-DEMOGRAPHIC PROFILES

A summary of the respondents' socio-demographic profiles for the respective parks is provided in Table 4.5. The overall ages of respondents to the national parks ranged between 54 and 62 years, and the majority were South African citizens. The provinces that respondents travelled from were mostly from Gauteng for GGHNP (37%), KNP (51%), MapNP (58%) and MarNP (69%). Respondents travelled mainly from the Western Cape Province to the KTP (51%) and MZNP (43%). The most common language spoken by the respondents was English, followed by Afrikaans. Most respondents across the national parks had a postgraduate degree and were married. These results are similar to previous studies conducted in South African national parks (Van der Merwe & Saayman, 2008; Slabbert & Viviers, 2012; Kruger & Saayman, 2014; Kruger *et al.*, 2014; Saayman & Saayman, 2014; Hermann *et al.*, 2016; Kruger *et al.*, 2016; Van der Merwe *et al.*, 2019).

Table 4.5 A summary of respondents' socio-demographic information for the respective national parks

SOCIO- DEMOGRAPHIC CHARACTERISTICS	PREFERRED		LESS PREFERRED			
	KTP <i>n</i> = 733	KNP <i>n</i> = 574	GGHNP <i>n</i> = 96	MapNP <i>n</i> = 149	MarNP <i>n</i> = 153	MZNP <i>n</i> = 318
Age (Average)	61 (<i>SD</i> = 10.3)	58 (<i>SD</i> = 12.3)	55 (<i>SD</i> = 15.3)	57 (<i>SD</i> = 12.4)	54 (<i>SD</i> = 12.6)	62 (<i>SD</i> = 11.7)
Gender	Male (66%)	Male (64%)	Male (65%)	Male (56%)	Male (59%)	Male (64%)
Nationality	SA (86%)	SA (88%)	SA (88%)	SA (79%)	SA (93%)	SA (90%)
Province	GP (22%) WC (51%)	GP (51%)	GP (37%) WP (23%)	GP (58%)	GP (69%)	EC (24%) WC (43%)
Home language	A (47%)	E (50%)	E (57%)	E (43%)	A (46%) E (46%)	E (64%)
Highest level of education	PGDeg (33%)	PGDeg (30%)	PGDeg (37%)	PGDeg (39%)	Deg (28%) PGDeg (27%)	Dip (25%) PGDeg (31%)
Marital status	Married (87%)	Married (80%)	Married (78%)	Married (74%)	Married (73%)	Married (88%)

SA = South African; GP = Gauteng Province; WC = Western Cape Province; EC = Eastern Cape Province; A = Afrikaans; E = English; PGDeg = Postgraduate degree; Deg = Degree; Dip = Diploma

4.5 SUMMARY

This chapter aimed to answer the objective and key questions regarding the profiles of the preferred and less preferred parks. KNP and KTP were the preferred parks, and the less preferred parks were GGHNP, MapNP, MarNP and MZNP. These less preferred parks are on SANParks' radar for tourism growth. There is a distinct difference between the general travel behaviour of respondents visiting the preferred and less preferred parks. Respondents to the preferred parks generally visit more frequently and stay longer. In contrast, less preferred respondents visited less frequently and indicated that, at the time, it was their first visit. They also tend to stay for shorter periods, with GGHNP respondents mostly spending one or two nights at most.

The preferred park respondents' most prevalent reason for visiting was their loyalty to the parks, which is a push motivational factor. This included longing to return to the park, frequently returning for visits and fond childhood memories. Other motivations included pull motivational factors such as species diversity in these parks, and KTP respondents highlighted that the park was not crowded. Respondents to the less preferred mainly referred to pull motivational factors such as accessibility of and activities within the parks. The most important push motivational factor mentioned by especially MapNP and MarNP respondents was novelty-seeking.

The respondent socio-demographic profiles of the preferred and less preferred parks correspond to various previous studies in the national parks managed by SANParks. The general profile tends to be married, older males with a degree. The profile was not used in further analysis in this research.

CHAPTER 5

SPECIAL FEATURES AND CONSERVATION ATTRIBUTES

5.1 INTRODUCTION

The second objective of this research was to explore the special features and conservation attributes of the preferred and less preferred national parks. This objective was primarily qualitative, and the key questions asked were:

- What do visitors experience as highlights, and why do they regard them as highlights?
- Do visitors have ‘favourite’ features? Why are they regarded as ‘favourites’? (Images may be included.)

These questions will be discussed individually. Respondents’ photographs and accompanying narratives are included as a separate heading and discussed throughout the chapter to assist with descriptions of experiences.

5.2 HIGHLIGHTED EXPERIENCES

The highlighted experiences could also be referred to as memorable experiences of visitors. Akhshik *et al.* (2022:2) explain that “a memorable experience is formed from individuals’ emotional assessment of real experiences during their travel”. Four themes were derived from respondents’ highlighted experiences: unique attributes, animals, sensory experiences and subjective experiences. Unique attributes include *camping, good management, not crowded* and *unique activities*. The animal theme includes special references to *close encounters and behaviours, and sightings*. Sensory experiences refer to the *use of senses*. Subjective experiences consist of the *personal* and *nature experiences* of respondents. These themes and categories are displayed in Table 5.1. In addition, Table 5.2 shows representative quotations based on the themes and categories emphasised by respondents.

Preferred national parks

The main highlight identified by the respondents to preferred national parks was the *sighting of animals* (theme: animal). The *sightings of animals* within the KTP (59%) and KNP (63%) are referred to as “good wildlife viewing”, “rich birdlife”, “special bird

sightings”, “special predator sightings”, and “unique sightings”. Respondents specifically referred to the special sightings of the rare, charismatic and unexpected species, such as “*seeing an owl in the camp or giant snails after rain*” (KNP91) and “*Klipspringers... just stood there, watched us with their beautiful black eyes and did not move an inch – now that was a once-in-a-lifetime sighting!*” (KNP282). These special sightings were memorable, as Di Minin *et al.* (2013) and Hausmann *et al.* (2016) found that observing charismatic species (e.g. lions, elephants, etc.) enhanced guest satisfaction. Skibins *et al.* (2013:960) noted that “wildlife tourism venues have relied on charismatic megafauna to anchor visitor-supported conservation initiatives”. This is partly due to visitor satisfaction and the facilitated connection to nature that close encounters with wildlife lead to (Clayton & Myers, 2009). Examples of quotes by respondents are given in Table 5.2.

Respondents also frequently mentioned *personal experiences* (theme: subjective experiences). In the KTP (43%) and KNP (41%), *personal experiences* are referred to as “new experiences”, “peacefulness”, “specific locations”, and “spirituality”. In KNP, “nostalgia” is also mentioned. Representative quotes from respondents are included in Table 5.2.

The third most frequently mentioned highlight by respondents from KTP (33%) and KNP (26%) was *animal encounters and behaviours* (theme: animal). This consists of “animals giving birth”, “close encounters”, “experiencing a hunt/kill”, and “observing animal behaviour”. These narratives especially focused on the proximity to various animals and the heightened senses, for example, “*he was so close that I could hear him breathing*” (KTP440) and “*...the lions were once so close by I could see their eyelashes, my heart nearly stopped*” (KNP314). More representative quotes are in Table 5.2.

In addition, various authors have also linked destination wildlife diversity contributing to people’s well-being (Kastenholz *et al.*, 2020; Marselle *et al.*, 2021; Buckley, 2022), hence relating to respondents’ personal experiences. The personal experiences focused on special locations within the parks, the nostalgia of childhood experiences and the overwhelming peacefulness they experienced. This

finding is consistent with that of Lin *et al.* (2014), Restall and Conrad (2015), and Cleary *et al.* (2020), who discovered a positive relationship between their current nature connection levels and their childhood and adult nature experiences. These findings suggest that a nature connection can be established at different stages of life. Many respondents specifically recalled childhood memories as their motivation for visiting and loyalty towards the preferred national parks. This refers to autobiographical memories (Fitzgerald & Broadbridge, 2013; Knez, 2014) or the act of reminiscence, which, according to Ratcliffe and Korpela (2017:24), “may bring about positive psychological appraisals associated with the place in question, by way of enhanced place identity”. This again points to the notion that childhood or memories are linked to place bonding (Kyle *et al.*, 2004) and place attachment (Scannell & Gifford, 2010; 2017). Fitzgerald and Broadbridge (2013) explain that autobiographical memories consider the emotions, details, and stages of one’s life that contribute to their life story rather than simply a remembrance of an event. Hence, people return to a place where they feel attached to and where they can re-experience positive emotions and feelings as adults (Morgan, 2010; Jorgenson & Nickerson, 2016; Ratcliffe & Korpela, 2017; Kastenholz *et al.*, 2020). As Buckley (2022) confirms, memorable experiences are often associated with powerful emotions that might have been experienced briefly but may last a lifetime. The following account of a close encounter is evidence of a memorable experience:

“A Cheetah mother and her two cubs on a Springbok kill. Watching them eat, play and sleep was delightful and then they got up and walked to a puddle in the road for a drink before wandering off over the dune...a very special hour with many images in the camera and my head!” (KTP14).

Less preferred national parks

The relative frequencies of the less preferred national park highlights are shown in Table 5.1 and provide insight into the general park characteristics. Additionally, representative quotes from the respective park respondents are given in Table 5.2. In the GGHNP, the *use of senses* (70%) (theme: sensory experiences) was most frequently mentioned, followed by *unique activities* (52%) (theme: unique attributes). The use of senses referred to “natural features”, “landscapes”, and “unique geology”. Furthermore, the *unique activities* within the GGHNP are referred to as “events”, “Basotho cultural village”, “hiking” and “vulture hide”.

The main highlights identified by the respondents to MapNP (63%), MarNP (52%) and the MZNP (70%) were the *sighting of animals* (theme: animal). Similar to the preferred national parks, respondents referred to “good wildlife viewing”, “rich birdlife”, “special predator sightings”, and “unique sightings”. In MapNP and MarNP, special references were made to “elephant sightings”; in MarNP and the MZNP “rhino sightings” stood out. The secondary highlights for the MapNP, MarNP and the MZNP respondents follow.

The *use of senses* (theme: sensory experiences) was also highlighted by respondents to MapNP (51%) and MZNP (33%). The sensory experiences in MapNP include references to “landscapes”, “rivers”, “sunsets/sunrises”, “unique geology”, and “weather”. In MZNP, “sounds” and “night skies” were added to “sunsets/sunrises”, “landscapes”, and “weather”. *Unique activities* highlighted within MapNP (28%) are “4x4 experience”, “game drives”, “hiking”, “museum”, and “swimming in the rock pool”, while activities in MZNP (27%) include “4x4 experience”, “bush walks”, “cheetah tracking”, and “game drives”. In MarNP, *personal experiences* (37%) were also an important highlight that consisted of expressions of “feeling close to home”, “new experience”, “peaceful”, “relaxed”, and “specific locations”.

Respondents highlighted different aspects of the less preferred parks compared to the preferred parks. These highlights also differed among the less preferred parks. In the GGHNP, for example, respondents are more sensorial aware of their environment, but they also mentioned ‘unique activities’ as something meaningful. Emphasis was placed on hiking in the GGHNP as *“there are few national parks in the Northern provinces where you can hike on your own without a guide”* (GGHNP45). This corresponds with Wielenga (2021), which highlights the importance of meaningful and unique activities and facilities in natural areas as they could enhance experiences and form deeper connections with nature. According to Buckley (2022), tourism experiences rely on the senses and emotions that tourists experience. Kah *et al.* (2022) stated that each destination should create a unique identity by exploring memorable tourism experiences enhanced by the senses. Sensorial awareness is explained by the GGHNP respondent’s links with their favourite features (see section 5.3). These respondents mostly referred to their sight

and sound senses while hiking in the mountains. Kah *et al.* (2022) further explain that destinations should effectively stimulate the five senses, such as sight, sound, smell, taste, and touch, to assist in creating a unique identity and sustaining competition.

Respondents to MapNP, MarNP, and MZNP most frequently referred to animal sightings as highlights, followed by the use of their senses. Although these parks may not have all the 'big five' species, the focus is on charismatic species, such as the elephant in MapNP and the rhino in MarNP (also see section 5.3). Memorable experiences in the less preferred parks were also directed to other special or rare species and experiences, such as the bearded vulture (*Gypaetus barbatus*) in GGHNP, Cape vultures (*Gyps coprotheres*) in MarNP, baobabs (*Adansonia digitata*) in MapNP and cheetah (*Acinonyx jubatus*) tracking and Cape Mountain zebra (*Equus zebra zebra*) in MZNP. Buckley (2022) also found that emotions were felt for frogs, smaller mammals such as chipmunks, and birds and not only for larger wildlife. Similarly, respondents mentioned senses and emotions associated with various experiences, features and species in the respective parks. Kah *et al.* (2022) found that the sight and smell senses most effectively create a travel destination identity. Respondents mentioned these, and the following is a representative quote:

“A thunderstorm after a very hot day. All the colours were so bright after that, and you could smell the earth” (MZNP254).

All senses and the associated emotions should be considered to understand memorable tourism experiences. Memorable tourism experiences were linked with different aspects of the respective parks. The following section focuses on the respondents' favourite features of the respective national parks.

Table 5.1 Respondents' highlighted experiences in the preferred and less preferred national parks

EXPERIENCES HIGHLIGHTED (Categories)	PREFERRED		LESS PREFERRED			
	KTP <i>n = 708</i>	KNP <i>n = 543</i>	GGHNP <i>n = 88</i>	MapNP <i>n = 145</i>	MarNP <i>n = 149</i>	MZNP <i>n=304</i>
THEME: Unique attributes						
Camping	59 (8%)	54 (10%)	0	11 (8%)	0	7 (2%)
Good management	33 (5%)	18 (3%)	9 (10%)	14 (10%)	7 (5%)	40 (13%)
Not crowded	97 (14%)	1 (<1%)	0	4 (3%)	3 (2%)	11 (4%)
Unique activities	33 (5%)	54 (10%)	46 (52%)	41 (28%)	49 (33%)	83 (27%)
THEME: Animals						
Encounters and behaviours	231 (33%)	139 (26%)	3 (3%)	37 (26%)	17 (11%)	17 (6%)
Sightings	420 (59%)	342 (63%)	9 (10%)	91 (63%)	77 (52%)	212 (70%)
THEME: Sensory experiences						
Use of senses	221 (31%)	99 (18%)	62 (70%)	74 (51%)	50 (34%)	100 (33%)
THEME: Subjective experiences						
Nature experiences	28 (4%)	44 (8%)	9 (10%)	14 (10%)	5 (5%)	8 (3%)
Personal experiences	302 (43%)	223 (41%)	11 (13%)	33 (23%)	55 (37%)	37 (12%)

Black and bold – most frequently mentioned

Red and bold – second most frequently mentioned

Red – third most frequently mentioned

Table 5.2 Representative quotes based on the highlighted experiences, themes, and categories emphasised by respondents

		PREFERRED	LESS PREFERRED
Theme	Categories	Representative quotes	
Unique attributes	Camping		<p><i>“Our last stay was in the Basotho huts which we loved. We loved the view from the deck looking out to the mountains” (GGHNP66).</i></p> <p><i>“Hike up the Brandberg is always great, but the last visit highlight was finding the ground woodpeckers and Cape grassbird – hopefully we’ll get lucky next time with the bearded vultures – this will be one of our main reasons for returning” (GGHNP61).</i></p> <p><i>“Good 4x4 routes within the park, especially on the western side between Tshugulu lodge and Northern border of the park” (MapNP107).</i></p> <p><i>“Visiting the museum and seeing the old artefacts (golden Rhino) and learning about the history of the old Kingdom” (MapNP52).</i></p> <p><i>“We took part in the cheetah tracking excursion. It was a highlight because it was a once-in-a-lifetime</i></p>
	Good management Not crowded Unique activities		

		PREFERRED	LESS PREFERRED
Theme	Categories	Representative quotes	
			<i>experience ... It was a much more intimate experience with the bush and allowed us to experience it fully” (MZNP312).</i>
Animals	Encounters and behaviours	<p><i>“We have so many highlights! Twice, we have witnessed leopard kills, the Auob flow after heavy rains, springbok births, snakes hunting in squirrel holes, and cheetah kills. These are so special as the majority of these have either been completely on our own or with very few other people at the sighting. The feeling of space is so special!” (KTP239).</i></p> <p><i>“Camping in a rooftop tent next to the fence at Punda Maria – elephant came during the night and stood right next to us on the other side of the fence. We made eye contact, I stopped breathing, how amazing!” (KNP78)</i></p>	
	Sightings	<p><i>“We go to the Kgalagadi to be one with nature, seeing the cats are not always our highest priority, we enjoy viewing birds, plants, trees, animals, insects, everything even the landscape, skies and the weather” (KTP229).</i></p> <p><i>“Every day is a highlight, the sheer pleasure</i></p>	

		PREFERRED	LESS PREFERRED
Theme	Categories	Representative quotes	
		<p><i>of slowly driving along the roads and paths and enjoying whatever game, birds and even the flora. As a rule, we don't go chasing after the big game only but rather adopt the attitude of – Enjoy the small stuff and be amazed at how the big stuff comes to you!</i> (KNP524).</p>	<p><i>an unbelievable sighting and experience ...</i> (MarNP34).</p> <p><i>“Watching the Cape vultures at Kranskop. Not often one can get so close to these birds”</i> (MarNP127).</p> <p><i>“Next to the mountain zebra, the abundance of black wildebeest, we were able to see a great variety of animals. The increasing variety of animals big and small is a great attraction”</i> (MZNP196).</p>
Sensory experiences	Use of senses	<p><i>“...the landscape reminds me of the Kruger I went to as a child. It always reminds me of happy family times growing up as a child. There are too many amazing experiences to mention. The smells, the iconic green bathroom tiles (although almost completely phased out), the iconic impala lily and hornbill bedding and curtains (no longer used), the evening nature films (although no longer available)”</i> (KNP165).</p>	<p><i>“The scenery is breathtaking and the mountain is a special place”</i> (GGHNP50).</p> <p><i>“Well, I would say there is definitely magic here, you can feel it almost like an ancient vibration. You walk and see these gigantic rocks. The rocks have been here just before time. It's just nice to be still and hear the wind blow through the grass. It kind of fades away the worries we have in our lives and for me, that's magical”</i> (GGHNP_T07).</p> <p><i>“Seeing the beauty of the hills. One could imagine living way back in time here. The islands made in the river are beautiful”</i> (MapNP100).</p> <p><i>“The views are beautiful. You cannot take a picture of it. A picture does not do it justice”</i> (MZNP_T05).</p> <p><i>“One can hear the sounds of nature; no one makes</i></p>

		PREFERRED	LESS PREFERRED
Theme	Categories	Representative quotes	
			<i>loud music. Fresh Karoo air and brilliant stars at night</i> (MZNP3).
Subjective experiences	Nature experiences		
	Personal experiences	<p><i>"The solitude, the setting, the amenities, and the layout made for a complete soul-enriching experience for us. Sitting next to the fire/braai area while the sun was setting over the pan while enjoying the experience of meeting up with like-minded strangers was an experience to behold!"</i> (KTP445).</p> <p><i>"Completely different landscape than being used to. It again makes one realise the awesomeness of the Almighty Creator"</i> (KTP214).</p> <p><i>"Everything about the park is a highlight. From the moment you first enter the park, that feeling that you are stepping into another world and all your normal world melts away. The first sighting in a visit and the thrill of what it will be. The first entrance to a camp and the memories of our childhood float back together with the anticipation of the current</i></p>	<p><i>"Marakele NP isn't a huge distance to travel for a short break, and it is just enough to recharge the soul"</i> (MarNP116).</p> <p><i>"It is one of the parks where you can restore your soul, something that was much-needed during the Covid-19 pandemic. Another bonus is – it is close to Pretoria, so we can visit for a weekend or take a day drive. We will definitely be visiting again!"</i> (MarNP118).</p>

		PREFERRED	LESS PREFERRED
Theme	Categories	Representative quotes	
		<i>adventure</i> " (KNP180). <i>"Just being in the KNP is always a blessing and good – the bush feeds my soul and what better place to witness and see God's awesome creation!!!"</i> (KNP481).	

Orange text: Evident in the less preferred parks and quotations are focused on the highlighted category.

Green text: Evident in the preferred parks and quotations are focused on the highlighted category.

Black: Evident in both the preferred and less parks and quotations are focused on the highlighted category

5.3 FAVOURITE FEATURES

To be able to compare respondents' chosen 'favourite features' for each park (Table 5.3) with SANParks's purpose for proclaiming the respective parks, the latter is summarised as follows:

- Kruger National Park: In 1926, the KNP was established to *safeguard and preserve* the nation's wildlife (including rinderpest and uncontrolled hunting), flora, and artefacts of geological, ethnological, historical, and scientific significance for the benefit and enjoyment of its citizens (SANParks, 2018b).
- Kgalagadi Transfrontier Park: The park was initially proclaimed due to *hunting pressure* and to *secure* a part of the open Southern Kalahari ecosystem (SANParks, 2016a). The †Khomani Cultural Landscape was also declared a World Heritage Site. This expansive area within the Kgalagadi Transfrontier Park (KTP) in South Africa can comprehensively represent the landscape values, features, and processes that illustrate the distinct relationship between the people and the land (UNESCO, 2017).
- Golden Gate Highlands National Park: The initial motivation for establishing the park was to conserve and preserve the *cultural heritage value* and *assets* (SANParks, 2020b).
- Mapungubwe National Park: The initial motivation for establishing the park was to conserve and preserve the *cultural heritage value* and *assets*. Protecting the cultural landscape means safeguarding *its outstanding universal value* embodied by the diverse standards that have designated the property as a World Heritage site (SANParks, 2019b).
- Marakele National Park: The park protects *the Waterberg Massif* and associated *bushveld vegetation* types. It is an alternative Big Five destination close to Gauteng (SANParks, 2014).
- Mountain Zebra National Park: The park was declared to *protect a remnant population* of the Cape Mountain zebra (SANParks, 2016b).

In addition to the reasons for protecting the respective parks, each park has vital attributes, as stated in its management plans. These vital attributes are summarised in Annexure K. Comparisons were drawn between these vital attributes and the favourite features chosen by respondents (Table 5.3) in the discussion of this

section. Favourite 'features' in the context of this research refer to both living and non-living components within the parks and may include 'species'. The following categories emerged: *birds, large herbivores, large predators, natural features, places, reptiles, small herbivores, small predators, and everything*.

Preferred national parks

Table 5.3 shows that the most frequently mentioned category for both the KNP and KTP was *large predators* (35% and 48%, respectively). The second most frequently mentioned category in the KTP was the *birds* (19%) (e.g. bateleur eagle - *Terathopius ecaudatus*, martial eagle - *Polemaetus bellicosus*, lanner falcon - *Falco biarmicus*, pale chanting goshawk - *Melierax canorus*, secretary birds - *Sagittarius serpentarius*, crimson-breasted shrikes - *Laniarius atrococcineus*), whereas, in KNP, it was *large herbivores* (25%) (e.g. elephant, giraffe - *Giraffa giraffa giraffa*, greater kudu - *Tragelaphus strepsiceros*, rhino and the sable antelope - *Hippotragus niger*).

Also, when considering individual coded species, respondents most frequently mentioned *lions, leopards (Panthera pardus)* and *cheetahs* in the KTP and *leopards, elephants* and *African wild dogs (Lycaon pictus)* in the KNP. The species mentioned by respondents could be regarded as the popular, iconic, charismatic or flagship species in the respective parks (SANParks, 2016a; 2018b). According to Reynolds and Braithwaite (2001), Higginbottom (2004), Skibins *et al.* (2013) and Mangachena and Pickering (2021), the size and physical attractiveness (aesthetic value) of a species, as well as the media attention it receives, all contribute to its popularity. Likewise, Mangachena and Pickering (2021) explained that wildlife tourists favour larger animals, more often mammals and birds, which are adorable, colourful and have human or childlike characteristics. Meyer (2015) adds that the scarcity, rarity and elusiveness of species such as leopards also appeal to visitors. These characteristics and their flagship status contribute to tourists' emotional attraction to species (Skibins *et al.*, 2013) and a connection to nature (Clayton & Myers, 2009). This is furthermore attributed to pro-environmental behaviour amongst tourists and a desire to protect these species and the overall biodiversity (Skibins *et al.*, 2013).

Overall, the features mentioned by the respondents to the preferred national parks mainly focused on specific species. In the management plans (SANParks, 2016a; 2018b), the vital attributes primarily highlighted were their international and flagship status, diverse tourism experiences and unique natural, historical and cultural heritage. Iconic species are mentioned as vital attributes. However, particular species were not singled out. These species hold various benefits for tourists to national parks, such as an increased connection to nature (Clayton & Myers, 2009; Buckley, 2022) and pro-environmental behaviour (Skibins *et al.*, 2013). In addition, compared to sites without charismatic species, these benefits include higher public profiles, more volunteers, and higher financial revenues (Higginbottom, 2004; Skibins *et al.*, 2013). Other important attributes noted were the wilderness qualities and sense of place in KNP (Annexure K), especially in its undeveloped areas (SANParks, 2018b). Attributes highlighted in the KTP (Annexure K) were the uniqueness of the landscape in terms of its vastness, remoteness and wildness (SANParks, 2016a).

Less preferred national parks

Categories identified within these parks differed significantly from the preferred parks. Buckley (2022:6) posits that different situations and areas can “generate different responses, and different individuals may have different responses to the same encounters or similar responses but for different reasons”. In GGHNP, the most frequently mentioned category was birds (43%), followed by natural features (31%) (e.g. unique geology, beautiful scenery, and weather). The most iconic bird respondents referred to be the endangered bearded vulture, although it is relatively “elusive” (SANParks, 2020b:24). This rareness of species might be a specific drawcard for tourists (Buckley, 2022). Individual ranked species/features were the *bearded vulture*, *geology* and *scenery*. This park’s main features are its scenery and geological features, as highlighted in Annexure K (SANParks, 2020b). These features again give rise to the activities highlighted in section 5.2.

Table 5.3 Respondents' favourite features in the preferred and less preferred national parks

FAVOURITE FEATURES (Categories)	PREFERRED		LESS PREFERRED			
	KTP <i>n</i> = 716	KNP <i>n</i> = 559	GGHNP <i>n</i> = 87	MapNP <i>n</i> = 147	MarNP <i>n</i> = 148	MZNP <i>n</i> = 305
Birds	137 (19%)	125 (22%)	37 (43%)	35 (24%)	42 (28%)	39 (13%)
Everything	40 (6%)	23 (4%)	4 (5%)	0	10 (7%)	4 (1%)
Large herbivores	62 (9%)	139 (25%)	23 (26%)	52 (35%)	63 (43%)	127 (42%)
Large predators	342 (48%)	198 (35%)	0	9 (6%)	12 (8%)	71 (23%)
Natural features	53 (7%)	33 (6%)	27 (31%)	34 (23%)	23 (16%)	30 (10%)
Places	4 (1%)	19 (3%)	7 (8%)	13 (9%)	11 (7%)	6 (2%)
Reptiles	9 (1%)	0	0	0	1 (1%)	0
Small herbivores	47 (7%)	32 (6%)	0	7 (5%)	8 (5%)	7 (2%)
Small predators	35 (5%)	60 (11%)	5 (6%)	9 (6%)	1 (1%)	27 (9%)
Individual code ranking per park	1. Lion 2. Leopard 3. Cheetah	1. Leopard 2. Elephant 3. African wild dog	1. Bearded vultures 2. Geology 3. Scenery	1. Elephant 2. Landscape 3. Birds – in general	1. Rhino 2. Landscape 3. Cape vulture breeding colony	1. Cape Mountain zebra 2. Lion 3. Landscape

Black and bold – most frequently mentioned

Red – second most frequently mentioned

In MapNP and MarNP, there were similar findings regarding the most frequently mentioned categories. *Large herbivores* (35% and 43% respectively) were mentioned most frequently, followed by *birds* (24% and 28% respectively). In MapNP, large herbivores referred to elephant, giraffe and the greater kudu, whereas in MarNP, respondents mentioned African buffalo, elephant, giraffe and rhino. Birds highlighted in the MapNP were the kingfishers (e.g. *Alcedinidae* species) and the Pel's fishing owl (*Scotopelia peli*). According to Sinthumule (2018:5), the biodiversity of MapNP "lends itself to botanical and birding tours and minimal artificial lighting means that astronomy tours can also be offered". In MarNP, the birds highlighted were the Cape vulture, fish eagle (*Haliaeetus vocifer*), kingfishers and ostriches (*Struthio camelus*). The most frequently coded individual species/features in MapNP were *elephants*, *landscapes* and *birds*. In MarNP, it was *rhinos*, *landscape* and the *Cape vulture* breeding colony. Similar to the preferred parks, respondents to the less preferred parks also mentioned charismatic megafauna as important features. These coincide with proclaiming the respective parks, especially in the case of MZNP.

In MZNP, the most frequently mentioned category was the *large herbivores* (42%), followed by *large predators* (23%). Large herbivores included the Cape Mountain zebra, black wildebeest (*Connochaetes gnou*), African buffalo, eland (*Taurotragus oryx*), gemsbok (*Oryx gazella*) and the greater kudu. Large predators referred to are the lions and cheetahs. The Cape Mountain zebra, lions and landscape were the most frequently coded individual species/features.

Respondents to the less preferred national parks corresponded more closely to the vital attributes in their respective management plans (SANParks, 2014; 2016b; 2019b; 2020b) – see Annexure K. In GGHNP, the vital attributes matched the favourite features mentioned by the respondents. These were charismatic mountains and geological features, special/unique species such as the bearded vultures and the extraordinary sense of place (which might be linked to the aesthetic beauty) (SANParks, 2020b). Other vital attributes not explicitly mentioned by respondents were the palaeontology, tourism potential, cultural heritage and history, education and awareness opportunities and the fact that GGHNP is a role-player in the Maluti-Drakensberg Transfrontier Conservation Area.

The features that MapNP and MarNP respondents highlighted were similar as they referred to large herbivores, landscapes and birds. The MapNP biodiversity concerns iconic species in a unique geological landscape (SANParks, 2019b). In MarNP, wide-open-space visual aesthetic and vital biodiversity attributes include the Cape vulture breeding colonies, Waterberg cycad (*Encephalartos eugene maraisii*), and white and black rhino populations (SANParks, 2014). Other vital attributes not mentioned by respondents were cultural heritage resources, the wilderness experience, and the natural sense of place in MapNP. Visitors to MapNP did not mention the park's importance as a transfrontier conservation area (TFCA). This was confirmed by research by Sinthumule (2018), who confirmed that this status does not trigger tourism and economic development. In MarNP, respondents did not mention Marakele as an important element of the International Union for Conservation of Nature (IUCN) recognised Waterberg Biosphere Reserve that falls within a South African National Biodiversity Institute (SANBI) recognised biodiversity hotspot.

In MZNP, the features highlighted by respondents corresponded to some of the vital attributes in Annexure K. These include the diverse landscapes with unobstructed views, nightscapes, wilderness characteristics, and a peaceful ambience, as well as the contributions to metapopulations of Cape Mountain zebra, black rhino, and cheetah (SANParks, 2016b). Some vital attributes not mentioned by respondents were the cultural heritage sites, tourism product offerings, and the fact that the entire catchment of the Wilgerboom River is found within the park.

Respondents' visual and narrative inputs further illustrated and confirmed the abovementioned.

5.4 PHOTOGRAPHS AND NARRATIVES OF SPECIAL FEATURES

One might ask why it is important to explore the favourite features or photographs of visitors to national parks. Zhu *et al.* (2021) claim that when visitors take pictures of their favourite or iconic sights (such as wildlife and landscapes), they may post them on social media. These visitor photographs are important material that marketers can use to better understand tourists' preferences for attractions (Zhu *et al.*, 2021). Respondent photographs and their accompanying narratives were

analysed in two phases. Photographs were first analysed according to their content and then the narrative descriptions. The categories of the photograph *contents* are displayed in Table 5.4 and consist of *mammals, birds, landscapes, other natural features, manmade features* and *people*.

The themes of *objective* and *subjective* narratives were derived from the narrative descriptions, with the categories *conservation, physical description, and unique features* included in *objective*, and *emotions, loyalty, and profound meanings* as *subjective*.

5.4.1 Photograph content

Preferred national parks

Respondents to KTP and KNP mostly shared photographs of *mammals* (63% and 61%, respectively). In the KTP, photographs of lions and leopards were most frequently provided, and leopards and elephants for the KNP. Meyer (2015) also found leopards to be the most sought-after animal to view. These correspond to the results in Table 5.3, where the individual favourite species were highlighted in the same order.

KTP and KNP respondents frequently mentioned other natural features (17% and 25%, respectively). The *other natural features* photographed in the KTP were “veld flowers”, “camel thorn trees”, “red dunes”, “night skies”, “sunsets/sunrises”, and “weather-related phenomena” (clouds, lightning, and rainbows). Examples of representative photographs are shown in Figure 5.1.



Figure 5.1 Other natural features photographed by respondents in Kgalagadi Transfrontier Park.

Other natural features photographed in the KNP included “trees”, “termite mounds”, “sunsets/sunrises”, and different “waterscapes”, with or without animals in the picture. Sunsets were frequently associated and coded with waterscapes (Figure 5.2).



Figure 5.2 Examples of other natural features photographed by respondents in Kruger National Park.

Less preferred national parks

The photograph content in these national parks varied considerably. In the GGHNP, the most frequently shared photographs were of *landscapes* (84%), followed by photos containing *people* (19%).

In MapNP and MZNP, respondents mostly shared photographs of *mammals* (33% and 55%, respectively). In MapNP, the mammals highlighted by respondents were elephants; in MZNP, it was the Cape Mountain zebra. These are prominent species in the respective parks. Photographs of *other natural features* (26%) were also frequently shared by MapNP respondents, consisting of “sunsets/sunrises”, “waterscapes”, “baobabs”, “Mapungubwe hill”, and “rock fig trees”. In MZNP, respondents' second most frequently shared photographs were of *landscapes* (17%).

Respondents to MarNP mostly shared photographs of *landscapes* (35%), followed by *mammals* (32%). Respondents mainly provided landscape photographs of the Lenong Viewing Point and the view over the dam at the Tlopi Tented Camp. Photographs of mammals provided were mostly of elephants and klipspringers.

Table 5.4 Photographs and narratives shared by respondents to the preferred and less preferred national parks

PHOTOGRAPH CONTENT AND NARRATIVES (Categories)	PREFERRED		LESS PREFERRED			
	KTP <i>n</i> = 283	KNP <i>n</i> = 174	GGHNP <i>n</i> = 31	MapNP <i>n</i> = 42	MarNP <i>n</i> = 34	MZNP <i>n</i> = 77
Content						
Mammals	179 (63%)	106 (61%)	2 (6%)	14 (33%)	11 (32%)	42 (55%)
Birds	24 (8%)	20 (11%)	0	3 (7%)	1 (3%)	11 (14%)
Landscapes	15 (5%)	11 (6%)	26 (84%)	7 (17%)	12 (35%)	13 (17%)
Other natural features	49 (17%)	43 (25%)	2 (6%)	11 (26%)	5 (15%)	4 (5%)
Manmade features	23 (8%)	16 (9%)	5 (16%)	6 (14%)	3 (6%)	8 (10%)
People	27 (10%)	16 (9%)	6 (19%)	4 (10%)	4 (12%)	5 (6%)
Narratives						
THEME: Objective narratives						
Conservation	24 (8%)	9 (5%)	0	1 (2%)	4 (12%)	2 (3%)
Physical description	68 (24%)	37 (21%)	11 (35%)	14 (33%)	13 (38%)	34 (44%)
Unique features	33 (12%)	26 (15%)	0	7 (17%)	3 (9%)	5 (6%)
THEME: Subjective narratives						
Emotions	98 (35%)	74 (43%)	15 (48%)	11 (26%)	18 (53%)	26 (34%)
Loyalty	57 (20%)	26 (15%)	3 (10%)	6 (14%)	2 (6%)	12 (16%)
Profound meanings	34 (12%)	23 (13%)	6 (19%)	6 (14%)	0	7 (9%)

Black and bold – most frequently mentioned

Red – second most frequently mentioned

5.4.2 Photograph narratives

Preferred national parks

The narratives shared by respondents to the KTP and KNP were mainly subjective (Table 5.4). Most narratives were categorised as *emotions* (35% and 43%, respectively), which included expressions such as “feelings”, “freedom”, “special memories” and “positive emotions”. Examples are portrayed in Figure 5.3 and Figure 5.4. Respondent numbers are indicated on the individual photos that correspond to the narratives. The narratives shared by the KTP respondents varied considerably. The narratives in the emotions category focused on happiness, humbleness, peacefulness, relaxation, serenity, feeling privileged and the remembrance of good times. These are found in the following narratives shared by KTP respondents:

“I always want to see little lion cubs – last year we did it! Fantastic – that's things I never forget and I'm very humble that I have the chance to see it” (KTP187).

“The Rainbow in dry land – new life Camping under a tree – silence and tranquillity of the tree. Place to rest!” (KTP349).

“I think just that sort of solitude and that ability to see animals far away, and that they are there if you look for them. There is a serenity” (KTP434).

“Privilege of being in such close company of such a beautiful creature knowing that they are becoming more and more endangered by the day” (KTP607).

“Sitting in a boma at Bitterpan sharing a braai with others. Brings back good memories” (KTP495).

“Happiness” (KTP651).



Figure 5.3 Respondent photographs with subjective narratives taken at the Kgalagadi Transfrontier Park.

There were similar narratives for respondents to the KNP. Respondents to the KNP referred to various feelings and emotions, including happiness, pride, peace, tranquillity, and good memories. Examples of narratives and accompanying photographs (Figure 5.4) are portrayed below:

“Then I get a smile on my face. I’m proud to find this beauty in the park” (KTP673).

“Recharging from life’s rat race, to just feel one with nature and oneself” (KTP472)

“The hide in the background reminds me that it is possible to be in the presence of these animals without the need to disturb them. The picture always makes me feel peaceful as I recall good times spent in silence at hides, waterholes and lookout points” (KNP51).

“It reminds me of Olifants. One of the most beautiful camps in Kruger Park. Amazing memories” (KNP80).



Figure 5.4 Respondent photographs with subjective narratives taken at the Kruger National Park.

Some respondents compared specific photographs to human qualities. This refers to either personification or anthropomorphism of nature. Personification refers to the assigning of human characteristics to something non-human in a figurative way (Marlow, 2013). Anthropomorphism of nature refers to assigning human traits and qualities to nature in a more literal sense (Tam *et al.*, 2013). Representative quotes are highlighted below:

“Nostalgic, sad but huge gratitude...these two males were intensely bonded and ruled their territory absolutely and took no prisoners, it was my honour to know them when they were young and watch them grow old, I learnt many lessons through observation...” (KNP202).

“I feel so at peace looking at this. The birds were fluttering around the Impala, who did not flinch. They know their enemies and trust all others. We as humans need to also know our enemies and be friendly to all others instead of seeing everyone as strangers or enemies” (KNP234).

Tam *et al.* (2013) posit that anthropomorphism improves connectedness to nature and promotes conservation behaviour. Furthermore, particular characteristics or

occurrences in nature tend to speak to people in metaphors about their own lives, for example, “the feeling of hope inspired by seeing new buds on a tree” (Ohlsson, 2022:79). A respondent compared people with trees as seen in the following quote:

“All of us are Baobabs in life, but it's your decision whether you want to be seen as someone big or share your valuable knowledge with the rest of the world” (KNP218).

Respondents' second most frequently used narratives to KTP and KNP (24% and 21%, respectively) referred to *physical descriptions* in the *objective* theme (Table 5.4). These refer to descriptions of particular natural features consisting of “beautiful views” of the parks and the importance of sharing the experience with “friends or family”. The following narratives are examples from respondents to KTP and KNP (Figure 5.5):

“Arrival or departure point” (KTP6).

“The kill in progress” (KTP260).

“The beauty and rarity of dusk creatures” (KTP379).

“It's wild and beautiful with the rain bringing new life” (KTP441).

“Good family experience” (KTP575).

“It is a sunset at Mopani. It symbolises that a day has gone by and the next is on the way. It's so amazing that not one sunrise or sunset is the same” (KNP249).

“The beauty of the veld, even in the middle of winter. The variety of veld and vleis” (KNP361).

“The majesty of our eagles” (KNP182).

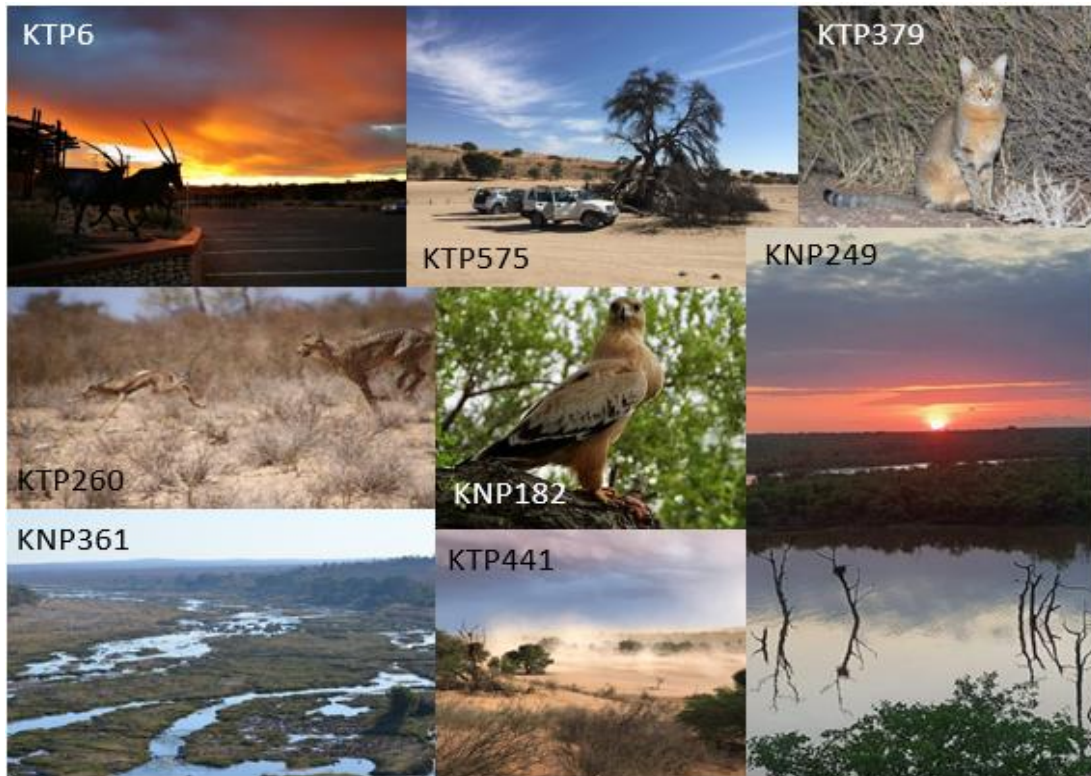


Figure 5.5 Respondent photographs with objective narratives taken at the Kruger National Park and Kgalagadi Transfrontier Park.

Charismatic animal species found in these national parks were the main features mentioned and photographed by respondents. Similarly, Garrod (2009), Urry and Larsen (2011) and Zhu *et al.* (2021) found that visitor photographs of natural areas were closely associated with visitors' interests and focused on their visiting experience. The narratives for the photographs mainly had an emotional tone. Relaxation was frequently mentioned and experienced by respondents and might suggest a nature connectedness and attachment formed to a place (Clayton & Myers, 2009; Howell *et al.*, 2011), as spending time in nature (relaxing) allows for appreciative and mindful nature experiences (Cleary *et al.*, 2020).

Less preferred national parks

The narratives shared by respondents to the GGHNP and MarNP were mostly subjective (Table 5.4) and were mainly categorised as *emotions* (48% and 53%, respectively). Examples are presented in Figure 5.6 and Figure 5.7, where respondent numbers on the photographs correspond with the narratives. GGHNP narratives were as follows:

“I feel nostalgic for the life we had before, but also so grateful for our trip and that we just made it through 90% of our stops before the lockdown. Also, looking at that photo to me is a reminder of how small we are compared to this huge, beautiful world we have!” (GGHNP25)

“Happiness, family, time out, warmth” (GGHNP7).

“Spending time in nature is fundamental for a happy and healthy mind, body and soul” (GGHNP63).

“It illuminates the absolute vastness and open plains combined with dramatic cliffs in the park, making it a special National Park” (GGHNP29).



Figure 5.6 Golden Gate Highlands National Park respondent photographs with subjective narratives.

Respondents from the GGHNP referred to “loving its features”, “happiness”, and the park being “special”. The GGHNP respondents included people in several photographs. Dzenis (2023) stated that photographers have people in nature photographs because it may help to tell a story, help to balance the composition or

create a sense of depth in an image. It may assist in showing the size and scope of the landscape (Dzenis, 2023), as demonstrated above by respondents GGHNP25, GGHNP29 and GGHNP63. These respondents referred to “feeling small”, “showing the vastness” and “improving their well-being”.

Respondents to MarNP mainly referred to experiencing “peace”, “good memories”, and the park being a “favourite place”. These are representative of their responses:

“It brings back many peaceful, beautiful memories from our stay at Marakele” (MarNP77).

“Marakele is a place of peace and harmony” (MarNP100).

“Space, peace and quiet in one of my favourite places” (MarNP111).

“It is a precious memory and a reminder that the mountains will always be there for us to return to” (MarNP122).



Figure 5.7 Marakele National Park respondent photographs with subjective narratives.

Respondents to MapNP and MZNP mostly shared objective narratives (Table 5.4). Narratives were mainly categorised as *physical descriptions* (33% and 44%, respectively). Examples are portrayed in Figure 5.8 and Figure 5.9 for the respective parks. The following narratives are representations from MapNP respondents:

“The park has the most amazing geographical features” (MapNP1).

“Herd of ellies blocking the road in a fantastic landscape” (MapNP52).

“The lovely nature of the place” (MapNP58).

“Incredible rock formations” (MapNP59).

“I was enjoying the scenery” (MapNP61).



Figure 5.8 Respondent photographs with objective narratives taken at the Mapungubwe National Park.

The objective narratives described by respondents to MapNP referred to the “scenic beauty”, “elephants”, and “landscapes and geographical features” that include the rock formations, rock figs (*Ficus abutilifolia*) and baobabs. Respondents to MZNP referred to various features such as the “beauty of the Cape Mountain zebra”, the “scenery”, and “landscapes”. These representative narratives were given:

“Amazing storm brewing while we were enjoying a fantastic lunch at the restaurant” (MZNP107).

“That I want to be high up there again savouring the beauty of the land” (MZNP125).

“Reminds me of just how beautiful these zebras are” (MZNP231).

“Feeling of Africa” (MZNP252).

“Great view” (MZNP313).

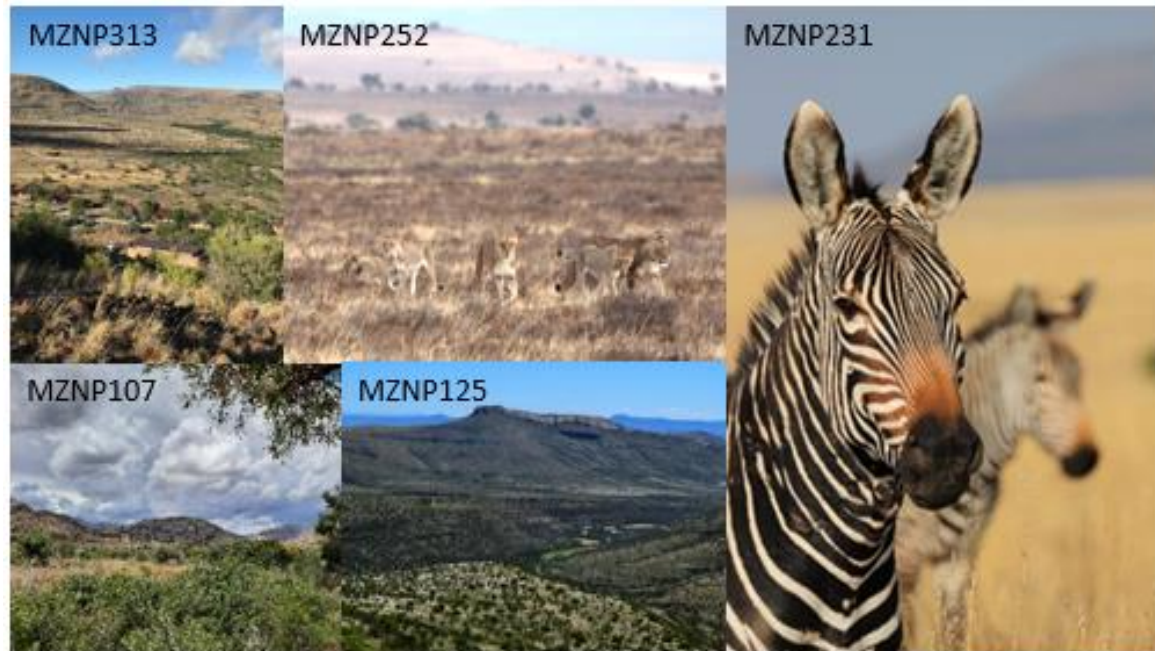


Figure 5.9 Respondent photographs with objective narratives taken at the Mountain Zebra National Park.

A unique observation with the less preferred national park features photographed was that respondents to GGHNP and MarNP mostly photographed landscapes and provided subjective (emotional) narratives. The landscapes in these parks are significant and frequently used in marketing brochures for the respective parks. These photographs of the sandstone mountains in GGHNP and the Lenong outlook at MarNP also provide tourists with a special and embodied sensescape. Tourists can explore these parks and viewpoints on foot, providing a special gaze where all their senses are engaged. As Urry and Larsen (2011) exert, gazing often involves seeing, touching, walking upon, or moving along with smells and sounds.

Respondents to MapNP and MZNP mainly photographed animal species and provided objective (physical) narratives. These parks have special species earmarked for conservation: the elephant in MapNP and the Cape Mountain zebra in MZNP. These respondents gave overall morphological descriptions of the species

and features photographed. Comparable findings were observed with research by Axelsson (2007) and Zhu *et al.* (2021), whereby physical traits and familiarity typically influenced the apparent visual appeal of a photograph.

Tourists are often attracted to places made 'special' by the media and will travel there (Urry & Larsen, 2011). Media can sometimes create unrealistic expectations for tourists. The photographs of tourists can play a pivotal role in the marketing of national parks and the interpretation services (Zhu *et al.*, 2021). Marketers may not use particular photographs of tourists but adjust or update their photographs to attract potential tourists. According to Husain *et al.* (2017), photographs with high aesthetic appeal could draw attention and promote conservation. Zhu *et al.* (2021) furthermore stated that high-quality photographs are helpful to attract tourists. Therefore, considering the respondents' special species or features highlighted and using high-quality photographs could improve the marketing of the national parks.

5.5 SUMMARY

Overall, the respondents' experiences highlighted favourite features and conservation attributes of the respective national parks resembled the descriptions of their management plans. The main highlights of respondents to the preferred national parks were animal sightings and personal experiences. An emphasis was placed on charismatic species. These species were explicitly mentioned and photographed. The narratives given by the preferred park respondents were mainly subjective, whereby emotions were expressed.

The highlights for three less preferred national parks (MapNP, MarNP, MZNP) were the animal sightings, except for the GGHNP, where the highlight was the sensory experiences. This national park has a unique set-up, and sensory experiences refer to the immense beauty of the park. The secondary highlight of the latter national park was the unique activities. Highlights of the other three parks were the sensory experiences and unique activities. The favourite features mentioned most frequently by MapNP, MarNP, and MZNP respondents were large herbivores and birds in GGHNP. However, respondent photographs in the GGHNP did not feature birds, which could be due to the rarity of the bearded vulture – one of the most mentioned species.

Furthermore, respondents to the GGHNP and MarNP mostly photographed landscapes and included emotional, subjective narratives. The GGHNP respondents often included people in the photographs to highlight their sense of humility. In contrast, the MapNP and the MZNP respondents' photographs mainly consisted of species for which they provided objective narratives.

CHAPTER 6

VALUE OF CULTURAL ECOSYSTEM SERVICES

6.1 INTRODUCTION

The third objective of the research was to determine how visitors value the cultural ecosystem services (CES) within preferred and less preferred national parks. According to Pascual *et al.* (2017:9), “the term ‘value’ can refer to a concept linked with a given worldview or cultural context, a person’s preference for a particular state of the world, the significance of something for oneself or others, or simply a measure”. Determining the value of CES in the national parks may communicate the importance of protecting ecosystems (Hirons *et al.*, 2016), which involves their spiritual or religious significance or importance for cultural identity. Furthermore, CES are important as they are central to well-being (Russell *et al.*, 2013; Hirons *et al.*, 2016). Russell *et al.* (2013:6) identify ten important elements of well-being: “physical health, mental health, spirituality, certainty and sense of control and security, learning/capability, inspiration/fulfilment of imagination, sense of place, identity/autonomy, connectedness/belonging, and subjective (overall) well-being”. Several of these well-being components are included in this research. Table 6.1 gives an overview of the overall importance of the cultural ecosystem services in the respective parks.

6.2 RESULTS AND DISCUSSION

The mean (\bar{X}) scores are given in Table 6.1, and a description thereof in section 3.4.1. Firstly, the overall importance of the CES will be explained. Secondly, the most significant CES by respondents per national park will be discussed, and thirdly, each of the CES will be evaluated to see its importance in the respective national parks.

Table 6.1 An overview of the overall importance of the cultural ecosystem services in the respective national parks

IMPORTANCE OF CULTURAL ECOSYSTEM SERVICES	PREFERRED		LESS PREFERRED			
	KTP <i>n</i> = 733	KNP <i>n</i> = 574	GGHNP <i>n</i> = 96	MapNP <i>n</i> = 149	MarNP <i>n</i> = 153	MZNP <i>n</i> = 318
	\bar{X} (SD)	\bar{X} (SD)	\bar{X} (SD)	\bar{X} (SD)	\bar{X} (SD)	\bar{X} (SD)
Overall importance	3.99 (0.94)	4.03 (0.97)	3.98 (0.94)	3.90 (1.04)	3.78 (1.03)	3.78 (1.00)
Spiritual value	3.43 (1.30)	3.35 (1.37)	3.21 (1.37)	3.22 (1.38)	3.15 (1.38)	3.07 (1.3)
Cultural heritage	3.47 (1.14)	3.55 (1.19)	3.39 (1.27)	3.76 (1.16)	3.18 (1.22)	3.22 (1.2)
Aesthetic value	4.76 (0.51)	4.67 (0.59)	4.76 (0.45)	4.62 (0.62)	4.58 (0.67)	4.67 (0.6)
Inspirational value	4.18 (0.89)	4.19 (0.91)	4.14 (0.84)	3.95 (1.10)	3.93 (0.99)	3.79 (1.0)
Sense of place	4.39 (0.80)	4.39 (0.79)	4.13 (0.89)	4.05 (0.97)	4.07 (0.89)	4.04 (0.9)
Identity	4.05 (0.97)	4.09 (1.00)	3.78 (1.14)	3.77 (1.14)	3.68 (1.07)	3.61 (1.0)
Social relations	3.25 (1.16)	3.38 (1.15)	3.17 (1.18)	3.42 (1.21)	2.98 (1.13)	3.12 (1.1)
Environmental educational value	4.05 (0.96)	4.23 (0.96)	4.15 (0.96)	4.04 (0.99)	3.82 (1.11)	3.88 (1.1)
Emotional well-being	4.41 (0.78)	4.36 (0.85)	4.25 (0.78)	4.09 (1.07)	4.14 (0.92)	4.11 (1.0)
Physical health	3.96 (0.99)	3.92 (1.03)	4.14 (0.90)	3.78 (1.16)	3.86 (1.04)	3.77 (1.0)
Recreational opportunities	3.20 (1.24)	3.40 (1.24)	3.94 (1.02)	3.33 (1.13)	3.27 (1.19)	3.36 (1.1)
Existence value	4.79 (.,53)	4.80 (0.60)	4.76 (0.52)	4.74 (0.61)	4.67 (0.71)	4.73 (0.7)

Bold = Most important overall

Red =Most important CES among national parks

6.2.1 Overall importance of CES

The KNP has the highest mean score ($\bar{X} = 4.03$) for CES overall – see the first row of Table 6.1. Respondents to all the national parks indicated that CES are important, with mean scores above 3.5. However, it is significant that the mean scores for the preferred national parks are higher than those for the less preferred ones. Respondents to the preferred parks may have a strong attachment to the parks due to a higher visitation frequency and childhood memories and may value different CES more. This corresponds with Hiron *et al.* (2016), who found that people's cultural attachment to a landscape often concerns particular places where they played as a child or a view that inspired them.

6.2.2 Most significant CES

The CES rated most important to respondents to all national parks was *existence value*. A study by Canedoli *et al.* (2017) also found existence value among the highest values in their research in Parco Nord peri-urban park in Milan, Italy. Existence value is defined as a 'non-use relational value' (Hiron *et al.*, 2016; Csurgó & Smith, 2021) relating to "the satisfaction people may derive from the mere knowledge that nature exists and originates in the human need for self-transcendence" (Davidson, 2013:171). Hiron *et al.* (2016:12) furthermore explain it as the "value someone holds toward something even though it may never be of direct use (such as a charismatic species like polar bears - *Ursus maritimus*)". Many respondents referred to the existence value as respecting and protecting nature. The following quote highlights this: "*Respect for nature and the animals. God created nature and we must protect it*" (KTP533). Existence value also refers to the conservation of the parks for future generations and the term bequest value. This was highlighted by the representative quotes from respondents to each of the respective national parks:

"No longer being at the top of the food chain (as one is in the city) makes one realise the importance of being connected in every way possible. Wanting to return year after year makes the connection so much stronger because one wants to find the place as beautiful when one returns and ensure that one's grandchildren have the same opportunities" (KTP391).
"Every visit to Golden Gate is an 'aha' moment with breathtaking sandstone and mountains. It is one of the most beautiful places in the

whole wide world and should be preserved for future generations!” (GGHNP10).

“We must ensure that children are educated to appreciate the beauty of nature and the animals and how lucky we are to have this in our country. It must be kept and preserved at all costs” (KNP222).

“I felt very one with nature. I remember saying, I wish they could preserve this park so my kids can experience it in the future” (MapNP79).

“I always feel that there are very direct links to our actions and the well-being of nature and vice versa. This is a legacy that we must cherish for our children” (MarNP4).

“Seeing it and appreciating it makes me feel connected. Like I am doing a good thing by appreciating it and showing my children how to appreciate it” (MZNP190).

In the GGHNP, the *aesthetic value* had a similar mean score to its *existence value*. This highlights the importance of its unique landscape and geology, as highlighted in the favourite features chosen by respondents in section 5.3. Next, the individual CES will be discussed, and the importance thereof in the respective national parks will be indicated.

6.2.3 Evaluation of the individual CES

Spiritual value was rated most important in the KTP ($\bar{X} = 3.43$), followed by KNP ($\bar{X} = 3.35$). However, spiritual value seems to be only moderately important in these parks. Spirituality is a value that has diverse meanings to respondents. Spiritual values can be interpreted as transcendent, as they are essential concepts of the interactions between humans and nature (Raymond & Kenter, 2016). Some respondents referred to spirituality with religious connotations such as “God’s creation”, “feeling God’s presence”, and being “connected to God”. Others interpreted spirituality as “part of something bigger or a higher power” or “to feel connected to nature”. Cooper *et al.* (2016:223) state that “spiritual perceptions typically affirm the oneness of people with nature, a creature among the creation or the experience of a deep connectedness”. Representative verbal accounts from respondents include:

“I remember a line from a Eugene Marais poem (‘so wyd as die Heer se genade’) which, translated, indicates the vistas and scenery are as wide as God’s grace! Awesome and powerful thought!” (KTP126).

“Time to talk to God and thank Him for this special place – especially in evenings when geckos start barking at sunset!” (KTP74).

“I think I love and enjoy nature very much, but I don’t feel a spiritual sense of connectedness with it. I think my spiritual and connectedness feelings are connected to the Creator of all this amazing nature” (KNP210).

“The first time I saw a baobab tree, and the time I drove through the fever tree forest in the north. Both experiences had almost a spiritual character; these trees could come out of a fairy-tale and the whole landscape there is magical” (KNP198).

Some respondents provided photographs (Figure 6.1 and Figure 6.2) with narratives about spirituality. Interestingly, both photographs in the respective national parks include fire. These are statements given by the respondents:

“The feeling of no fences, peace and quiet after a hard day of work make you feel small. You then realise you are only a small piece in this beautiful picture. You realise again how GREAT is our GOD” (KNP378).



Figure 6.1 Kruger National Park respondents’ photograph of a fire and explaining their spirituality.

*“It is about the experience of being there/here...in the creation on Earth”
(KTP374).*



Figure 6.2 A Kgalagadi Transfrontier Park respondent explains a spiritual experience while around a fire.

Cultural heritage was rated most important by respondents to the MapNP ($\bar{X} = 3.76$). This is significant because this national park strongly focuses on its cultural heritage. MapNP also organises cultural events. One respondent attended one of these events in 2019, and when asked what she enjoyed from her experience, she answered:

“The different cultures I have seen. The young girls and boys are still respectful. I have seen that yesterday. From where I come (Pretoria) I don’t see that anymore...that the young people still respect their traditions, but that is what I saw here yesterday. I was very happy to see that” (MapNP_T02).

Respondents expressed the importance of the cultural heritage in the park, referring to a “sense of cultural heritage and significance”, a “unique connection between nature and culture”, “historic cultural heritage is special”, and the “Mapungubwe Hill is wonderful”. The cultural heritage is also referred to as the “early civilisation”. The following respondent quotes express this latter characteristic:

“This ancient site is fascinating and wonderful to walk ‘in the steps of an ancient civilisation’” (MapNP43).

“The Mapungubwe cultural landscape is a unique geological feature which is very different to any other landscape within the borders of South Africa” (MapNP132).

“The insight into South Africa’s cultural heritage makes this particular park very special and interesting. The hike up the hill provided a moment of awe in imagining how communities lived hundreds of years ago in that very area. The guide clearly had a strong connection, making it so special” (MapNP12).

Overall, cultural heritage did not seem to be too important to respondents. This may be attributed to a general lack of knowledge or information about the park’s status. For example, none of the respondents to MapNP and KTP mention the ‘World Heritage’ status in and around these parks as positive contributors. SANParks’ (2021:18) cultural heritage assessments identified “challenges with cultural heritage management such as site conservation, site interpretation and presentation, and monitoring and reporting”. SANParks management’s goal is to share the heritage, such as rock art, with tourists to instil a greater appreciation of the cultural history and its conservation (SANParks, 2021a). This research proved that SANParks has not reached this goal, as visitors often do not know about these special features. This is especially true in the less preferred parks without interpretation centres or outdated information brochures.

Aesthetic value was equally important to respondents to KTP ($\bar{X} = 4.76$) and GGHNP ($\bar{X} = 4.76$). The favourite features highlighted in the GGHNP were its landscapes, geology and scenery. In the KTP, some features highlighted were the red sand dunes, landscapes and spectacular weather-related views (section 5.3). Botha (2012) also found the beautiful scenery in the GGHNP to be the most important aspect of their study. Examples of respondents’ quotes are:

“We enjoy the vast expanses of arguably one of the most beautiful parts of God’s creation, and importantly with very little commercialisation, or a large number of visitors” (KTP203).

“The beautiful scenery, I’ve seen it from very dry to green, but always you see the red dunes” (KTP646).

“The beautiful colours of the rocks and the way the scenery is different in a different light at different times of day is amazing!” (GGHNP34)

Respondents rated *inspirational value, sense of place, and identity as the most important attributes in the preferred national parks*. This might refer to the primary motivation for visiting these parks. In Table 4.2, it was indicated that respondents’ motivations for visiting referred to their loyalty towards the respective parks. Previous research (Halpenny, 2010; Ramkissoon *et al.*, 2013) found that when people are attracted to particular features and relate to those features, their attachment to the place strengthens. As their attachment increases, so would they possibly value the destination favourably and show loyalty towards the place (Halpenny, 2010; Ramkissoon *et al.*, 2013; Lee *et al.*, 2019). The preferred national parks scored the highest overall place attachment, and this also refers to the loyalty they expressed as their motivation to visit (see Table 7.1 and the discussion). Furthermore, a study by Mock *et al.* (2022:16) found that “those who are motivated to visit parks and protected areas for spiritual and ecological reasons (e.g., to be inspired by nature or to experience a sense of place) felt a greater sense of identification with the park and felt they were more knowledgeable about parks”. This shows that these three CES may be experienced in close association. These CES will be explained below with representative quotes by respondents.

Inspirational value was rated slightly more important to respondents to KNP ($\bar{X} = 4.19$) than to KTP respondents ($\bar{X} = 4.18$). Canedoli *et al.* (2017) mentioned that natural benefits often inspire paintings, sculptures, poetry, music, weaving, and architecture or as the basis of myths, folklore, and national symbols. A respondent from KNP explained how they were inspired during their visit to the park and created a painting of one of their sightings. This painting (Figure 6.3) and its accompanying narrative are depicted below:

“This is a painting I did after returning from our most recent trip. We had the most beautiful sighting of a western barn owl. We spotted it roosting in a rock crevasse and it was such a special moment. Looking back at it, I am reminded of what I love most about Kruger – the fact that you never

know what's around the next corner, there are hidden gems EVERYWHERE, and the more you look, the more you see!" (KNP112).



Figure 6.3 A photograph of a painting made by a respondent (KNP112) after they sighted a western barn owl.

Inspiration could also be considered as “enrichment, experience, solace, enlightenment, fulfilment, renewal, and reflection” (Canedoli *et al.*, 2017:6). The following quote explains a respondent’s inspiration:

“The effect the smells and sounds have on my soul to give peace is inspirational. Just sitting under a tree and experiencing the bush is very soothing. I feel close to my late parents, which warms my heart. I have so many warm memories that all come back to when I was in the park. Seeing and observing all parts of nature, big and small, makes one part of the universe” (KNP84).

Sense of place was rated equally important to respondents to the KTP and KNP ($\bar{X} = 4.39$). *Sense of place* and *identity* were included as separate CES in this research. However, a *sense of place* and *identity* are often interpreted as one value, such as in the studies by De Groot *et al.* (2010) and Canedoli *et al.* (2017). *Sense of place* often refers to the benefit of “feeling at home” in a natural environment or features that evoke a sense of belonging, identity, connectedness or relations

(Canedoli *et al.*, 2017). Sense of place could also refer to a place's special 'feeling', 'atmosphere', or 'character'. These are quotes from respondents referring to sense of place:

"I enjoy photography, so the predator sightings are a great bonus, but the quiet, isolated spirit of the Kgalagadi will keep drawing me back. The place has an ancient mystery about it. Oh, and sticking your toes in the sand as well as the rain in summer" (KTP207).

"We love the remoteness, the quiet, and the animals of the Kgalagadi. Very special atmosphere of the place – the whole experience" (KTP401).

"I always have a strong feeling of wanting to go back there to experience the animals and birds (and reptiles) and for the spirituality of the place" (KTP589).

Identity was rated slightly more important in the KNP ($\bar{X} = 4.09$) than in KTP ($\bar{X} = 4.05$). This refers to the strong reference to tradition and nostalgia by respondents. Table 4.4 shows that respondents from the KNP visit most frequently, with 41% visiting yearly and 24% visiting the national park twice a year. Hailu *et al.* (2005) suggest that the habitual inclination to visit a place strongly correlates with place identity. The following quotes are representative of the respondents' views:

"I'm not sure if you can explain this feeling or express it in words. When it's part of you who you are and what makes you who and what you are, it's not possible to explain it" (KTP345).

"This park is part of who I am. Since I was a child, we have had holidays in the park and it is important to teach my children about wildlife and its conservation!" (KTP554).

"It is a very spiritual place for me and the more time you spend there, the more you feel part of it. Even when we are back in Cape Town, I feel connected and think about it all the time" (KTP470).

"I have visited Kruger since I was a small child. Every time I drive through the entry gate, there is an overwhelming sense of nostalgia and an aura of peace that swamps my senses in such a wonderful way. The smell of entering Kruger is so distinctive and marks a period of time during which one can shut out the business of the outside world" (KNP45).

Social relations were rated important in KNP ($\bar{X} = 3.38$) and MapNP ($\bar{X} = 3.42$). In MapNP, it is slightly more important, which might be linked to the park's cultural heritage. A respondent (MapNP23) explained: "Seeing all three countries come together, you forget about political and social boundaries and remember that we all inhabit this earth together". However, with a mean score below 3.5, this CES is considered moderately important. Similarly, a study by Canedoli *et al.* (2017) found that benefits related to social relations were among the lowest scores regarding importance for the people in a peri-urban park. According to Ajuhari *et al.* (2023), social bonding is not necessary because visitors in an ecotourism context may be motivated by the desire to experience solitude or be alone.

Nevertheless, Neuvonen *et al.*, (2010:55) found that "if a natural setting such as a national park and the surrounding region provides a context for meaningful social relationships and shared experiences, some of these meanings merge with the feelings toward the place". Various respondents referred to special social relations during their visit to the parks. Respondents mainly expressed the "joy of telling their friends about their experiences", "sharing photos with friends", and "evenings with my friends around the braai". Respondents shared deeper feelings about their experiences in the parks with their families. The following verbal accounts are representative thereof:

"Have lots of treasured memories of experiencing nature as it was a few hundred years ago and lots of fond memories as a child, adult and now as a parent with my family and friends" (KNP359).

"I love the KNP and the animals and visit the KNP every year with my wife, children and friends and we love seeing the animals and spending time with one another in nature (at night having braai's and reflecting on what was seen) and just enjoying nature" (KNP474).

"Kruger is very special as there are family memories, happy, sad, funny, and scary. It brings us together again as a family even just looking at photos" (KNP449).

Environmental educational value was rated most important in the KNP ($\bar{X} = 4.23$), followed by the GGHNP ($\bar{X} = 4.15$). These parks have well-established environmental education centres. The KNP has world-class research facilities and

various environmental interpretation centres. The GGHNP planned and built a dinosaur exhibition centre, as many respondents appreciated the opportunity to learn about the fossils found. However, many respondents also indicated their disappointment with the centre's location. Also, a study by Taru *et al.* (2013) found that community members from QwaQwa did not favour placing the museum in the GGHNP. The community members felt it added to the feeling of being exclusive and continued to feel disconnected from the park. Nevertheless, the importance of environmental education is evident from the responses cited below:

“To keep Kruger Park in its functions of nature conservation and environmental education, so that it continues to be a part of the common heritage of all South Africans, social inequalities must be reduced and therefore that truly effective redistribution policies be put in place” (KNP210).

“Seeing the dinosaur eggs and learning the palaeontology of the GGHNP makes it unique” (GGHNP9).

“The fact that the camping area was reduced by erecting an enormous building for a dinosaurian museum. This could have been erected outside the park” (GGHNP4).

“Looking forward to the completion of the Dinosaur Centre” (GGHNP10).

Emotional well-being ($\bar{X} = 4.41$) was rated most important by KTP respondents. Canedoli *et al.* (2017) stated that engaging with nature provides peace and tranquillity, enhances health and might lead to positive changes in one's mood. The emotional statements below are a testament to this CES:

“A feeling of peace, emotional well-being and happiness” (KTP119).

“I feel peaceful and rejuvenated by the memory of fresh, dry air and open spaces and by the nighttime animal sounds like the barking geckos, the roaring of lions and the howling jackals. I feel general well-being when I think of the KTP” (KTP298).

Physical health ($\bar{X} = 4.14$) and *recreational opportunities* ($\bar{X} = 3.94$) were rated most important in the GGHNP. This concurs with the motivation for visiting and the experiences highlighted in this national park (section 4.2). The main motivation for visiting this national park was its accessibility and activities offered, such as hiking

and horse riding. GGHNP also differs in its use patterns and the absence of dangerous game species. The following are quotes from respondents' experiences:

“Being out in nature was and always is special. This is how life should be...but it’s also sad to see how humans impact that which feeds us both physically and emotionally” (GGHNP70).

“My wife and I enjoy hiking and this venue gave us ample opportunity to explore the area on foot” (GGHNP49).

“The beautiful views and variety in hiking options make it possible for almost everyone to enjoy it” (GGHNP12).

“We do a lot of hiking into the surrounding mountains and just relax in this beautiful environment!” (GGHNP20).

“The vulture hide was a highlight of our visit to the park. It allowed us to see these birds up close and observe the behaviour of these birds, which we might never have experienced otherwise” (GGHNP85).

From the above, it is clear that certain CES are more prevalent in certain parks. The MarNP and MZNP did not stand out among the others. However, the most important CES in these parks were aesthetic value followed by emotional well-being and sense of place. The following section will look at the descriptive and the CES scale reliability.

6.2.4 CES descriptives and scale reliability for the preferred and less preferred national parks overall

Before performing the factor analysis, the data suitability was assessed using Bartlett's Test of Sphericity (BTS) and Kaiser-Meyer-Olkin (KMO) – see Table 6.2. The KMO test for the factor of the preferred parks was statistically significant (0.87), while the less preferred parks achieved (0.89). Both generated a BTS of $p \leq 0.05$.

Table 6.2 CES descriptives and scale reliability statistics for the preferred and less preferred national parks overall

<i>Descriptives</i>									
Preference	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
						Statistic	Std. Error	Statistic	Std. Error
Preferred	1307	1.00	5.00	4.01	.60	-.650	.068	.847	.135
Less preferred	716	1.00	5.00	3.83	.68	-.672	.091	.885	.182

<i>Scale reliability statistics</i>							
Preference	N	Cronbach alpha (α)		KMO	Bartlett's Test of Sphericity	Mean Inter-item correlations	
		α	No. items				
Preferred	1307	0.85	12	0.87	Approx. Chi-Square df Sig.	5237.346 66 .000	
Less preferred	716	0.88	12	0.89	Approx. Chi-Square df Sig.	3770.629 66 .000	

6.2.5 Factor analysis on the CES

Table 6.3 contains the factor analysis results of *cultural ecosystem services* for preferred and less preferred parks. One factor was extracted as explained by the eigenvalue greater than one rule. The factor *cultural ecosystem services* for preferred and less preferred parks obtained a good α of 0.85 and 0.88, respectively. The α of the labelled factor affirms the reliability of the five-point Likert scale used. The factor of preferred parks accounted for 38.84 per cent of the total variance, while the factor of the less preferred parks equalled 44.60 per cent. The author compiled this questionnaire based on the literature reviewed. The specific scale had no comparable research to gauge the current results. One item had a factor loading

under .40, namely the existence value (.391) for the preferred parks, but it was kept as the item rated most important by respondents in Table 6.1.

Table 6.3 CES factor loadings for preferred and less preferred parks

	Preferred parks	Less preferred parks
<i>Questionnaire items</i>	CES	CES
B1. Spiritual value	.605	.603
B2. Cultural heritage	.643	.671
B3. Aesthetic value (scenery, landscape, sounds or smells)	.492	.538
B4. Inspirational value	.737	.778
B5. Sense of place	.719	.750
B6. Identity	.731	.803
B7. Social relations	.684	.719
B8. Environmental educational value	.618	.696
B9. Emotional well-being	.658	.729
B10. Physical health	.627	.702
B11. Recreational opportunities	.466	.462
B12. Existence value (future existence of this park)	.391	.442
Initial eigenvalues (1 factor)	4.661	5.352
Total Variance	38.841	44.603

Extraction Method: Principal Component Analysis

6.3 SUMMARY

The CES scale consisted of 12 items. In addition, respondent quotes were added to provide further clarity to these values. The factor analysis revealed that all items can be measured under one factor as this solution had acceptable BTS, KMO and α scores. The variance reported for the preferred parks was 38.84%, and 44.60% for the less preferred parks. Results discussed in this chapter determined that respondents to the preferred national parks rated the CES most important, particularly the KNP, with the highest overall mean. The most important CES among all parks is the existence value, identified as a 'non-use relational value'. This shows respondents' tendency towards preserving the parks for future generations. A joint display below provides a synopsis and meta-inference (Table 6.4).

Table 6.4 Joint display of the value of cultural ecosystem services

THEME/ SCALE	QUANTITATIVE	QUALITATIVE	MIXED METHOD META-INFERENCES	
Cultural Ecosystem Services <i>(5-point Likert scale)</i>	Park KTP KNP GGHNP MapNP MarNP MZNP	Mean (s) 3,99 (0,94) 4,03 (0,97) 3,98 (0,94) 3,90 (1,04) 3,78 (1,03) 3,78(1,00)	<p>Enhancing: The qualitative quotes from the respondents complement the quantitative data. It provides further interpretation and context.</p> <p>Overall, the KNP have the highest overall score for the CES. In contrast, MarNP and MZNP had the lowest overall scores.</p> <p>The most important CES in all the respective parks is existence value.</p> <p>It is worth mentioning that none of these remaining CES were rated higher in the MarNP and MZNP when comparing them to the other parks. However, in both these parks, the aesthetic value, followed by the emotional well-being and sense of place, was rated as the most important in both these parks.</p> <p>The lowest-scored individual CES was recreational opportunities in KTP; spiritual value in KNP, GGHNP, MapNP, and MZNP; and social relations in MarNP.</p>	
	Rated items/CES: Overall: Existence value			<i>"Respect for nature and the animals. God created nature and we must protect it"</i> (KTP533).
	Spiritual value = KTP			<i>"Time to talk to God and thank Him for this special place!"</i> (KTP74)
	Cultural heritage = MapNP			<i>"The insight into South Africa's cultural heritage makes this particular park very special and interesting"</i> (MapNP12).
	Aesthetic value = GGHNP			<i>"The beautiful colours of the rocks and the way the scenery is different in a different light at different times of day is amazing!"</i> (GGHNP34)
	Inspirational value = KNP			<i>"The effect the smells and sounds have on my soul to give peace is inspirational. Just sitting under a tree and experiencing the bush is very soothing"</i> (KNP84).

THEME/ SCALE	QUANTITATIVE	QUALITATIVE	MIXED METHOD META-INFERENCES
Sense of place = KTP & KNP		<i>“We love the remoteness, the quiet, and the animals of the Kgalagadi. Very special atmosphere of the place – the whole experience” (KTP401).</i>	
Identity = KNP		<i>“This park is part of who I am. Since I was a child, we have had holidays in the park, and it is important to teach my children about wildlife and its conservation!” (KTP55</i>	
Social relations = MapNP		<i>“Joy of telling friends about our experiences” (MapNP23).</i>	
Environmental educational value = KNP		<i>“To keep Kruger Park in its functions of nature conservation and environmental education, so that it continues to be a part of the common heritage of all South Africans” (KNP210).</i>	
Emotional well-being = KTP		<i>“A feeling of peace, emotional well-being and happiness” (KTP119).</i>	
Physical health = GGHNP		<i>“Being out in nature was and always is special. This is how life should be...but it is also sad to see how humans impact that which feeds us both physically and emotionally” (GGHNP70).</i>	
Recreational opportunities = GGHNP		<i>“We do a lot of hiking into the surrounding mountains and just relax in this beautiful environment!” (GGHNP20).</i>	

The individual CES was also assessed to see where they were most important. Spiritual value, aesthetic value, sense of place and emotional well-being were rated as most important by KTP respondents. Inspirational value, sense of place, identity and environmental education value were rated as most important by KNP respondents. Furthermore, aesthetic value, physical health and recreational opportunities were rated as most important to GGHNP respondents. Cultural heritage and social relations were rated as most important to MapNP respondents.

Besides the existence value of the parks, the CES was rated less important in the MarNP and MZNP when compared to the other parks. Considering the two most important CESs in these latter parks indicates the CES's importance to the respondents. Interestingly, in both MarNP and MZNP, respondents rated aesthetic value followed by emotional well-being and sense of place as most important.

CHAPTER 7

PLACE ATTACHMENT

7.1 INTRODUCTION

The fourth objective of the research was to determine how attached visitors were to the respective national parks and their reasons for feeling attached. This objective was answered both quantitatively and qualitatively. The questions that guided the discussion of the objective were:

- Do visitors feel attached to the respective national parks, and to what extent (identity of dependability)?
- How do visitors interpret their attachment to the respective national parks?

The quantitative data were derived using an existing place attachment scale (Williams & Vaske, 2003), where the level of attachment was determined for the respective parks. Questions used to gather qualitative data focused on special experiences ('wow' moments) and the feelings or effects that respondents still remember after their visits. The quantitative results will be presented and discussed first, followed by the qualitative findings.

7.2 QUANTITATIVE RESULTS AND DISCUSSION

7.2.1 Mean scores of the place attachment scale

In Table 7.1, the mean scores for all statements were rated highest for the KNP. The overall place attachment mean score is highest for KNP ($\bar{X} = 4.30$) as well as the means for place identity ($\bar{X} = 4.64$) and place dependence ($\bar{X} = 3.96$). The mean place identity scores for all national parks were overall higher than the mean scores for place dependence. Verbrugge *et al.* (2019) and Ajuhari *et al.* (2023) had similar findings in their studies of European river landscapes and the Penang National Park in Malaysia, respectively. Respondents, therefore, have a stronger place identity in each national park and focus more on symbolic meanings and experiences in the national parks. Furthermore, respondents rely less on its functional uses, including amenities and activities. However, Scannell and Gifford (2013b:278) argue that "people with little or no attachment, such as tourists, have a superficial sense of

place, in which positive feelings rest on aesthetic or entertaining features of the place”. Several respondents, especially in the less preferred parks, referred to the aesthetic values of the parks. However, there are always strong references to the subjective feelings associated with the views, strengthening their attachment to the park.

Several researchers established that place attachment positively links with pro-environmental behaviour (Ramkissoon *et al.*, 2012; Barbaro & Pickett, 2016; Wynveen *et al.*, 2021) and supports conservation efforts (Hernández *et al.*, 2010; Hosany *et al.* 2017). Place attachment also plays a significant role in the satisfaction of visitors (Kill *et al.*, 2012) and return visits, mainly if national parks can engage with them on an emotional level (Jarratt *et al.*, 2018). The results show that respondents form a stronger place identity with the national parks, especially within the preferred parks. All benefits associated with national park visitors being attached to the parks offer the less preferred park management insights on managing or planning programs that could reach their visitors emotionally and enhance their attachment.

Table 7.1 The place attachment mean scores for the preferred and less preferred national parks

ATTACHMENT TO THE NATIONAL PARKS	PREFERRED		LESS PREFERRED			
	KTP n=733	KNP n=574	GGHNP n=96	MapNP n=149	MarNP n=153	MZNP n=318
	\bar{X} (SD)	\bar{X} (SD)	\bar{X} (SD)	\bar{X} (SD)	\bar{X} (SD)	\bar{X} (SD)
Overall attachment	4.10 (0.87)	4.30 (0.82)	3.44 (0.95)	3.51 (0.99)	3.32 (0.93)	3.38 (0.86)
Place Identity	4.50 (0.69)	4.64 (0.62)	3.86 (0.88)	3.99 (0.93)	3.77 (0.93)	3.85 (0.83)
I feel this national park is a part of me.	4.35 (0.80)	4.56 (0.74)	3.73 (0.92)	3.86 (0.85)	3.63 (0.91)	3.69 (0.84)
This national park is very special to me.	4.70 (0.55)	4.80 (0.44)	4.14 (0.79)	4.27 (0.83)	3.91 (0.91)	4.12 (0.75)
I identify strongly with this national park.	4.53 (0.68)	4.64 (0.62)	3.81 (0.91)	3.97 (0.92)	3.73 (0.93)	3.85 (0.85)
I am very attached to this national park.	4.56 (0.67)	4.71 (0.58)	3.85 (0.91)	3.99 (0.97)	3.72 (0.98)	3.85 (0.84)
Visiting this national park says a lot about who I am.	4.27 (0.83)	4.36 (0.83)	3.75 (0.95)	3.80 (1.08)	3.71 (1.00)	3.64 (0.94)
This national park means a lot to me.	4.56 (0.62)	4.74 (0.50)	3.89 (0.81)	4.04 (0.92)	3.93 (0.84)	3.97 (0.76)
Place Dependence	3.69 (1.04)	3.96 (1.02)	3.01 (1.03)	3.03 (1.06)	2.86 (0.92)	2.91 (0.90)
This national park is the best place for what I like to do.	4.16 (0.87)	4.38 (0.80)	3.32 (1.00)	3.47 (1.02)	3.33 (1.01)	3.34 (0.88)
No other place can compare to this national park.	3.83 (1.06)	4.05 (1.05)	2.96 (1.08)	3.05 (1.14)	2.71 (0.89)	2.68 (0.92)
I get more satisfaction out of visiting this national park than any other park.	3.72 (1.09)	4.10 (1.02)	2.65 (1.03)	2.81 (1.06)	2.46 (0.81)	2.57 (0.95)
Doing what I do at this national park is more important to me than doing it in any other place.	3.59 (1.04)	3.95 (1.02)	2.86 (0.94)	2.78 (1.06)	2.58 (0.86)	2.61 (0.90)
I would not substitute this national park for any other national park for doing the types of things I do here.	3.55 (1.13)	3.96 (1.08)	2.83 (1.18)	2.63 (1.09)	2.49 (0.97)	2.47 (0.91)

7.2.2 Place attachment descriptives and scale reliability for the preferred and less preferred national parks overall

Before performing the factor analysis, the data suitability was assessed using BTS and KMO – see Table 7.2. The KMO test for the factor of the preferred parks was statistically significant (0.94), while the less preferred parks achieved a KMO of 0.93. Both generated a BTS of $p \leq 0.05$.

Table 7.2 Place attachment descriptives and scale reliability statistics for the preferred and less preferred national parks overall

<i>Descriptives</i>										
Preference	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis		
						Statistic	Std. Error	Statistic	Std. Error	
Preferred PA	1307	1.00	5.00	4.26	.65	-.932	.068	.524	.135	
Less preferred PA	716	1.00	5.00	3.38	.72	-.078	.091	.003	.182	

<i>Scale reliability statistics</i>							
Preference	N	Cronbach alpha (α)		KMO	Bartlett's Test of Sphericity	Mean Inter-item correlations	
		α	No. items				
Preferred (PI)	1307	0.91	6	0.94	Approx. Chi-Square	11552.293	
Preferred (PD)	1307	0.92	5		df	55	
					Sig.	.000	
Less preferred (PI)	716	0.93	6	0.93	Approx. Chi-Square	6257.469	
Less preferred (PD)	716	0.90	5		df	55	
					Sig.	.000	

7.2.3 Factor analysis on Place Attachment

Table 7.3 contains the results for the factor analysis of *place attachment* for preferred and less preferred parks. Two factors were extracted as explained by the eigenvalue greater than one rule. The factor *place identity* (PI) for preferred parks and less preferred parks both obtained a good α of 0.91 and 0.93, respectively. The factor *place dependence* (PD) for preferred parks and less preferred parks both obtained a good α of 0.92 and 0.90, respectively. The α of the labelled factor confirms the reliability of the five-point Likert scale used. The factors of the preferred and less preferred parks accounted for 74 per cent (rounded off) of the total variance. The reliability of the two-dimensional scale was found to provide good statistics in various studies in protected areas globally (Kyle *et al.*, 2004; Brown & Raymond, 2007; Chen *et al.*, 2014; Jorgenson & Nickerson, 2016; Woosnam *et al.*, 2018; Liu *et al.*, 2019; Verbrugge *et al.*, 2019; Nelson *et al.*, 2020).

Table 7.3 Place attachment factor loadings for preferred and less preferred parks

<i>Questionnaire items</i>	PREFERRED PARKS		LESS PREFERRED PARKS	
	PI	PD	PI	PD
C1. I feel this national park is a part of me.	.759		.804	
C2. This national park is very special to me.	.811		.852	
C3. I identify strongly with this national park.	.841		.871	
C4. I am very attached to this national park.	.842		.850	
C5. Visiting this national park says a lot about who I am.	.661		.698	
C6. This national park means a lot to me.	.835		.828	
C7. This national park is the best place for what I like to do.		.620		.582
C8. No other place can compare to this national park.		.812		.791
C9. I get more satisfaction out of visiting this national park than any other park.		.880		.850
C10. Doing what I do at this national park is more important to me than doing it in any other place.		.853		.853
C11. I would not substitute this national park for any other national park for doing the types of things I do here.		.855		.829
Initial eigenvalues (2 factors)	6.743	1.413	6.709	1.464
Total Variance	74.149		74.293	

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

7.3 QUALITATIVE FINDINGS AND DISCUSSIONS

7.3.1 Special experiences ('aha' and 'wow' moments)

Two main themes were derived from respondents' special experiences within the national parks, namely, park-specific and animal-related experiences. The theme park-specific experiences include the following categories: *activities and amenities*, *aesthetic values*, *holistic experience*, *nature experience and features*, and *unique experiences*. Animal-related experiences consist of *animal behaviour*, *sightings*, and *close encounters*. National parks typically aim to protect and manage the environment while enhancing biodiversity to provide quality visitor experiences (Botha, 2012). Ecotourism experiences are increasingly recognised as valued services in natural area management, and research regarding people's feelings, perceptions and thoughts are important (O'Dell, 2005; Amuquandoh *et al.*, 2011; Wolf *et al.*, 2015). These themes are a testament to the importance of biodiversity to the respondents' special experiences. These themes and categories for the respective national parks are displayed in Table 7.4.

Preferred national parks

In the KTP, the respondents mostly referred to *nature experiences and features* (27%) (theme: park-specific experience). This category included "mindfulness", "nature experiences", "night sky", "sounds of nature", "spiritual", "sunrise/sunset", and "thunderstorms". These park-specific features they experienced ranged between subjective and objective experiences or where physical features are explained subjectively. Table 7.5 contains quotations demonstrating this.

Observing *animal behaviours* (19%) and *animal sightings* (18%) were also frequently mentioned by KTP respondents (theme: animal-related experiences). Animal behaviours included general behaviours such as "mating and guarding" and "hunting". Several respondents mentioned that they could sit for long periods studying animal behaviours due to the lack of people within the park. They were often the only car at sightings, enabling them to spend time observing animals. Similar findings by Botha (2012) explained that visitors to national parks prefer not to encounter too many other visitors during their trips. Representative quotations of respondents' experiences are in Table 7.5.

Table 7.4 Respondents' special ('aha' and 'wow') experiences in the preferred and less preferred national parks

	PREFERRED		LESS PREFERRED			
SPECIAL ('AHA' AND 'WOW') EXPERIENCES (Categories)	KTP <i>n=574</i>	KNP <i>n=424</i>	GGHNP <i>n=69</i>	MapNP <i>n=126</i>	MarNP <i>n=108</i>	MZNP <i>n=234</i>
THEME: Park-specific experiences						
Activities and amenities	47 (8%)	17 (4%)	16 (23%)	28 (22%)	9 (8%)	43 (18%)
Aesthetic values	71 (12%)	21 (5%)	28 (41%)	45 (36%)	47 (44%)	65 (28%)
Holistic experience	62 (11%)	62 (15%)	0	3 (2%)	3 (3%)	5 (2%)
Nature experience and features	153 (27%)	107 (25%)	28 (41%)	27 (21%)	19 (18%)	36 (13%)
Unique experiences	95 (17%)	84 (20%)	2 (3%)	14 (11%)	13 (12%)	41 (18%)
THEME: Animal-related experiences						
Animal behaviours	110 (19%)	68 (16%)	0	0	0	12 (5%)
Animal sightings	105 (18%)	123 (29%)	1 (1%)	20 (16%)	13 (12%)	68 (29%)
Close encounters	30 (5%)	12 (3%)	0	22 (17%)	11 (10%)	0
NO SPECIAL EXPERIENCES						
Nothing/ Not applicable	33 (6%)	25 (6%)	0	8 (6%)	8 (7%)	10 (4%)

Black and bold – most frequently mentioned

Red and bold – second most frequently mentioned

Red – third most frequently mentioned

Table 7.5 Representative quotes based on the special experiences themes and categories emphasised by respondents

		PREFERRED	LESS PREFERRED
Theme	Categories	Representative quotes	
Park-specific experiences	Activities and amenities		<p><i>“The pipe tunnel hike was something I've never experienced before. Awesome!” (GGHNP54)</i></p> <p><i>“Visiting one of the undisclosed fossil sites with a guide is a highlight” (GGHNP12).</i></p> <p><i>“Photographed a few ‘lifers’...” (GGHNP3).</i></p> <p><i>“Doing the tour of Mapungubwe Hill was an aha moment as it helped me to learn about and understand the prehistory of South Africa and appreciate the special heritage nature of this park and put it in context of the movement of early tribes into South Africa” (MapNP27).</i></p>
	Aesthetic values		<p><i>“It is one of the most beautiful places worldwide and should be preserved for future generations” (GGHNP10).</i></p> <p><i>“Every time I visit, I am blown away by the general scenery - the rock formations and the baobabs!” (MapNP2)</i></p> <p><i>“A wow moment was passing the mountains on the way to the lookout point. The scenery was beautiful” (MarNP41).</i></p> <p><i>“The back route up and over the mountains is</i></p>

		PREFERRED	LESS PREFERRED
Theme	Categories	Representative quotes	
	<p>Holistic experience</p> <p>Nature experience and features</p>	<p><i>"We have experienced the long drought first hand and watching the heavy rain pour at Nossob Camp, I felt as if Mother Nature was giving something back to us during this Pandemic for doing our best to help each other" (KTP368).</i></p> <p><i>"Lions roar at night, barking geckoes, hyenas yelps – all in the dark!" (KTP49)</i></p> <p><i>"Evenings, when there is no human sound, are special... being able to sit and just be in the space is unique and a real privilege" (KTP21).</i></p> <p><i>"I have been visiting the park for 13 years and every time I see the night sky or sunrise and sunset, I say 'wow!'" (KTP473)</i></p> <p><i>"Viewing the expanse of the night sky on the way back from ablutions one night and realising once again our place as humans as part of the wonder of creation" (KNP184).</i></p> <p><i>"The Park was beautiful after lots of rain...I</i></p>	<p><i>very special with stunning views" (MZNP130).</i></p> <p><i>"Nature and especially the terrain in Golden Gate can make you feel very small and bring you down to earth" (GGHNP59).</i></p> <p><i>"The drive through the park, especially when the cliffs are lit up at night, is incredible" (GGHNP49).</i></p> <p><i>"Feeling an incredible sense of peace and stillness that I haven't been able to find in many places before" (GGHNP43).</i></p> <p><i>"Watching the elephants come so close to the lodge was beautiful. Watching a storm with the torrential rain and lightning was amazing" (MapNP95).</i></p> <p><i>"The Baobab trees are extraordinary. There is a special sense of calm" (MapNP74).</i></p> <p><i>"Being up there on the mountains was, wow, does a lot for realising how small we are and how big our Creator is" (MarNP23).</i></p> <p><i>"The view at the lookout point Lenong brings perspective about all the things that matter.</i></p>

		PREFERRED	LESS PREFERRED
Theme	Categories	Representative quotes	
	Unique experiences	<p><i>have never seen such greenery and flowers, and water running in the big rivers” (KNP236).</i></p> <p><i>“Driving through a gate into the Kruger is always an aha moment – lower the car windows, take out camera and binoculars, smell and breathe deeply, anticipate sightings, relax, look forward to the time there” (KNP277).</i></p> <p><i>“When I enter the park, I get that feeling! It is just such a special place and I wish every South African can get or experience it at least once in their lifetime” (KNP233).</i></p>	<p><i>The peaceful atmosphere brings peace...” (MarNP13).</i></p> <p><i>“The scenery while watching a thunderstorm approaching” (MarNP11).</i></p>
Animal-related experiences	Animal behaviours	<p><i>“Most probably seeing the mating pair of lions that kept us awake all night, early the next morning, walking in the road in front of us. Then they walked into the bushes on the side, where they mated again. The golden light and their beautiful intimacy were spectacular!” (KTP540)</i></p>	

		PREFERRED	LESS PREFERRED
Theme	Categories	Representative quotes	
	Animal sightings	<p><i>"Yes, witnessing the cheetah take down a springbok within metres from our vehicle. This happened on our first and only day in the park as we had to turn around and return home after the national lockdown was announced" (KTP92).</i></p> <p><i>"We experienced the sighting of a new born hippo, which was an amazing experience" (KNP288).</i></p> <p><i>"Being the only person to witness the whole process of the stalk up to the kill by a lion. Fascinating to watch how it all unfolded" (KNP117).</i></p> <p><i>"First ever sighting of wild dogs, when a pack of 12 came strolling down the road towards us" (KNP259).</i></p>	<p><i>"Coming across a cheetah and her babies playing tag" (MZNP11).</i></p> <p><i>"Watching the suricates in the early morning sun with the grass still wet from the night – spotting so many birds – many new to me: Cape Longclaw, the violet-backed sunbird, etc." (MZNP26).</i></p> <p><i>"Early one morning in a game drive, we saw rhino, cheetah and lions in the space of 30 mins. All alone and not hounded by other vehicles" (MZNP132).</i></p> <p><i>"I have been visiting since 1971 when we used to stay in the old original farmhouse. The mountains and their zebra make it unique" (MZNP95).</i></p>
	Close encounters		

Orange text: Evident in the less preferred parks and quotations are focused on the highlighted category.

Green text: Evident in the preferred parks and quotations are focused on the highlighted category.

Black text: Evident in both the preferred and less parks and quotations are focused on the highlighted category

In the KNP, respondents mainly mentioned “wow” experiences involving *animal sightings* (29%) (theme: animal-related experiences). This referred to “seeing babies”, “finding a sighting first”, “first sighting of a species” and “sighting predators”. Examples of representative quotes are given in Table 7.5. In general, the sentiments of KNP respondents are expressed by the following quote:

“Just being in the park is a wow moment as you are almost guaranteed to see something that takes your breath away, be it one of the big five, a beautiful bird, an amazing view, or a lesser-seen antelope. Each day in the park is different and has its uniqueness” (KNP1).

Kruger National Park respondents also mentioned *nature experiences and features* (25%) and *unique experiences* (20%) (theme: park-specific experiences) as significant. *Nature experiences and features* consist of “peacefulness”, “night sky”, “rain”, “rivers”, and “sounds of nature” and *unique experiences*, referred to “arrival at the park”, “social relations”, “unique observations” and “unique sightings”. Some of these respondent quotes are included in Table 7.5.

Respondents to the preferred national parks mostly referred to special experiences involving animal sightings, close encounters and observing their behaviour. Previous research (e.g. Kellert, 1996) found that encounters with wildlife prompt people's emotional and other affective responses. A study by McIntosh and Wright (2017) also found that close encounters are an important aspect which contributes to meaningful wildlife experiences. One of the less preferred park respondents (MZNP) also found animal-related experiences more rewarding.

However, the park-specific experiences were also highlighted in responses. Some unique park-specific experiences in the KNP were the ability to practise mindfulness and experience spectacular thunderstorms, sunrises, or sunsets. In the KNP, respondents referred to peacefulness, the tranquillity of the rivers and several unique experiences, such as the sense of arrival and having unique sightings. Kruger National Park respondents also shared mindful experiences with realising their place in nature. The following is an example of such experience:

“On every visit to the Kruger National Park, I realise afresh how little one sees of the nature around you. Once you have put aside your worries,

thoughts and concerns, once you've left the city behind and your internal thoughts no longer hinder your senses, only then do you see the natural wonder around you. In my case, this may take a few days, but once in this new externally focused mental state, you are refreshed and at peace" (KNP155).

These were rich experiences that respondents rarely experienced in the less preferred parks. This again refers to the biodiversity found in the preferred parks. Botha (2012:22) reiterates that "biodiversity can have quite a strong impact on visitor perceptions, experiences and satisfaction". Warzecha and Lime (2001) and Cheng *et al.* (2013) also posit that place attachment is enhanced for tourists in destinations with vast natural resources. The special experiences because of biodiversity could be improved by sustainable development and adapting areas within the parks according to visitor needs.

Less preferred national parks

The 'wow' experiences differ substantially between these national parks. These experiences also correspond to the park's main features, as highlighted by respondents. Representative quotes for the less preferred park respondents are given in Table 7.5 where applicable.

Respondents to GGHNP regarded *aesthetic values* (41%) and *nature experiences and features* (41%) as equally important (theme: park-specific experiences). The aesthetic values refer to the "vastness" and the "views of GGHNP". As respondent GGHNP5 mentioned, the "*grandeur of the sandstone face, different colourings depending on the sunlight and time of day – beautiful experience!*" The *nature experiences and features* referred to by respondents were "feeling small", being "satisfied", "geology", "peacefulness" and "waterfalls". Respondents to the GGHNP also frequently referred to *activities and amenities* (23%) such as "hiking", "learning about dinosaurs", "photography", and visiting the "vulture hide".

Aesthetic values were mostly mentioned by respondents to MapNP and MarNP (36% and 44%, respectively). In MapNP, these aesthetics refer to "confluence view" and "landscapes", and in MarNP, it refers to views from the "Lenong Viewpoint" and

“landscapes”. These unique viewpoints are shown in respondent photographs (Figure 7.1).



Figure 7.1 The confluence in Mapungubwe National Park (left) and views from the Lenong Viewing Point in Marakele National Park (right) viewpoints as photographed by respondents.

The second most frequently mentioned experiences for respondents to MapNP were *activities and amenities* (22%), followed by *nature experiences and features* (21%). The activities and amenities highlighted by MapNP respondents were the “accommodation”, “driving in the park”, “history/culture”, and reference to “specific locations”. The nature experiences and features highlighted by MapNP respondents were “the night sky”, “peacefulness”, “rain”, and “trees”. Furthermore, respondents to MarNP’s second most frequently mentioned experiences referred to *nature experiences and features* (18%). It consisted of “feeling small”, “peacefulness” and “rain”.

Respondents to MZNP most frequently referred to *animal sightings* (29%), followed by *aesthetic values* (28%). Animal sightings referred to “birdlife”, “babies”, “rhino sightings”, “predator sightings” and “zebras”. The aesthetic value refers to the “landscape” and the various views in MZNP due to the unique topography of the national park. Figure 7.2 shows respondent photographs with accompanying narratives explaining the “tranquillity and freedom of movement” (MZNP132) and “freedom, a place to truly breathe” (MZNP209).

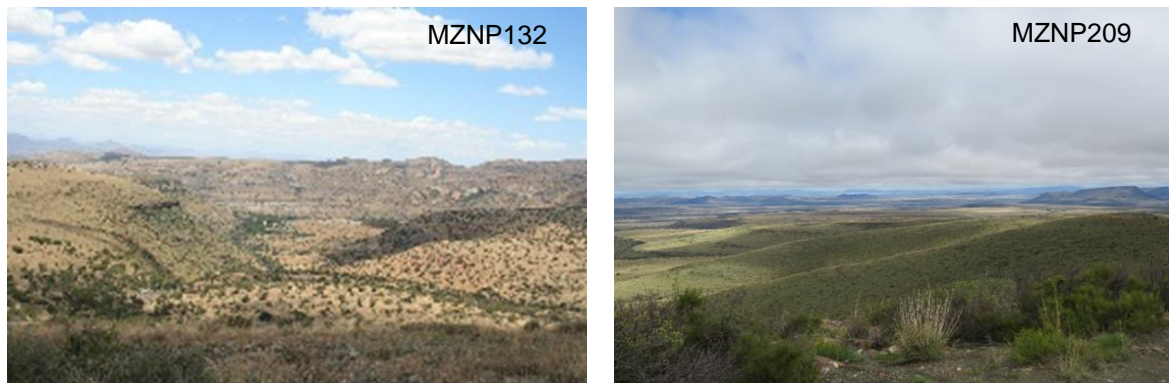


Figure 7.2 Different landscapes that symbolise freedom were photographed by Mountain Zebra National Park respondents.

In the less preferred parks, respondents mainly mentioned park-specific experiences that revolve around the aesthetics of these parks. These parks have spectacular features that differentiate them. The GGHNP has the sandstone mountains; in MapNP, respondents frequently mention the confluence view; and in MarNP, the Lenong Viewing Point provides respondents with magnificent experiences. Respondents also frequently mentioned the beauty of MZNP's various landscapes and the freedom it gives them. Several studies found sensorial experiences and aesthetics of national parks to be important aspects that appeal to visitors (Ramkissoo *et al.*, 2013; Kiatkawsin & Han, 2017; Scannell & Gifford, 2017). Besides the aesthetics of these parks, respondents also considered specific nature experiences and features as special experiences. Nature experiences mentioned often included 'feeling peaceful' and 'feeling small'. In addition, these nature experiences were often mentioned with features such as rainstorms, night skies, geology, and unique tree species, such as the rock figs and baobabs in MapNP. Activities and amenities were furthermore mentioned frequently by respondents to MapNP and GGHNP. These referred to the rich cultural history and good accommodation in MapNP. The GGHNP respondents mentioned good hiking routes, photographic opportunities, and viewing of vultures and ancient fossil sites.

These special tourist experiences associated with the parks usually lead to positive emotions, which are necessary for developing an attachment to a destination (Hosany *et al.*, 2017; Morgan, 2010; Scannell & Gifford, 2010; Wolf *et al.*, 2015; Yan & Halpenny, 2019; Kastenholz *et al.*, 2020). Feelings and emotions are often difficult

to extract from people. This research asked respondents about their feelings and effects after their most recent experience in a particular national park. Throughout the research results, the importance of memories is highlighted. Research has proven that the memorability of nature experiences could cause people to recall specific feelings or emotions (Kyle *et al.*, 2004; Morgan, 2010; Ratcliffe & Korpela, 2017).

7.3.2 Respondents' feelings and experienced effects after a visit

These responses regarding respondents' feelings experienced are presented in the form of SurveyMonkey® software-generated word clouds. Figure 7.3 indicates the word clouds for the preferred national parks, and Figure 7.4 shows the word clouds for the less preferred parks. According to DePaolo and Wilkinson (2014:38), a "word cloud takes the most frequently used words and displays them in an appealing visual representation that identifies keywords in different sizes and colours based on the frequencies". The word clouds are displayed in blue; however, the larger the size of the words, the more frequently they are mentioned by respondents.



Figure 7.3 Word clouds of the preferred national parks.

GGHNP

experience grandeur Peace sense Park tranquility nature memories
feeling hiking beauty place mountains stayed time
long love thinking Beautiful go

MapNP

relaxing come Calm back Peace wonderful feeling hill visit always
park incredible place Tranquility need something Loved awe

MarNP

Will beautiful scenery mountains drive tranquility scenery nature happy stay memory
place birds relaxed views peace beautiful park go
feeling camp visit nice Peaceful quiet enjoyed longer
good experience relaxation serenity time disappointed seeing happy place
peace quiet

MZNP

Karoo beautiful scenery Always go back Peace quiet recommend back lots camp sunset stay
wished peaceful something quietness Looking mountains sighting see freedom
will Satisfaction experience wildlife enjoyed country beauty wonderful
good Good memories peace sense peace feeling scenery
park beautiful visit Mountain Zebra relaxed fond memories love
Wide open spaces nature birds time many memories Rested long going
place make sense views Relaxation nice Tranquility s great day happy veld
landscapes much Peace tranquility National Park accommodation happy place animals




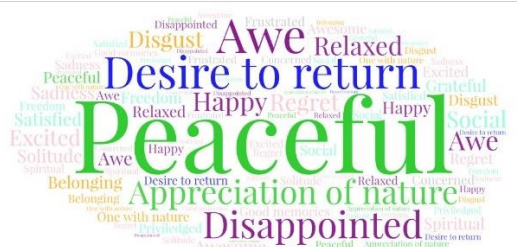
Figure 7.4 Word clouds of the less preferred national parks.



The word clouds for the preferred national parks are larger than the less preferred ones. This may be ascribed to a more substantial number of respondents. Not all terms in the word clouds refer to feelings or emotions. Many respondents gave objective descriptions. Hence, words such as park, feeling, visit, always, beauty, nature, mountains, etc., are included. This alludes to the respondents' challenges in explaining the significance of their experiences. McIntosh and Wright (2017) also found in their study of visitor experiences in the Canadian Rocky Mountain National Parks that visitors used relatively universal and limited explanations such as 'exciting' and 'incredible'. These objective descriptions are inconsistent with previous accounts of experiences and emotions described in this research, for instance, the narrative descriptions of the photographs in objective two.

The following word clouds were generated using Word Cloud online software after content analysis of the open-ended responses (Word Cloud Art Generator, 2022). The respondents mainly shared positive emotions and feelings about their experiences in the national parks (Table 7.6). Natural areas typically provide both positive affection (e.g. biophilia) and negative emotion (e.g. biophobia) (Kellert, 1993; Ulrich, 1993). Emotions are generally categorised as positive or negative, affecting psychological resilience and travel intentions (Weng *et al.*, 2022). This could be observed in this research as a '*desire to return*' is mentioned by

respondents to all parks. This indicates that respondents intend to travel to the parks again.

Table 7.6 Word clouds created after content analysis of respondents' feelings

Word clouds	Five main feelings per national park
	<p>KTP (n=848*)</p> <ul style="list-style-type: none"> Peaceful (18%) Desire to return (14%) Appreciation of beauty (12%) Relaxed (7%) Happy (5%)
	<p>KNP (n=507*)</p> <ul style="list-style-type: none"> Peaceful (25%) Relaxed (18%) Desire to return (17%) Happy (11%) One with nature (8%)
	<p>GGHP (n=76*)</p> <ul style="list-style-type: none"> Appreciation of beauty (22%) Peaceful (21%) Freedom (12%) Desire to return (12%) Good memories (9%)
	<p>MapNP (n=128*)</p> <ul style="list-style-type: none"> Peaceful (20%) Appreciation of nature (19%) Desire to return (16%) Disappointed (7%) Awesome [Awe] (6%)

Word clouds	Five main feelings per national park
	<p style="text-align: center;">MarNP (n=126*)</p> <ul style="list-style-type: none"> Peaceful (28%) Appreciation of beauty (21%) Relaxed (13%) Desire to return (16%) Happy (10%)
	<p style="text-align: center;">MZNP (n=266*)</p> <ul style="list-style-type: none"> Peaceful (24%) Appreciation of beauty (18%) Desire to return (11%) Relaxed (10%) Good memories (8%)

* Number of responses. Respondents could mention more than one feeling.

Source: Compiled by author.

Positive emotion is regarded as a momentary response of pleasure caused by meaningful experiences that have significant value to people (Weng *et al.*, 2022). A feeling most frequently mentioned by respondents to the respective parks is *peacefulness*. All respondents expressed an *appreciation of the beauty and nature*. McIntosh and Wright (2017) state that mountains and other natural landscapes frequently serve as inspiration for visitors to protected areas and other natural environments. Each national park has unique features and species valued by respondents and evokes different feelings. Similar findings are described by Scannell and Gifford (2013b), whereby park visitors appreciated aesthetic qualities that contributed to their place attachment. Feeling *relaxed* and *happy* was also mentioned frequently by respondents. Happiness can be translated as the feeling of pleasure. Morgan (2010), Scannell and Gifford (2013b), and Hosany *et al.* (2017) reported in their research that love and pleasure, together with joy, amazement, and caring, are fundamental to meaningful tourism experiences. Respondents from GGHNP and MZNP referred to *good memories*, and MapNP respondents frequently mentioned feeling in awe (*awesome*) of the rock formations. MapNP respondents also often voiced their concerns regarding the park's status and felt *disappointed*

about its conservation efforts – referring to the presence of domesticated animals and immigrants crossing the rivers.

The positive emotions that people experience will affect the overall satisfaction that they experience (Jarratt *et al.*, 2018). According to Prayag *et al.* (2017), visitor satisfaction is correlated with emotional experiences like "positive surprise," which is connected to spectacular scenery or close encounters with wildlife. Similarly, Jepson and Sharpley (2015) found that the emotions (including spirituality) of visitors' relationships to rural areas in the Lake District National Park in the United Kingdom were essential indicators of a sense of place and satisfaction. Therefore, stakeholders should have innovative strategies to develop tourism programs incorporating "unexpected" and "surprising" events and activities (Prayag *et al.*, 2017:49). A mindfulness trail in the national park, for instance, will keep people interested and lead to positive emotional experiences.

Furthermore, research has found that nature experiences combined with strong positive emotions, visitor satisfaction and place attachment are related to the overall notion of nature connectedness (Fredrickson & Anderson, 1999; Curtin & Kragh, 2014; McIntosh & Wright, 2017). For example, Curtin and Kragh (2014:546) claim that wildlife experiences in awe-inspiring environments "has great potential to reawaken human connection with the natural world". This is evident in the next chapter, where the rich narratives of respondent connectedness are discussed.

7.4 SUMMARY

This objective was answered both quantitatively and qualitatively. The quantitative data were obtained using a Likert scale with 11 items to determine the overall level of attachment. Two factors were extracted after the factor analysis, place identity and place dependence, and this solution had acceptable BTS, KMO and α scores. The variance accounted for the preferred and less preferred parks was 74%. Qualitative data focused on special experiences ('wow' moments) and the feelings or effects respondents still remember after their visits. A joint display below provides a synopsis and meta-inference (Table 7.7).

Table 7.7 Joint display of the place attachment levels and qualitative responses

THEME/ SCALE	QUANTITATIVE	QUALITATIVE	MIXED METHOD META-INFERENCES	
Place attachment <i>(5-point Likert scale)</i>	Overall: Park Mean (s) KTP 4,10 (0,87) KNP 4,30 (0,82) GGHNP 3,44 (0,95) MapNP 3,51 (0,99) MarNP 3,32 (0,93) MZNP 3,38 (0,86)	Overall, the KNP respondents had the highest attachment to the park. The park with the lowest level of attachment is MarNP. The quotes below highlight the most important special experiences. Highlighted exemplary quotes: <u>Aesthetic:</u> <i>"It is one of the most beautiful places worldwide..." (GGHNP10).</i> <i>"... I am blown away by the general scenery - the rock formations and the baobabs!" (MapNP2)</i>	Expansion: The purpose of the extended questions was to expand on possible reasons for the place attachment scores. The reasons for their visitation were addressed in the first objective and gave insight into their attachment. Preferred park respondents were drawn to the parks due to their loyalty, whereas less preferred park respondents visited because of accessibility and novelty-seeking. These questions build on the attachment for the parks. The most prevalent special experiences were the aesthetic values, nature experiences and features and animal sightings. These special experiences lead to positive feelings of	
	KNP scored highest: Place identity Place dependence			
	Special ('wow') experience Theme: park-specific experience			Activities and amenities Aesthetic values [GGHNP (41%); MapNP (36%); MarNP (44%)]

THEME/ SCALE	QUANTITATIVE	QUALITATIVE	MIXED METHOD META- INFERENCE
Theme: Animal-related experience	Holistic experience	<i>“... going past the mountains on the way to the lookout point, the scenery was beautiful” (MarNP41).</i>	peacefulness, appreciation and a desire to return to these parks.
	Nature experience and features [KTP (27%)]	<u>Nature experience and features:</u> <i>“Evenings, when there is no human sound, are special... being able to sit and just be in the space is unique and a real privilege” (KTP21).</i>	
	Unique experiences		
	Animal behaviours	Animal sightings [KNP (29%); MZNP (29%)]	<u>Animal sightings:</u> <i>“Being the only person to witness the whole process of the stalk up to the kill by a lion. Fascinating to watch how it all unfolded” (KNP117).</i> <i>“Coming across a cheetah and her babies playing tag” (MZNP11).</i>
	Close encounters		

THEME/ SCALE	QUANTITATIVE	QUALITATIVE	MIXED METHOD META- INFERENCE
Feelings and effects after a visit	<p>KTP = Peaceful (18%), Desire to return (14%)</p> <p>KNP = Peaceful (25%), Relaxed (18%)</p> <p>GGHNP = Appreciation of beauty (22%), Peaceful (21%)</p> <p>MapNP = Peaceful (20%), Appreciation of beauty (19%)</p> <p>MarNP = Peaceful (28%), Appreciation of beauty (21%)</p> <p>MZNP = Peaceful (24%), Appreciation of beauty (18%)</p>	<p>An MZNP respondent quote summarises the overall feelings of all respondents:</p> <p><i>“A feeling of peace and great satisfaction because there are not too many motor vehicles 'rushing' about or causing traffic jams at any sighting of animals. I can be the only vehicle or human present to experience a particular moment. This calms my spirit” (MZNP48).</i></p>	

Respondents to the KNP were most attached to the park overall. Both their place identity and place dependence levels were rated highest. Overall, the place identity levels were rated highest for all park respondents compared to the place dependence levels. This shows that national park visitors are more concerned about the experiences than the functional elements of the parks.

The emotional tone and special experiences influence the attachment of visitors. The themes were park-specific (activities and amenities, aesthetic values, holistic experience, nature experience and features, and unique experiences) and animal-related (animal behaviour, sightings, and close encounters). The respondents from the KTP mainly mentioned nature experiences and features followed by animal behaviours and sightings. In KNP, respondents mainly focused on animal sightings followed by nature experiences and features. Special experiences varied in the less preferred parks. In GGHNP, aesthetic values were mentioned most, followed by nature experiences and features, and activities and amenities. In MapNP and MarNP, respondents mainly mentioned aesthetic values followed by nature experiences and features. Mapungubwe National Park respondents also highlighted activities and amenities. The MZNP respondents most frequently mentioned animal sightings, followed by aesthetic values.

The feelings and emotions of respondents were also explored, as positive emotions are essential for establishing an attachment to a place. The emotions and feelings in all parks were mainly positive, with the following highlighted: peaceful, happy, desire to return, appreciation of beauty, relaxed and awesome. These positive emotions assist with the development of connectedness to nature. The next chapter, therefore, clarifies this connectedness.

CHAPTER 8

CONNECTEDNESS TO NATURE

8.1 INTRODUCTION

The fifth objective of the research was to determine the connectedness of visitors to the natural environments within the respective national parks. This objective was answered by focusing on quantitative data derived from the Inclusion of Nature in Self (INS) scale (Schultz, 2001; 2002) and the Nature-Relatedness (NR-6) scale (Nisbet & Zelenski, 2013). Respondents were also asked whether they regarded themselves as connected to nature and explained their answers. According to Ulrich (1993) and Scannell and Gifford (2013b), people have an inherent need to connect to nature and appreciate communion to nature in places they feel attached to.

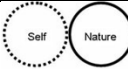




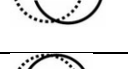
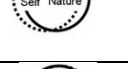
8.2 QUANTITATIVE RESULTS AND DISCUSSION

8.2.1 Inclusion of Nature in Self (INS) scale

This scale reveals the cognitive dimension of connectedness with nature (Raymond *et al.*, 2010; Liefländer *et al.*, 2013). Liefländer *et al.* (2013:371) state that “a person who identifies him- or herself as part of nature has a cognitive representation of self that overlaps significantly with his or her cognitive representation of nature”. Furthermore, “people who sense a fundamental sameness between themselves and the natural world will feel more empathetic and compassionate toward nature” (Dutcher *et al.*, 2005:478). The experiences highlighted by respondents throughout were mainly positive, and Schultz (2002) explained that these interactions between people and nature may raise the individual’s intensity of inclusion. Richardson *et al.* (2022) explain that if one feels close to nature, one recognises oneself as part of the natural world and therefore seeks it out, notices it and feels happy when surrounded by it. As discussed in section 7.3.2, respondents experienced positive emotions and indicated a strong desire to return. Research (Zelenski & Nisbet, 2014; McIntosh & Wright, 2017) suggests that happiness because of one’s closeness to nature is linked to improvements in well-being and nature connectedness.

Results from the INS scale are summarised in Table 8.1 by displaying the mean scores, frequencies and percentages for the preferred and less preferred national parks. Overlapping circles represented 'nature' and 'self', respectively, where a higher score indicates greater interconnectedness with nature (Schultz, 2002). The respondents from the GGHNP ($\bar{X} = 5.61$) have the highest mean score amongst the respective parks, indicating that overall, they mainly include nature within their cognitive representation of self. This high score in the GGHNP might refer to activities (e.g. hiking, canoeing, horseback riding, etc.) that allow them to engage with nature intensely. Nevertheless, the mean scores for all parks were high, demonstrating that the typical visitors to national parks have a great interconnectedness with nature. These high scores attest to the biophilia hypothesis and the thought of people having a shared place within nature. National parks in South Africa allow this interconnectedness.

Table 8.1 INS mean scores, frequencies and percentages for the preferred and less preferred national parks

INS Item (7-point Likert)	PREFERRED		LESS PREFERRED			
	KTP <i>n</i> =733	KNP <i>n</i> =574	GGHNP <i>n</i> =96	MapNP <i>n</i> =149	MarNP <i>n</i> =153	MZNP <i>n</i> =318
INS \bar{X} score (SD)	5.58 (1.18)	5.47 (1.28)	5.61 (1.21)	5.52 (1.24)	5.54 (1.23)	5.26 (1.23)
1. 	1 ($\leq 1\%$)	4 (1%)	0	0	0	0
2. 	11 (2%)	8 (1%)	2 (2%)	2 (1%)	1 (1%)	6 (2%)
3. 	13 (2%)	14 (2%)	1 (1%)	2 (1%)	2 (1%)	15 (5%)
4. 	111 (15%)	107 (19%)	16 (17%)	28 (19%)	39 (26%)	70 (22%)
5. 	191 (26%)	152 (26%)	21 (22%)	34 (23%)	28 (18%)	84 (26%)
6. 	211 (29%)	131 (23%)	29 (30%)	41 (28%)	38 (25%)	84 (26%)
7. 	195 (27%)	158 (28%)	27 (28%)	40 (27%)	45 (29%)	59 (19%)

Additionally, most respondents chose the highest point on the scale, regarding themselves as highly interconnected with nature. Respondents to KNP (28%) and MarNP (29%) mostly regarded themselves as totally immersed (7 on the Likert scale). In contrast, respondents to KTP (29%), GGHNP (30%), MapNP (28%) and MZNP (26%) regarded themselves as almost completely interconnected (6 on the Likert scale).

8.2.2 Nature-Relatedness (NR-6) scale

Table 8.2 displays the nature-relatedness mean scores for the preferred and less preferred parks. The mean scores for the KTP ($\bar{X} = 4.40$) and the KNP ($\bar{X} = 4.40$) were the highest. Therefore, respondents to the preferred national parks feel most related to nature. However, the scores for the respondents to the less preferred national parks are also high and indicate a strong relatedness to nature. Studies (MacKay & Schmitt, 2019; Schwass *et al.*, 2021) progressively indicate that individuals connected to nature have heightened environmental consciousness and a willingness to engage in environmental stewardship. Schwass *et al.* (2021) further stated that direct nature contact offers people superior physical and psychological benefits, and attempts to connect people to natural places are essential.

This connectedness is also important in South African national parks. These parks enable visitors to experience positive emotions and attachment (Hinds & Sparks, 2008) and create feelings of well-being (Ramkissoo *et al.*, 2013), as seen from the results of this research. Richardson *et al.* (2019) noted, using the example of the United Kingdom government, that the concept of nature-relatedness and all associated theories are significant to government policies concerning human health, welfare, and the environment. Due to the range of benefits connectedness to nature offers, such as pro-environmental behaviour and stewardship, Richardson *et al.* (2019) refer to a renewed sustainable relationship. In the long term, this relationship with nature could assist in the general planetary well-being and reaching the United Nations 2030 Sustainable Development Goals (SDGs) (UNSA, 2023). The SDGs associated directly with national parks are:

- No Poverty (SDG 1): Over 4 000 people are employed directly by SANParks, and its concessionaires employ a further 2 100, of whom 80 per cent are based in areas close to the nation's national parks (SANParks, 2022a). Many national

parks are situated in rural areas and serve as an essential income source for the community members.

- Climate Action (SDG 13): This is an important goal for SANParks' sustainable conservation, as one outcome is reducing climate change vulnerability and improving climate resilience (SANParks, 2022a).
- Life Below Water (SDG 14) and Life on Land (SDG 15): These environmentally focused SDGs align with establishing national parks. SANParks mandate is to "conserve, protect, control and manage national parks and other defined protected areas and their biological diversity (biodiversity)" (SANParks, 2022a:6).
- Partnerships for the Goals (SDG 17): SANParks continuously forms partnerships; examples include the Global Environmental Facility 5th cycle (GEF-5) funded project, the South African National Biodiversity Institute (SANBI), the Southern African Foundation for Conservation of Coastal Birds (SANCCOB), etc. (SANParks, 2022).
- Good health and Well-being (SDG 3): As a result of the above SDGs, the ecosystem services provided by national parks and the subjective benefits visitors experience in the national parks (CES, attachment and nature connectedness), it is safe to say that SANParks do contribute to well-being.

Table 8.2 The nature-relatedness mean scores for the preferred and less preferred national parks

NATURE-RELATEDNESS	PREFERRED		LESS PREFERRED			
	KTP <i>n</i> =733	KNP <i>n</i> =574	GGHNP <i>n</i> =96	MapNP <i>n</i> =149	MarNP <i>n</i> =153	MZNP <i>n</i> =318
	\bar{X} (SD)	\bar{X} (SD)	\bar{X} (SD)	\bar{X} (SD)	\bar{X} (SD)	\bar{X} (SD)
<i>Overall nature-relatedness</i>	4.40 (0.70)	4.40 (0.73)	4.26 (0.75)	4.24 (0.76)	4.27 (0.70)	4.13 (0.76)
My ideal national park would be in a remote wilderness area.	4.55 (0.72)	4.30 (0.84)	4.32 (0.83)	4.44 (0.73)	4.44 (0.72)	4.21 (0.80)
I always think about how my actions affect the environment.	4.54 (0.58)	4.54 (0.60)	4.61 (0.55)	4.46 (0.59)	4.53 (0.53)	4.38 (0.63)
My connection to nature and this national park is part of my spirituality.	4.00 (0.95)	4.10 (0.93)	3.65 (0.96)	3.64 (1.07)	3.67 (0.95)	3.55 (0.94)
I take notice of wildlife wherever I am.	4.71 (0.48)	4.71 (0.51)	4.68 (0.49)	4.70 (0.47)	4.69 (0.49)	4.60 (0.55)
My relationship to nature and this national park is an important part of who I am.	4.30 (0.76)	4.41 (0.75)	4.00 (0.89)	3.95 (0.94)	3.96 (0.87)	3.87 (0.85)
I feel very connected to all living things and the earth.	4.32 (0.72)	4.34 (0.72)	4.27 (0.79)	4.25 (0.78)	4.37 (0.65)	4.18 (0.80)

8.2.3 Nature-Relatedness descriptives and scale reliability for the preferred and less preferred national parks overall

The KMO test for the factor of the preferred parks was statistically significant (0.82), while the less preferred parks achieved (0.78) (Table 8.3). Both generated a BTS of $p \leq 0.05$.

Table 8.3: Nature-relatedness descriptives and scale reliability statistics for the preferred and less preferred national parks overall

<i>Descriptives</i>										
Preference	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis		
						Statistic	Std. Error	Statistic	Std. Error	
Preferred	1307	1.00	5.00	4.40	.50	-.895	.068	1.670	.135	
Less preferred	716	1.00	5.00	4.20	.51	-.298	.091	-.242	.182	

<i>Scale reliability statistics</i>							
Preference	N	Cronbach alpha (α)		KMO	Bartlett's Test of Sphericity		Mean Inter-item correlations
		α	No. items		Chi-Square	Sig.	
Preferred	1307	0.77	6	0.82	Approx. Chi-Square	2041.066	.379
					df	15	
					Sig.	.000	
Less preferred	716	0.74	6	0.78	Approx. Chi-Square	1019.168	.340
					df	15	
					Sig.	<.001	

8.2.4 Factor analysis on the nature-relatedness

Table 8.4 represents the factor analysis of the nature-relatedness for preferred and less preferred parks. The factor nature-relatedness for preferred parks obtained a good α of 0.77, while the less preferred parks obtained a good α of 0.74. The α of the labelled factor affirms the reliability of the five-point Likert scale used. Several studies have found the short version (NR-6) to have reliable statistics and results (Gosling & Williams, 2010; Nisbet & Zelenski, 2013; Ramkissoon *et al.*, 2013; Groulx *et al.*, 2016). The factor for preferred parks accounted for 48.89% of the total variance, while the less preferred parks accounted for 45.99%.

Table 8.4 Factor loadings for the nature-relatedness of preferred and less preferred national parks

	PREFERRED PARKS	LESS PREFERRED PARKS
<i>Questionnaire items</i>	Nature-relatedness	Nature-relatedness
E1. My ideal national park would be in a remote wilderness area.	0.493	0.403
E2. I always think about how my actions affect the environment.	0.703	0.655
E3. My connection to nature and this national park is part of my spirituality.	0.733	0.732
E4. I take notice of wildlife wherever I am.	0.691	0.703
E5. My relationship to nature and this national park is an important part of who I am.	0.799	0.755
E6. I feel very connected to all living things and the earth.	0.737	0.754
Initial eigenvalues (1 factor)	2.933	2.759
Total Variance	48.886	45.990

Extraction Method: Principal Component Analysis

8.3 QUALITATIVE FINDINGS AND DISCUSSION

8.3.1 Connection to nature

Respondents had to indicate whether they felt connected to nature in the national parks. This was a dichotomous question with yes or no as a response, as shown in Table 8.5. This additional question assisted with the criterion validity between the

previous INS and NR-6 scale scores. Asking similar questions in different ways may assist in uncovering the true meaning or understanding of a concept (Maree, 2016). In addition, visitors had to motivate their choice, and the reasons for feeling connected are displayed in Table 8.6. This assisted in uncovering the context of the respondent's connection.

Table 8.5 Connectedness of respondents to the preferred and less preferred national parks

	PREFERRED		LESS PREFERRED			
	KTP <i>n</i> = 733	KNP <i>n</i> = 574	GGHNP <i>n</i> = 96	MapNP <i>n</i> = 149	MarNP <i>n</i> = 153	MZNP <i>n</i> = 318
1. Yes	725 (99%)	563 (98%)	90 (94%)	139 (93%)	147 (96%)	308 (97%)
2. No	8 (1%)	11 (2%)	6 (6%)	10 (7%)	6 (4%)	10 (3%)

Respondents to all national parks indicated that they did feel connected to nature. This may refer to the type of visitors attracted to national parks. Wolf *et al.* (2015:364) found that the primary motivation of participants in the guided tours programme in New South Wales National Parks and Wildlife Services in Australia was “being close to and appreciating nature”. This is a common finding as people’s reasons for visiting nature are to break away from their daily routines. The respondents’ reasons for feeling connected to the national parks vary between a physical and subjective connection. These latter terms are the themes identified in Table 8.6. The categories included under physical connection are being *immersed in nature* and *physical features*. This consists of any reference to tangible features and the physical experience of being in nature (national park). The subjective connection includes the categories: *emotional well-being*, *mindful experience*, *sense of identity* and experiencing the *values of nature*. Overall, respondents to the preferred national parks mainly indicated subjective connections. In the less preferred national parks, GGHNP and MarNP respondents mainly indicated a physical connection, whereas respondents to MapNP and MZNP had a subjective connection overall.

Two categories were noticeable from both the preferred and less preferred park respondents. These were *physical features* (theme: physical connection) and *values of nature* (theme: subjective connection). Therefore, representative quotations for all parks are summarised in tables 8.7 and 8.8, respectively.

Preferred national parks

Respondents to the KTP mainly mentioned *physical features* (36%) (theme: physical connection), which consist of “no reception”, “not crowded”, “species richness”, “species survival”, “unspoilt nature”, and “vastness”. These are all ‘physical’ characteristics that enable respondents to feel connected to nature. The KTP respondents also frequently mentioned various *values of nature* (33%) (theme: subjective connection).

Respondents to KNP mostly mentioned *values of nature* (26%) (theme: subjective connection) followed by *physical features* (24%). These physical features included “activities”, “animals roaming freely”, “limited reception”, “species richness”, “species survival”, “unspoilt nature”, and “vastness”.

In general, significant focus was placed on the lack of reception (e.g. cellular phones) and technology (e.g. internet access, televisions, etc.) in the preferred parks. Kesebir and Kesebir (2017) noted that the increase in consumer technologies has reduced the meaning of nature in people’s lives. However, respondents indicated several factors that shift away from the modern world and technology, such as a lack of reception or network and not seeing many people. Therefore, less connection to the outside world enables a better connection to nature. The following representative respondent quotations strengthen this viewpoint:

“It’s easy to connect with nature because there is no other distraction like cell phone reception” (KTP118).

“In this busy world we live in and must deal with, it is important to have this refuge, especially for the future. We all have heard about the 4th and 5th Industrial revolution, and I believe places like the KNP will be critical to maintaining balance in life. A place to reconnect with nature after dealing with our ever-advancing world” (KNP479).

Table 8.6 Respondents' explanations concerning their connectedness to the preferred and less preferred national parks

	PREFERRED		LESS PREFERRED			
REASONS FOR CONNECTION (Categories)	KTP <i>n</i> = 638	KNP <i>n</i> = 496	GGHNP <i>n</i> = 73	MapNP <i>n</i> = 127	MarNP <i>n</i> = 140	MZNP <i>n</i> = 262
THEME: Physical connection						
Immersed in nature	25 (4%)	29 (6%)	5 (7%)	9 (7%)	9 (6%)	13 (5%)
Physical features	229 (36%)	118 (24%)	43 (59%)	48 (38%)	70 (50%)	129 (49%)
THEME: Subjective connection						
Emotional well-being	77 (12%)	81 (16%)	12 (16%)	13 (10%)	21 (15%)	51 (19%)
Mindful experience	95 (15%)	73 (15%)	0	16 (13%)	12 (9%)	38 (15%)
Sense of identity	84 (13%)	88 (18%)	13 (18%)	23 (10%)	5 (4%)	26 (10%)
Values of nature	213 (33%)	127 (26%)	22 (30%)	36 (28%)	24 (17%)	57 (22%)
THEME: Not connected						
Nothing/ Not applicable	8 (1%)	7 (1%)	6 (8%)	8 (6%)	5 (4%)	2 (1%)

Black and bold – most frequently mentioned

Red – second most frequently mentioned

Table 8.7 Respondents' references to physical features as part of their physical connection to nature

		PREFERRED	LESS PREFERRED
Theme	Categories	Representative quotes	
Physical connection	Physical features	<p>(Codes: “no/limited reception”, “not crowded”, “species richness”, “species survival”, “unspoilt nature”, and “vastness” “activities”, “animals roaming freely”)</p> <p><i>“The complete Kgalagadi experience brings one very close to nature, mostly because of the limited visitor numbers and the rest camps not being overcrowded and peaceful. It makes it easier to “absorb” the whole nature/wilderness experience” (KTP507).</i></p> <p><i>“I live in Alaska, so I have come to appreciate remote landscapes. I did not feel like this park was developed as a tourist area but as an area to appreciate nature” (KTP252).</i></p> <p><i>“Unique vast landscapes, weather – heat, thunder and lightning storms and vegetation. The hardiness of all the creatures surviving in this environment” (KTP54).</i></p> <p><i>“Animals can roam free in an environment that has been theirs for thousands of years” (KNP158).</i></p>	<p>(Codes: “camping”, “clean and protected”, “scenery”, “not crowded” “species richness”, “unspoilt nature” and “vastness”)</p> <p><i>“Camping always makes you feel connected to nature” (GGHNP65).</i></p> <p><i>“It is difficult to express, but just being deep inside those beautiful, spectacular mountains” (GGHNP45).</i></p> <p><i>“The vast open spaces allowed for a feeling of being alone and therefore more connected to the environment” (GGHNP62).</i></p> <p><i>“Vhembe camp is isolated from people we love. Without interruption, you can interact better with your surroundings and feel more at peace” (MapNP62).</i></p> <p><i>“The grandeur of the surroundings and the age of the baobabs and rocks” (MapNP4).</i></p> <p><i>“I find Mapungubwe unique in terms of the geography, geology, rivers, creatures and I guess just the way nature ‘talks to me’ at</i></p>

		PREFERRED	LESS PREFERRED
Theme	Categories	Representative quotes	
		<p><i>“Always in awe of nature and its ability to continuously fight back” (KNP25).</i></p> <p><i>“It is real nature and the wild where there are always surprises and not like artificially driven small private game reserves” (KNP466).</i></p>	<p><i>Mapungubwe” (MapNP36).</i></p> <p><i>“Staying in the tented camp makes one close to nature, especially when there is rain with the sounds and the smells of the bush” (MarNP112).</i></p> <p><i>“The mountains and the biodiversity of the place. No or very little people and roads – it is a pristine place!” (MarNP3)</i></p> <p><i>“When camping you are so close to nature, being woken by either the sunrise or the birds. We always sit outside, come rain or shine, it’s part of the experience” (MZNP94).</i></p> <p><i>“To be close to nature and be able to experience different wildlife habitats and scenery gave me a feeling of closeness to nature” (MZNP49).</i></p> <p><i>“It was not crowded and contributed to us having a very personal connection” (MZNP73).</i></p>

Less preferred national parks

Respondents to these parks mostly referred to *physical features* (theme: physical connection) to describe their connectedness. These features vary between the national parks. In GGHNP (59%), these features include “camping”, “clean and protected”, “scenery”, “not crowded”, and “vastness”. In MapNP (38%), MarNP (50%) and MZNP (49%), respondents referred to “activities”, “scenery”, “not crowded”, “species richness”, “unspoilt nature”, and “vastness”. A few of these features are described in the representative quotations in Table 8.7.

Respondents to the less preferred parks mentioned features that refer to fewer people and experiencing unspoilt, vast nature with species richness. These were similar to the responses from the preferred national parks. Interestingly, visitors to the less preferred parks did not mention a lack of cellphone reception. Several studies found that biodiversity significantly relates to nature connectedness (Cameron *et al.*, 2020; Richardson *et al.*, 2022). Respondents also stated that certain activities (e.g. camping and hiking) enhance their connection to nature, and it is because active experiences (e.g. watching wildlife, listening to birdsong, or taking photos) are more effective than simply spending time in nature (Richardson *et al.*, 2022).

The second most mentioned connection to all less preferred parks referred to the *values of nature* (theme: subjective connection). These values are indicated in Table 8.8 with representative quotes. The extracts from respondents explain how and where the values were experienced in the respective national parks.

Table 8.8 Values of nature highlighted by respondents as part of their subjective connection to nature

Values of nature	Representative Quotes	KTP	KNP	GGHNP	MapNP	MarNP	MZNP
Care	<i>“Our responsibility is to take care of this earth, that includes animal and plant life” (KTP189). “I want to help protect the Kruger because it is precious and very important to many people and for conservation” (KNP139). “I would love it if this park can be one of the jewels in South Africa” (MapNP8). “I always feel that there are very direct links to our actions and the well-being of nature and vice versa” (MarNP4). “I find peace and fulfilment in a natural setting. I like to leave as small a footprint behind as possible” (MZNP210).</i>	X	X		X	X	X
Oneness	<i>“I feel part of the park. It is never crowded and one feels part of nature” (KTP84). “It is easy to feel one with Kgalagadi” (KTP126). Nature is part of us and part of nature; we form part of the intricate web of life” (KNP327). “Walking through any wild area makes you part of that environment. You are completely at the mercy of the mountains and the weather” (GGHNP59). “The park is fairly quiet, but you feel a part of it” (MapNP100). “Visiting the park makes me feel connected to nature and the animals that live there” (MarNP48). “Here, it is easy to connect to nature. It is quiet, peaceful and connects to your inner being” (MZNP143).</i>	X	X	X	X	X	X
Primitiveness	<i>“The Kruger and the Kgalagadi stir primal instincts in my being, reminding me of our ancestor’s primitive beginnings and how they interacted with nature” (KTP639). “The park touches on primal instincts and emotions of how our ancestors were connected to and one with nature. We have lost that, and the park brings that out in me” (KNP40). “I grew up not far from MZNP and the general scenery is very special – it transports one back to a land before modern time. Untainted and magical” (MZNP155).</i>	X	X				X

Values of nature	Representative Quotes	KTP	KNP	GGHNP	MapNP	MarNP	MZNP
Remoteness	<i>"I love the remoteness and the beauty in the harshness of life in the Kalahari" (KTP443). "The remoteness and how wild the park is with its various unfenced camps" (KTP276). "The remoteness of the highlands retreat" (GGHNP7). "The fact that it's so quiet and relatively isolated there. There's space to just be" (MapNP14). "The sense of being in a remote and quiet place amongst indigenous flora and fauna" (MZNP214).</i>	X		X	X		X
Solitude	<i>"There is nothing else there. Just me and nature" (KTP549). When you are in the park and there is no car in sight, just you and the bush" (KNP157). "To be in nature away from people" (GGHNP25). "I felt mostly alone with nature and sometimes with some animals" (MapNP73). "The solitude and ability to watch animals undisturbed, and them watching me" (MarNP6). "Sitting in my car in a remote area on a 4x4 route where no other people are around" (MZNP78).</i>	X	X	X	X	X	X
Spirituality	<i>"I realise while visiting Kgalagadi that the same God that created us also created Kgalagadi – and that I am part of the circle of life" (KTP424). "Just resonate with my soul" (KTP380). "Being in our own natural element, the African bush, allows us to reconnect with our origins and humanity and reminds us that we have a role in God's design" (KNP170). You cannot separate us and nature. We are all God's creation" (KNP322). "The Lord who made heaven and earth who created me also created the breathtaking scenery, and I get to enjoy it" (GGHNP26). "It is a very spiritual place and just to be there, whether or not you have any special wildlife sightings, is a privilege" (MapNP18). "The awesomeness of God's creation" (MarNP31). "If I want to do some soul searching or clean my thoughts, then I come here" (MZNP_T04).</i>	X	X	X	X	X	X
Timelessness	<i>"Remove watch, no cell. Rise with the bird's morning song and sleep when darkness falls. Get into the rhythm of life" (KTP579). The fact that all living organisms are interrelated and the timeliness of nature itself" (KNP61). "In nature, there is no time; you have to be patient because otherwise, you see nothing" (GGHNP_T01). "The sense that mountains are eternal has been there for thousands of years, and countless generations before me must have felt the same way seeing them" (GGHNP41).</i>	X	X	X			

Values of nature	Representative Quotes	KTP	KNP	GGHNP	MapNP	MarNP	MZNP
<i>Humility and self-knowledge were not coded as part of their connectedness. It was, however, recognised in previous questions.</i>							
Humility	<i>"It is because one feels so insignificant" (KTP222). "It was home... a safe place where nature was the only thing that mattered and made you realise how small we are and blessed" (KNP56). "I always realise when I visit Golden Gate just how small we humans are in the grand scheme of things" (GGHNP13). "The camp also allows for a close experience where the animals can wander through the camp or past it. It's a reminder that we aren't separate from but rather amongst wildlife there and that's quite humbling" (MapNP14). "The views on top of the lookout – absolutely stunning, makes one feel so small in the scheme of things!" (MarNP74) "Blessed to still have places like this in SA and the opportunity to visit it" (MZNP189).</i>	X	X	X	X	X	X
Self-knowledge	<i>"Wildlife and wilderness make me realize every time how destructive humans are. It revitalizes me" (KNP248). "Nothing is so beautiful than nature – this what I got from my parents, and now I think they are right" (GGHNP55). "I grew up in Amandasig in Pretoria... I wasn't much aware or exposed to the culture. So, I enjoyed learning that although the world is becoming more modern, people are still practising old traditions" (MapNP_T02). "Can participate and share knowledge and passion with the public. I like seeing 'the lights go on', especially about the small stuff" (MarNP108). "The wide-open spaces were spectacular. It makes you rethink your life somehow" (MZNP232).</i>		X	X	X	X	X

The values identified in the respondents' explanations of their connectedness to nature were care, oneness, primitiveness, remoteness, solitude, spirituality and timelessness. Respondents described their experiences that unconsciously relate to these values and their connectedness to nature. It shows the relevance and universality of these values in 'wilderness' and protected natural areas. Various authors (Borrie & Roggenbuck, 2001; De Crom, 2005; Ried *et al.*, 2020) researched the values of nature found in Table 8.8. Refer to section 2.6.2 for a review of these values of nature.

The remaining values of humility and self-knowledge were experienced in the respective national parks. Although not coded in this particular question, various pieces of evidence were found in this research. Humility in the scope of this research confirmed the work of Borrie and Roggenbuck (2001). These authors indicated that humility includes feelings of insignificance and scaredness, and it brings a "powerful message that within it (wilderness), humans are but a small part of a much larger community of beings" (Borrie & Roggenbuck, 2001:3).

De Crom's (2005) research identified self-knowledge, which was also found in the respondents' descriptions. Self-knowledge also forms part of transcendent emotions, recognised as a benefit of nature (Ried *et al.*, 2020). This furthermore links with one's personal growth and a state of introspection (Ried *et al.*, 2020).

8.4 SUMMARY

Connectedness to nature was explored quantitatively using two well-known scales where the average scores indicate their connectedness. A higher score on the INS scale indicates greater interconnectedness with nature. Respondents from all parks had high scores. However, GGHNP respondents ($\bar{X} = 5,61$) had the highest mean score amongst the respective parks. The factor analysis for the NR-6 scale revealed that all items can be measured under one factor as this solution had acceptable BTS, KMO and α scores. The variance reported for the preferred parks was 48.89% and 45.99% for the less preferred. The NR-6 scale means for the preferred parks were highest overall, with KTP and KNP scoring equal means ($\bar{X} = 4,40$). A joint display below provides a synopsis and meta-inference (Table 8.9).

Table 8.9 Joint display of the nature connectedness and qualitative responses

THEME/ SCALE	QUANTITATIVE	QUALITATIVE	MIXED METHOD META-INFERENCES		
Inclusion of Nature in Self (INS) scale (7-point Likert scale)	Overall: Park Mean (s) KTP 5,58 (1,18) KNP 5,47 (1,28) GGHNP 5,61 (1,21) MapNP 5,52 (1,24) MarNP 5,54 (1,23) MZNP 5,26 (1,23)	Overall, the GGHNP respondents had the highest INS mean score amongst the respective parks, indicating that they mostly included nature within their cognitive representation of self. The park with the lowest mean score is the MZNP.	Corroborating: The purpose of the extended questions was to confirm the connectedness to nature. This was done by using different scales and asking a question with a yes and no response. These different forms of questions corroborated the concept of connectedness. The connectedness scores were exceptionally high for all respondents. This indicates that the visitors to South African national parks are generally connected to nature and want to experience nature. Furthermore, respondents' reasons for feeling connected included being physically in nature and surrounded by specific features of these parks. Some explained how activities such as camping and hiking enabled them to feel connected. Respondents also referred to		
	Overall: Park Mean (s) KTP 4,40 (0,70) KNP 4,40 (0,73) GGHNP 4,26 (0,75) MapNP 4,24 (0,76) MarNP 4,27 (0,70) MZNP 4,13 (0,76)				
	Nature-Relatedness (NR-6) scale (5-point Likert scale)			The NR-6 mean scores for the KTP and the KNP respondents were the highest compared to the less preferred park respondents. The respondents with the lowest mean score were from the MZNP.	
	Do you feel connected to nature?			Yes responses: Park Per cent KTP 99% KNP 98%	Most visitors to all the parks were connected to nature in the respective parks.

THEME/ SCALE	QUANTITATIVE	QUALITATIVE	MIXED METHOD META-INFERENCES
Reasons for connection	GGHNP 94% MapNP 93% MarNP 96% MZNP 97%	Highlighted exemplary quotes:	<p>the survival of species in nature as special.</p> <p>Several respondents, as seen in section 8.3.1, identified the various values of nature. These values indicate a special subjective connectedness to nature.</p>
	Theme: Physical connection		<p>Immersed in nature</p> <p>Physical features [KTP (36%); KNP (24%); GGHNP(59%); MapNP (38%); MarNP (50%); MZNP (49%)]</p>

THEME/ SCALE	QUANTITATIVE	QUALITATIVE	MIXED METHOD META-INFERENCES
Theme: Subjective connection	Emotional well-being Mindful experience Sense of identity	<p><i>“The mountains and the biodiversity of the place. No or very little people and roads – it is a pristine place!” (MarNP3)</i></p> <p><i>“When camping, you are so close to nature, being woken by either the sunrise or the birds. We always sit outside, come rain or shine, it's part of the experience” (MZNP94).</i></p>	
	Values of nature [KTP (33%); KNP (26%); GGHNP (30%); MapNP (28%); MarNP (17%); MZNP (22%)]	<p><u>Values of nature – Exemplary quotes for the respective values identified:</u></p> <p>Care: <i>“I want to help protect the Kruger because it is precious and very important to many people and for conservation” (KNP139).</i></p> <p>Oneness: <i>“It is easy to feel one with Kgalagadi” (KTP126).</i></p> <p>Primitiveness: <i>“The Kruger and the Kgalagadi stir primal instincts in my</i></p>	

THEME/ SCALE	QUANTITATIVE	QUALITATIVE	MIXED METHOD META- INFERENCES
		<p><i>being, reminding me of our ancestor's primitive beginnings and how they interacted with nature” (KTP639).</i></p> <p>Remoteness: <i>“The fact that it’s so quiet and relatively isolated there. There’s space to just be” (MapNP14).</i></p> <p>Solitude: <i>“The solitude and ability to watch animals undisturbed, and them watching me” (MarNP6).</i></p> <p>Spirituality: <i>“If I want to do some soul searching or clean my thoughts, then I come here” (MZNP_T04).</i></p> <p>Timelessness: <i>“Remove watch, no cell. Rise with the bird's morning song and sleep when darkness falls. Get into the rhythm of life” (KTP579).</i></p> <p>Humility: <i>“The views on top of the lookout – absolutely stunning, makes one feel so small in the scheme of things!” (MarNP74)</i></p> <p>Self-knowledge: <i>“The wide-open spaces were spectacular. It makes you rethink your life somehow” (MZNP232).</i></p>	

To further uncover the concept, respondents were asked whether they perceived themselves as connected to nature in the respective parks. All respondents 'felt' connected to nature, with 93 to 99 per cent answering yes. In addition, respondents had to explain why they are connected to nature. The respondents' reasons for feeling connected to the national parks vary between a physical and subjective connection. Respondents to the preferred parks indicated an overall subjective connection, whereas the less preferred park respondents varied. The category that stood out most from the theme of physical connection was the physical features of the parks. Universal examples of these include "no reception", "not crowded", "species richness", "species survival", "unspoilt nature", and "vastness". Preferred park respondents emphasised the lack of technology and reception. The values of nature were the most important category of the subjective connection theme mentioned by all respondents. These values are "humility", "oneness", "primitiveness", "timelessness", "solitude", "care", "remoteness", "self-knowledge", and "spirituality". Overall, it can be concluded that all visitors to national parks are connected to nature.

Furthermore, research validates positive relations of nature connectedness with environmental concerns, pro-environmental behaviour, place attachment, and increased health benefits. National parks contribute towards achieving the SDGs. These subjective experiences also contribute towards achieving SDG three, which is good health and well-being. It is therefore important to explore the environmental concerns that visitors might have and to assess how this might impact the above constructs – CES, place attachment and overall nature connectedness. In turn, it can assist in developing management strategies that may improve visitor experience.

CHAPTER 9

THREATS AFFECTING NATIONAL PARKS

9.1 INTRODUCTION

The sixth objective of the research was to identify the actual and potential threats during a nature experience at the respective national parks. Respondents were asked the following key questions:

- To what extent do the potential environmental problems affect the future of the park?
- Is the visitor aware of threats that may affect the quality of their experience and the future existence of the respective parks?

The quantitative results from the environmental problem scale will first be presented and discussed. After that, a summary of the future threats and hindrances follows.

9.2 QUANTITATIVE RESULTS AND DISCUSSION

9.2.1 Threat of environmental problems scale

The KNP had the highest overall mean score ($\bar{X} = 4.26$) for environmental problems, as observed in Table 9.1. When comparing individual items, respondents to the KNP regarded all environmental problems as most threatening, except for climate change. Findings by Coldrey *et al.* (2022:8) indicate that the KNP is most vulnerable to *loss of wilderness and biodiversity* in terms of “biodiversity conservation (based on the on-site endemism index) and revenue generation (based on total accommodation units occupied annually)”. This might indicate why respondents rated environmental problems highly for this park.

Climate change or unpredictable weather patterns were most threatening to respondents from the KTP ($\bar{X} = 3.72$). These scores were based on tourists’ assessments only. Various studies have been conducted in South African national parks regarding climate change and its impacts (Saarinen *et al.*, 2020; Chikodzi *et al.*, 2022; Coldrey *et al.*, 2022). Coldrey *et al.* (2022) assessed the vulnerability of all 19 South African national parks and found MapNP to be the most vulnerable to

climate change, and the GGHNP and KTP were ranked fourth and sixth most vulnerable, respectively. However, Saarinen *et al.* (2020) found that climate change has become one of the most significant threats to KTP.

Climate change can have adverse effects on tourism demand in terms of tourist comfort levels (Coldrey & Turpie, 2020) and ecological changes that alter the appeal of a particular park (Coldrey *et al.*, 2022) or reduce the number of charismatic species (Di Minin *et al.*, 2013). On the other hand, Chikodzi *et al.* (2022) assessed the climate risk to heritage sites within MapNP and KNP. These authors discovered that high temperatures pose severe risks because they cause damage to rock paintings and engravings, rusting and shaping of artefacts, and degeneration of artefacts and facades. Furthermore, intense rainfall leads to flood damage and intense erosion in the parks, which also causes various issues (Chikodzi *et al.*, 2022). Reindrawati *et al.* (2022) claim that because of the tendency of the river flows in the KNP to alter, climate change also affects water availability, potentially resulting in the extinction of sensitive species.

Overall, Chikodzi *et al.* (2022) indicated that visitors are not fully aware of the impacts of climate change in parks and recommend more climate awareness campaigns. Besides, a raised awareness about environmental problems may lead to widespread concern, which assists with the decrease in the overall risks of climate change due to a reduction in the emission of greenhouse gases (Vousdoukas *et al.*, 2022).

When considering the highest mean score for specific environmental problems per national park, *loss of wilderness* was scored highest by respondents to KTP ($\bar{X} = 4.21$) and GGHNP ($\bar{X} = 4.27$). The KTP has limited accommodation, and camps are geographically dispersed and remote (Saayman & Dieske, 2015). Respondents fear that this might change in future if more accommodation facilities and commercialisation are introduced to the park. The MapNP and KTP are the only two national parks (e.g. protected areas) in South Africa with a UNESCO project. This status could, therefore, lead to increased tourism activities (Van der Merwe *et al.*, 2019), which pose further threats to the wilderness qualities of the park. Similarly, GGHNP has limited development, and respondents felt that losing these wilderness

qualities was imminent. This was noted by their concern about the building of the dinosaur museum in the park, the reduction in size of the camping area and the ever-increasing traffic through the park.

Respondents to KNP ($\bar{X} = 4.80$), MapNP ($\bar{X} = 4.56$), MarNP ($\bar{X} = 4.39$) and MZNP ($\bar{X} = 4.42$) rated *poaching of wildlife* as the most threatening environmental problem in the parks. Poaching is a significant concern in most national parks, especially in parks on the country's borders, for example, KNP and MapNP (Reindrawati *et al.*, 2022). According to Reindrawati *et al.* (2022:928), a "decline in poaching in KNP can be attributed to the implementation of an integrated anti-wildlife crime strategy involving all law enforcement agencies in South Africa and the Greater Limpopo Transboundary Conservation Area (GLTCA)". This decline was attributed to COVID-19, where access and movement of people were restricted. Also, SANParks (2022b) reported that rhino poaching in KNP slowed during 2022 and shifted to private reserves and KwaZulu-Natal. Likewise, elephant poaching decreased considerably year-on-year (SANParks, 2022b). Nevertheless, poaching remains a relevant threat in all national parks, and respondents are quite aware of this.

Table 9.1 Mean scores for the level of threat of environmental problems within the preferred and less preferred national parks

ENVIRONMENTAL PROBLEMS	PREFERRED				LESS PREFERRED							
	KTP <i>n</i> =733		KNP <i>n</i> =574		GGHNP <i>n</i> =96		MapNP <i>n</i> =149		MarNP <i>n</i> =153		MZNP <i>n</i> =318	
	\bar{X}	(SD)	\bar{X}	(SD)	\bar{X}	(SD)	\bar{X}	(SD)	\bar{X}	(SD)	\bar{X}	(SD)
<i>Overall threat</i>	4.00	(1.05)	4.26	(0.84)	4.01	(0.94)	3.97	(1.00)	4.01	(0.94)	3.94	(1.04)
Climate change or unpredictable weather patterns	3.72	(1.00)	3.71	(1.01)	3.61	(1.03)	3.70	(1.01)	3.58	(0.93)	3.62	(1.04)
Loss of biodiversity/wildlife	4.11	(0.86)	4.31	(0.79)	4.09	(0.94)	4.30	(0.83)	4.18	(0.84)	4.05	(0.95)
Loss of wilderness areas	4.21	(0.96)	4.40	(0.84)	4.31	(0.94)	4.36	(0.93)	4.33	(0.86)	4.16	(1.02)
Non-native plants and animals (i.e., exotic/alien invasive species)	3.71	(1.08)	4.03	(0.92)	3.93	(0.90)	3.96	(0.97)	3.97	(0.90)	3.82	(1.01)
Overcrowding of visitors within the park	4.17	(1.02)	4.25	(0.89)	3.57	(0.97)	3.51	(1.18)	3.65	(1.14)	3.78	(1.09)
Poaching of wildlife	4.15	(1.09)	4.80	(0.48)	4.27	(0.79)	4.56	(0.68)	4.39	(0.74)	4.42	(0.92)
Pollution (air, land, water, noise, light)	3.74	(1.25)	4.27	(0.85)	4.13	(0.91)	3.82	(1.13)	3.93	(1.06)	3.86	(1.16)
Desertification/water scarcity	4.17	(0.88)	4.27	(0.82)	4.11	(0.97)	4.03	(0.92)	4.18	(0.89)	4.12	(0.92)
Recreational development and expansion	4.04	(1.05)	4.18	(0.93)	3.91	(0.97)	3.60	(1.14)	3.81	(1.00)	3.71	(1.04)
Urban development	3.95	(1.34)	4.43	(0.86)	4.15	(0.96)	3.90	(1.22)	4.07	(1.05)	3.85	(1.27)

Bold = highest mean score per item (environmental problem)

Red = highest mean per national park

Although these results focus on the most significant environmental problems per park, it is clear that all of these problems are prevalent as the mean scores are all above 3.5 and are essential to note and address by the respective parks.

9.2.2 Threat of environmental problems descriptives and scale reliability for the preferred and less preferred national parks overall

The KMO test for the factor of the preferred parks was statistically significant (0.87), while the less preferred parks achieved (0.88) (Table 9.2). Both generated a BTS of $p \leq 0.05$.

Table 9.2 Threat of environmental problems descriptives and scale reliability statistics for the preferred and less preferred national parks overall

<i>Descriptives</i>											
Preference	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis			
						Statistic	Std. Error	Statistic	Std. Error		
Preferred	1307	1.00	5.00	4.11	.66	-1.042	.068	1.062	.135		
Less preferred	716	1.00	5.00	3.97	.69	-.793	.091	.457	.182		

<i>Scale reliability statistics</i>							
Preference	N	Cronbach alpha (α)		KMO	Bartlett's Test of Sphericity		Mean Inter-item correlation
		α	No. items		Approx. Chi-Square	Sig.	
Preferred	1307	0.86	10	0.87	5495.703	.000	.389
Less preferred	716	0.88	10	0.88	3186.423	.000	.417

9.2.3 Factor analysis of the Threat of Environmental Problems

Table 9.3 depicts the factor analysis for the threat of *environmental problems* for preferred and less preferred parks. The factor *environmental problems* for preferred and less preferred parks obtained a good α of 0.86 and 0.88, respectively. The α of the labelled factor affirms the reliability of the five-point Likert scale used. The factor accounted for 46.00% of the variance explained by preferred parks, while the less preferred parks accounted for 48.14%. The author compiled this questionnaire based on the literature reviewed, and there is no comparable research regarding previous α scores.

Table 9.3 Factor loadings for the threat of environmental problems of preferred and less preferred national parks

	PREFERRED PARKS	LESS PREFERRED PARKS
<i>Questionnaire items</i>	Environmental Problems	Environmental Problems
F1. Climate change or unpredictable weather patterns	.401	.453
F2. Loss of biodiversity/wildlife	.707	.717
F3. Loss of wilderness areas	.753	.746
F4. Non-native plants and animals (i.e., exotic/alien invasive species)	.753	.702
F5. Overcrowding of visitors within the park	.619	.700
F6. Poaching of wildlife	.683	.672
F7. Pollution (air, land, water, noise, light)	.804	.791
F8. Desertification/water scarcity	.602	.672
F9. Recreational development and expansion	.623	.673
F10. Urban development	.748	.757
Initial eigenvalues (1 factor)	4.600	4.814
Total Variance	46.004	48.137

Extraction Method: Principal Component Analysis

Reindrawati *et al.* (2022:931) stated that “environmental problems seem to affect the tourism sustainability of national parks and could be driving down the tourist visits to the park, either in qualitative or quantitative terms”. The following qualitative results expand and add meaning to the quantitative results above.

9.3 QUALITATIVE FINDINGS AND DISCUSSIONS

9.3.1 Future threats to the national parks

Respondents identified the following threats in addition to the environmental problems under section 9.2.1. As explained in section 2.9.1, physical threats are most likely anthropogenic. Weiler *et al.* (2013) explored the threats to national parks' quality and diversity of visitor experiences. These authors believe that threats should be reduced to enhance the benefits of visiting national parks. As such, all physical threats impact the place attachment and general experiences of visitors to national parks (Scannell & Gifford, 2017; Wilkins & de Urioste-Stone, 2018; Marshall *et al.*, 2019). The threats identified by respondents were regarded as either external or internal. The theme, external threats, referred to all 'outside' factors, including *COVID-19, development, mining and political issues*. The theme, internal threats, consists of *conservation issues, economic issues, mismanagement and tourism*. Many respondents did not identify additional threats, while others suggested that education and awareness could be used to prevent future threats to the national parks. These themes and categories are displayed in Table 9.4.

Preferred national parks

Respondents to the KTP most frequently referred to the increase in *tourism* (28%) (theme: internal threat). Respondents mentioned that more tourists are associated with "bad visitor behaviours", "commercialisation", "increased connectivity", "price increases" and "overcrowding". Currently, the park allows a limited number of visitors. However, should this change, it might impact the visitors negatively (Van der Merwe *et al.*, 2019). Likewise, in KNP, respondents mostly mentioned *tourism* (27%) as an internal threat. This park is currently receiving many tourists, affecting the respondents' experiences, as discussed in hindrances in section 9.3.2. Increasing the number of tourists might affect tourists' experiences and attachment to the park. The pressures that impacted negatively on respondents because of tourism were "bad visitor behaviour", "commercialisation", "price increases", and "overcrowding". Representative quotes are given in Table 9.5.

In addition, the mean scores for the item '*Overcrowding of visitors within the park*' in Table 9.1 were also highest for these parks compared to the less preferred national parks. Tourism was also regarded as a significant hindrance to their current

park experiences. Research indicates that more tourists create pressure on recreation resources, possibly leading to perceptions of crowding, and in turn, cause a reduced sense of place (Farnum *et al.*, 2005) and enjoyment for visitors (Botha, 2012; Shin *et al.*, 2010; Manning *et al.*, 2017). Winter *et al.* (2019) also referred to the conflict that emerged due to crowding and the difference in visitor goals and ethics. For example, many respondents mentioned the bad behaviour of fellow park users (e.g. speeding, drinking, noise, etc.). Visitor goals might also refer to park visitors seeking solitude versus other park users seeking other experiences, and crowding may negatively affect the quality of all visitor experiences (Farnum *et al.*, 2005; Shin *et al.*, 2010).

Kruger National Park respondents also frequently referred to political issues (24%) (theme: external threat). Respondents to the KNP are gravely concerned about “corruption”, “land claims,” and “government involvement”. Since SANParks is a public entity, respondents felt that the park would be neglected in future due to the focus on financial gain. These concerns by respondents are highlighted in Table 9.5. They are particularly concerned about the increased corruption, possible land claims and the involvement and influence of the government. Botha (2012) posits that tourists are typically discouraged from visiting nations because of political unrest and the perception of unrest in those nations. The same could be said for the mentioned issues within national parks. Reindrawati *et al.* (2022:925) also mentioned “obstacles such as political turmoil, legal certainty, readiness and support of the parties, and conflicts of interest” affecting national parks. Respondents also mentioned a lack of government financial support and encouraging development to benefit from the potential income. According to Baldie (2018), protected parks in South Africa and abroad are impacted by a lack of government funding to sustain and protect parks.

Table 9.4 Future threats to the preferred and less preferred national parks

FUTURE THREATS (Categories)	PREFERRED		LESS PREFERRED			
	KTP <i>n</i> = 482	KNP <i>n</i> = 425	GGHNP <i>n</i> = 57	MapNP <i>n</i> = 110	MarNP <i>n</i> = 94	MZNP <i>n</i> = 190
THEME: External threats						
COVID-19	5 (1%)	8 (2%)	0	5 (5%)	0	7 (4%)
Development	69 (14%)	65 (15%)	1 (2%)	5 (5%)	4 (4%)	15 (8%)
Mining	29 (6%)	33 (8%)	0	19 (17%)	4 (4%)	3 (2%)
Political issues	85 (18%)	103 (24%)	13 (23%)	39 (36%)	21 (22%)	55 (29%)
THEME: Internal threats						
Conservation issues	60 (13%)	68 (16%)	9 (16%)	43 (39%)	15 (16%)	30 (16%)
Economic issues	28 (6%)	14 (3%)	8 (14%)	1 (1%)	5 (5%)	16 (8%)
Mismanagement	71 (15%)	90 (21%)	14 (25%)	28 (26%)	25 (27%)	53 (28%)
Tourism	137 (28%)	116 (27%)	23 (40%)	7 (6%)	10 (11%)	22 (12%)
OTHER						
Nothing / Not applicable	113 (23%)	45 (11%)	4 (7%)	10 (9%)	21 (22%)	46 (24%)
Education	0	18 (4%)	0	6 (6%)	13 (14%)	0

Black and bold – most frequently mentioned threat

Red – second most frequently mentioned threat

Table 9.5 Representative quotes based on the themes and categories of future threats highlighted by respondents

		PREFERRED	LESS PREFERRED
Theme	Categories	Representative quotes	
External threats	COVID-19 Development Mining Political issues	<p><i>“A new younger generation that does not share my deep love of absolute untouched wilderness areas and the preservation thereof, that put making money from the park before preserving it as a very special place” (KNP266).</i></p> <p><i>“...growing townships around the park borders with unvaccinated pets/livestock, we have seen dogs roaming around the inside of the Kruger Park near Paul Kruger Gate and these animals carry things like distemper which is then passed onto the wild dog packs and the other animals, poverty amongst those that live there also cause an increase in poaching for bush meat.” (KNP33).</i></p> <p><i>“Staff becoming involved in poaching syndicates. The areas surrounding the park becoming more dangerous to travel through due to crime” (KNP369).</i></p> <p><i>“A sense of apathy (or worse... anger)</i></p>	<p><i>“Lack of funding and a lack of understanding that heritage and nature must be managed as one” (MapNP23).</i></p> <p><i>“There is an intrusion of people, as we were ‘visited’ by a pedestrian at Vhembe, supposedly looking for work...” (MapNP54).</i></p> <p><i>“Our government's incompetence and inability in providing a framework for future economic growth” (MapNP97).</i></p> <p><i>“Land redistribution and lack of understanding by locals of the potential value of the land” (MarNP40).</i></p> <p><i>“Government withdrawing financial support” (MarNP74).</i></p> <p><i>“Poor management and general socio-economic decline of the country could lead to the decline in the protection of our national parks in general” (MarNP32).</i></p> <p><i>“Land invasion is of great concern even if the land the park is on was donated by farmers”</i></p>

		PREFERRED	LESS PREFERRED
Theme	Categories	Representative quotes	
		<p><i>towards the park by surrounding communities that may feel disenfranchised by management strategies/distribution of economic opportunities</i>" (KNP392).</p> <p><i>"Lack of government support because of its low 'vote catching' potential. Enforcement of political policies that will hinder effective game management, i.e., enforced employment of connected rather than competent officials"</i> (KNP233).</p>	<p>(MZNP12).</p> <p><i>"Poor management and a lack of control of border fencing. National Parks being looked at as cash cows and not as what they were set aside to do, to protect our biodiversity"</i> (MZNP46).</p> <p><i>"Greed. If you chase money, it will lead to your downfall"</i> (MZNP_T04).</p>
Internal threats	Conservation issues		<p><i>"Climate change will influence the park, but other threats could come from mining and its water requirements, as with the Venetia diamond mine. Any urbanisation and mass housing nearby will influence the park – wood and medicinal plant collection, domestic grazing, and poaching. The park could also offer a route for illegal immigration from Zimbabwe and Botswana into South Africa"</i> (MapNP65).</p> <p><i>"I think the encroachment of livestock from across the river is a huge threat for visitors' 'wild' experience as well as a threat to the wild animals"</i> (MapNP54).</p>

		PREFERRED	LESS PREFERRED
Theme	Categories	Representative quotes	
	Economic issues Mismanagement		<p><i>“Lack of maintenance (especially for the true nature lovers like us, the camping sites that are becoming very run down) and disinterested staff that do not have any affinity for nature” (GGHNP32).</i></p> <p><i>“The complete lack of interest in the park from all the staff members that we met. If they are not interested in working towards a better future for the park then I can’t see a future” (GGHNP56).</i></p> <p><i>“The lack of road maintenance (more a weakness than a threat), not easily accessible. Service is also a weakness but can become a threat...exceptional service makes a good first impression” (MapNP17).</i></p> <p><i>“Insufficient repair to tourist and access roads, accommodation and infrastructure” (MarNP4).</i></p> <p><i>“Lack of competent management to look after the park in the future and the government not allocating sufficient resources to conservation” (MZNP49).</i></p>

		PREFERRED	LESS PREFERRED
Theme	Categories	Representative quotes	
	Tourism	<p><i>“The ecosystem is fragile and so climate change is probably the greatest threat, but at the same time, man's imprint can be a real threat to the system, especially with overcrowding on the roads and in the camps. Permanent clouds of fine dust caused by vehicles travelling too fast must be a threat to an already fragile ecosystem” (KTP162).</i></p> <p><i>“A drive to commercialise the park to attract more tourists. This will destroy the remoteness and wilderness character of Kgalagadi. The Park is famous for attracting the typically more responsible visitors who know how to behave in open, unfenced facilities and remote areas. This should be appreciated and protected” (KTP24).</i></p> <p><i>“Overcrowding, mass tours, and people who disrespect the rules and regulations. This is not a people place it's for conservation and hence, animals and environment first before tourism. Alcohol abuse is also a major factor” (KNP332).</i></p> <p><i>“The fact that it seems to become a money-making business. Also, there is a feeling of ‘I</i></p>	<p><i>“The through road brings many vehicles ...these people are not necessarily very environmentally conscious” (GGHNP29).</i></p> <p><i>“The Golden Gate is not big enough to sustain extensive accommodation increases and thus more and more visitors. Overcrowding could become a problem and this will destroy everything the park stands for” (GGHNP31).</i></p>

		PREFERRED	LESS PREFERRED
Theme	Categories	Representative quotes	
		<i>don't care' at some camps. Mainly interested in the tourists - dollars. And some South Africans cannot afford present prices – fees are put up without due thought to the locals” (KNP396).</i> <i>“The push to build more and more in the park, thus defeating the objective, as it will attract more vehicles/supply trucks, which already speed, with tragic results.” (KNP35).</i>	

Orange text: Evident in the less preferred parks and quotations are focused on the highlighted category.

Green text: Evident in the preferred parks and quotations are focused on the highlighted category.

Black text: Evident in both the preferred and less parks and quotations are focused on the highlighted category.

Less preferred national parks

In the GGHNP, respondents mainly mentioned *tourism* (40%), followed by *mismanagement* (25%) (theme: internal threats). Respondents were concerned about the increase in tourism as it will lead to “higher traffic volumes”, “an increase in crimes”, commercialisation” and “uncontrolled tourists”. According to Botha (2012), visitors are a national park’s most significant benefit and threat. The benefits of tourism refer to the economic profits to protect biodiversity (Botha, 2012; Winter *et al.*, 2019). Many threats are also associated with increased tourism; for example, GGHNP respondents are concerned about the higher traffic volume and increased crime. There is also a decrease in the quality of the park facilities due to uncontrolled visitor access. In addition, respondents are concerned about the continued “poor maintenance and management” of the park facilities. Respondents’ representative views are found in Table 9.5.

Respondents to the MapNP most frequently mentioned *conservation issues* (39%) (theme: internal threat). Conservation issues refer to “domestic animals”, “climate change”, and “poaching”. These issues were also mentioned as hindrances to respondents’ experiences in the park. Should these issues persist, it might impact future visitation to the park. Furthermore, MapNP respondents also frequently mentioned *political issues* (36%) (theme: external threat). Respondents referred to “government involvement”, “land claims,” and “unsecured borders” as threats to the future of this park. These threats are explained in the representative statements in Table 9.5. Overall, these respondents felt that if the political atmosphere and support are no longer conducive, it may lead to a “lack of financial resources to maintain parks and preserve wilderness areas and will result in increasing unemployment and poverty, which will force residents around the park to poach” (MapNP97).

In MarNP, respondents mainly mentioned *mismanagement* (27%) as an internal threat, followed by *political issues* (22%) as an external threat. Mismanagement referred to “bad roads” and “poor maintenance and management”, and political issues referred to “government involvement” and “land claims”. Likewise, the most frequently mentioned threats in the MZNP were *political issues* (29%), followed by *mismanagement* (28%). Political issues in this park also referred to “government

involvement” and “land claims”, whereas mismanagement referred to “bad roads” and “poor maintenance and management”. Respondent statements for these respective parks are highlighted in Table 9.5.

9.3.2 Hindrances affecting visitors’ experiences

The constraints affecting visitors’ experiences consisted of two main themes: external and internal hindrances. For this research, hindrances refer to the constraints visitors experience that detract from their experience in the respective parks. Experiences in national parks face many threats (Weiler *et al.*, 2013) and, in some cases, could be in danger of extinction (Miller, 2005) and are of concern. Therefore, the hindrances and threats should be understood to enhance visitor’s experiences. External hindrances refer to constraints outside the national parks that influence visitors’ experiences and include *industrial pressure*. The internal hindrances include *bad behaviour, conservation issues, development, over-commercialisation, and poor infrastructure and management*. Many respondents indicated no hindrances to their experiences, while others indicated suggestions to improve visitor experiences. The themes and categories are displayed in Table 9.6.

Preferred national parks

Respondents to KTP and KNP indicated that they are affected mainly by internal hindrances. In KTP, respondents mostly referred to *over-commercialisation* (36%) as a hindrance. Respondents mentioned that they would not like it if the park introduced “popular restaurant brands” to the park and did not want “commercial game vehicles” or “overcrowded campsites”. Some respondents were hindered by the fact that the park might become “too exclusive” and, therefore, “too expensive”. Furthermore, “increased connectivity” was a hindrance as respondents appreciated the remoteness of KTP. They expressed that increased connectivity and commercialisation will detract from their future experiences in the KTP.

Bad behaviour (28%) also hindered KTP respondents, and they referred to the general disrespect of fellow visitors. These behaviours include “littering”, “noise”, “speeding”, and “selfishness at sightings”. Furthermore, respondents in KTP also referred to the *poor infrastructure and management* (27%) as a hindrance. This

referred to “problems with the booking system”, “corrugation of roads”, and the general “mismanagement” of the park. Verbal accounts from the respondents are given in Table 9.7.

Respondents to the KNP mostly mentioned *bad behaviour* (62%) as a hindrance affecting their experiences. This behaviour refers to “littering”, “disrespect”, “partying”, “selfishness at sightings”, and “drunken outbursts and driving”. Other hindrances under bad behaviour included “noise” and “speeding” in the park.

KNP respondents also mentioned *over-commercialisation* (41%) as a significant hindrance. Over-commercialisation referred to the many “commercial game vehicles” and “tour operators and independent safari operators”. An “increase in day visitors and tourists overall” hinders respondent experiences. Commercial hindrances also include “expensiveness”, “increased connectivity”, and the “use of internet applications”. The view of a respondent (KNP41) summarises the general feeling of respondents to KNP:

“Concerned about some of the planned developments which will possibly take away that old world charm and rustic, wild character of the park, e.g. new gates, new hotels in the park leading to more roads, more tourists, more speeding, more litter, more stress on water resources”.

Another hindrance that affected KNP respondents was the *poor infrastructure and management* (25%). Issues mentioned were “dishonest staff” and general “mismanagement”, including *disrespectful/unfriendly staff, poor quality accommodation*, and a *lack of maintenance*. Several representative quotes are given in Table 9.7.

Table 9.6 Respondents' hindrances affecting their experiences within the preferred and less preferred national parks

	PREFERRED		LESS PREFERRED			
HINDRANCES (Categories)	KTP <i>n</i> = 623	KNP <i>n</i> = 521	GGHNP <i>n</i> = 68	MapNP <i>n</i> = 130	MarNP <i>n</i> = 121	MZNP <i>n</i> = 248
THEME: External hindrances						
Industrial pressure	1 (≤1%)	17 (3%)	18 (26%)	6 (5%)	1 (1%)	1 (≤1%)
THEME: Internal hindrances						
Bad behaviour	174 (28%)	325 (62%)	20 (29%)	20 (15%)	8 (7%)	39 (16%)
Conservation issues	20 (3%)	35 (7%)	2 (3%)	53 (41%)	19 (16%)	15 (6%)
Development	79 (13%)	51 (10%)	13 (19%)	7 (5%)	6 (5%)	8 (3%)
Over-commercialisation	226 (36%)	212 (41%)	9 (13%)	9 (7%)	17 (14%)	53 (21%)
Poor infrastructure and management	169 (27%)	130 (25%)	18 (27%)	56 (43%)	56 (46%)	63 (25%)
OTHER						
Nothing / Not applicable	122 (20%)	29 (6%)	0	26 (20%)	46 (38%)	124 (50%)
Suggestions	27 (4%)	12 (2%)	9 (13%)	5 (4%)	7 (6%)	9 (4%)

Black and bold – most frequently mentioned

Red and bold – second most frequently mentioned

Red – third most frequently mentioned

Table 9.7 Representative quotes based on the highlighted respondent internal hindrance categories

		PREFERRED	LESS PREFERRED
Theme	Categories	Representative quotes	
Internal hindrances	Bad behaviour	<p><i>“Dead animals on the road caused by speeding drivers and sometimes empty bottles next to the road. The noise coming off nearby settlements in Twee Rivieren during the weekend and the noise of groups (overlanders) on the campsite” (KTP380).</i></p> <p><i>“Park/maintenance officials drive too fast, and inconsiderate guests park so one cannot pass or view a sighting (KTP287).</i></p> <p><i>“General lack of discipline from visitors as well as from some park staff especially with regards to speeding (including supplier vehicles)” (KNP177).</i></p> <p><i>“International clients who drive into the bush disturbing the animals to get closer or better viewing. Also the teasing of baboons with food to see ‘tricks’ for entertainment” (KNP409).</i></p> <p><i>“Litter on the road, noisy parties with or without music, and people disrespecting the rules. The game drive vehicles that are from outside the park or concessions – don’t</i></p>	<p><i>“I am worried that not all people are looking after it! Recently, I saw lots of graffiti...makes me sad!” (GGHNP23)</i></p> <p><i>“The loud music and drunk and noisy people in the campsite that went on all night. I couldn’t believe it when the drag racing started” (GGHNP26).</i></p> <p><i>“We were at the park over a weekend and the continual noise from the vehicles passing, stopping and the loud voices and music emanating from these vehicles was very disturbing. We felt unsafe in the caravan park and agreed to only camp there again during the week” (GGHNP37).</i></p>

		PREFERRED	LESS PREFERRED
Theme	Categories	Representative quotes	
	<p>Conservation issues</p> <p>Development</p> <p>Over-commercialisation</p>	<p><i>follow the rules, are rude to the normal guy and are spoiling the experience” (KNP78).</i></p> <p><i>“Visitors disregarding common courtesy, poor behaviour, and speeding (sometimes drunk) drivers!” (KNP25)</i></p> <p><i>“Commercialisation – please, no Wimpy, no TV, no cell phones – these will destroy the character of the Kgalagadi” (KTP17).</i></p>	<p><i>“The cattle grazing in the park. The bells they carry take away the serenity of the experience. This is a National Park, and cattle are consuming grass, influencing the Park's carrying capacity for grazers” (MapNP62).</i></p> <p><i>“I'm concerned about all the cattle grazing in the park. I don't think this is how it's supposed to be and it poses a health risk for the wild animals in the park” (MapNP69).</i></p> <p><i>“The destruction that is currently happening through overgrazing/utilisation by elephants” (MapNP130).</i></p>

		PREFERRED	LESS PREFERRED
Theme	Categories	Representative quotes	
		<p><i>“This park must not become a commercial hub with fully equipped villages within it. This must remain a wilderness park and not an ATKV village” (KTP108).</i></p> <p><i>“The impact of social media (Kgalagadi Sightings) and there are just too many visitors to the park. Social media creates the expectation that visitors will see lions, leopards and cheetahs around every corner” (KTP43).</i></p> <p><i>“I think that commercialisation is important to sustain the park, but the park should not lose its soul to the franchises and encroachment of technology. If TV’s, Mugg and Bean/Wimpy and cell phone coverage were to disappear, I would not miss them” (KNP15).</i></p> <p><i>“Apps, e.g. Latest Sightings, which allow people to chase around trying to get a glimpse of an animal when they should look at what is around them, is a big disruptor” (KNP79).</i></p> <p><i>“All the outside lodges that they allow in, they drive dangerously, as for the workers in the</i></p>	

		PREFERRED	LESS PREFERRED
Theme	Categories	Representative quotes	
	Poor infrastructure and management	<p><i>park and the taxis” (KNP97).</i></p> <p><i>“We have been going for many years. The fact that I have to book 11 months in advance now is worrying.” (KTP505).</i></p> <p><i>“I find the roads sometimes so distracting and difficult to drive, especially the 'corrugated' parts, that you cannot enjoy the animals and birds as much, concentrating on the road. I know people speed if a road is too smooth, put in speed bumps then. Also, not everyone has a 4x4, so the deep sand can be problematic” (KTP582).</i></p> <p><i>“The friendliness of staff is a problem, not everybody, but many people should be more friendly in dealing with customers” (KNP33).</i></p> <p><i>“Poor management of the ecosystem and, the management of the park itself resulting in land degradation, loss of the fauna, and flora” (KNP230).</i></p> <p><i>“At the rest camps, my only complaint is every visit, and I am a frequent visitor, is there is always something wrong at the accommodation, e.g. no towels, kettle not</i></p>	<p><i>“Bad management and non-nature lovers that are there in a position just to earn an income and enrich themselves by ways of corruption” (GGHNP33).</i></p> <p><i>“The road drives me crazy as I hate the noise. It’s such a shame to have such a beautiful place and not have a campsite more isolated” (GGHNP_T01).</i></p> <p><i>“A lot of misinformation of what amenities are available at the park” (MapNP114).</i></p> <p><i>“The park has fallen in disrepair through bad management– the state of the Limpopo Forest Tented camp and other facilities in the western part of the park shows that the park is not being managed in any way” (MapNP130).</i></p> <p><i>“Unfortunately, a road cuts the park into two separate sections. It detracts from the feeling of being in a wild, remote area” (MarNP45).</i></p> <p><i>“The condition of the road to the mountainside at the other side of the tunnel should get more and more often attention” (MarNP46).</i></p> <p><i>“One thing that we found annoying was that</i></p>

		PREFERRED	LESS PREFERRED
Theme	Categories	Representative quotes	
		<p><i>working, light bulb blown, door sticking frequently!) etc. – all easily fixed by a cleaner with a checklist” (KNP303).</i></p>	<p><i>the park's map wasn't updated. The honorary rangers informed us that the park had purchased the adjacent farm and informed us that we might find the rhino in that part of the park (this new part was not included on the map)” (MarNP50).</i></p> <p><i>“The road going up to the lookout is dangerous as in places there is not enough space for two vehicles to pass easily, making the experience stressful” (MarNP75).</i></p> <p><i>“Regular road maintenance is essential as one prefers to be on the lookout for game rather than keeping a watchful eye for gullies, dongas and potholes in the gravel roads. Get the grader working!” (MZNP43)</i></p> <p><i>“I am visiting the National Parks with a caravan and good access roads to the park camps are very important to me personally. The access road to Mountain Zebra was very poor and might affect my decision for future visits” (MZNP189).</i></p>

Orange text: Evident in the less preferred parks and quotations are focused on the highlighted category.

Green text: Evident in the preferred parks and quotations are focused on the highlighted category.

Black text: Evident in both the preferred and less parks and quotations are focused on the highlighted category.

The main hindrances identified in the preferred national parks were internal and referred to over-commercialisation, bad behaviour, and poor infrastructure and management. However, KTP respondents mainly warned against over-commercialisation and mentioned the issues related to the booking system and the condition of the roads. KNP respondents were more negatively affected by these issues as the park already has several commercial projects (e.g. franchised restaurants – e.g. Cattle Baron). According to Van Jaarsveld (2022), over the past 20 years, SANParks has created a portfolio of 60 tourism projects under the Private Public Partnership (PPP) initiative, including lodging, dining establishments, retail stores, and activities. Van Jaarsveld (2022:3) stated that “these PPPs enriched tourist experiences and future ventures aim to widen the appeal of the parks to new markets while ensuring that the primary drawcards to our parks are not affected and continue to hold appeal for our loyal traditional markets”. Various activities and ventures (e.g. accommodation – camps, lodges, backpackers, restaurants, shops) are planned for some parks under this PPP, including GGHNP, KNP, MarNP, MapNP and MZNP (Van Jaarsveld, 2022). Respondents to the preferred parks are, in general, concerned about the prices charged for the accommodation, especially in the KNP, where they mentioned that “*SANParks needs to either drastically lower their rates to their current standards or drastically up their standards to their current rates*” (KNP289). Respondents to these parks indicated their love for nature and a rustic experience. However, “*when it's time to rest, I need to be comfortable*” (KNP308) and “*chalets or camping sites should be better maintained and kept hygienic, clean, and comfortable*” (KNP230).

Less preferred national parks

In the GGHNP, respondents mostly referred to *bad behaviour* (29%) as a hindrance, followed by *poor infrastructure and management* (27%). Bad behaviour in GGHNP refers to “crime”, “noise”, “misbehaved visitors” and “vandalism”. The bad behaviour mentioned by GGHNP respondents occurred mainly because the R712 national road through the park leads to increased crime, noise, litter and vandalism. Various studies addressed this concern in GGHNP but also looked at the purpose of the road (Kotzè, 2002; Taru *et al.*, 2013), which serves as an important thoroughfare. It was noted by SANParks (2021a) that enforcement and compliance interventions were put in place due to the thoroughfare that eases livestock theft and arson fires.

Furthermore, Botha's study in 2012 found that reducing the traffic through the park will result in better tourist experiences and satisfaction. Poor infrastructure and management, on the other hand, refers to the "lack of amenities at Basotho Cultural Village", "lack of maintenance", "mismanagement", and "poor service".

In MapNP, respondents frequently mentioned *conservation issues* (41%) and *poor infrastructure and management* (43%) as hindrances. The conservation issues in MapNP refer to the presence of "domestic animals" and "destruction by elephants". This is indicated in Figure 9.1, where respondents especially referred to the presence of "cattle", "donkeys", "herding dogs", and "elephants destroying the baobabs".



Figure 9.1 'Domestic' animals found roaming in the Mapungubwe National Park and damage to a baobab tree caused by elephants.

(Source: Author)

Other *conservation issues* within MapNP referred to "people crossing the riverbed into the park", "poaching", and "primate raids". These issues were also highlighted in a study by Hermann *et al.*(2015). Several years later, the same problems remain. According to Carnie (2018), the cattle in the park raised concerns with the visitors. Still, they indicated SANParks' response that since AD 900, animals and people have been able to travel freely within Mapungubwe, a living cultural landscape and it should not be compared to other parks. The MapNP management is aware of the potential risk for Foot and Mouth Disease (FMD) in the park and has supported ongoing, regular passive monitoring for FMD in the park (SANParks, 2019b). Because of this risk, introducing buffalo in this park in the medium term is discouraged (SANParks, 2019b). Furthermore, SANParks (2021a:35) referred to the issue of "illegal immigrants and cigarette smugglers crossing MapNP from

Zimbabwe and that a strong collaboration exists with the South African National Defence Force to combat these crimes”. Poor infrastructure and management refer to “bad roads”, “division of the park”, “difficult access”, “misinformation” and “mismanagement”. Various respondent quotations in Table 9.7 represent these issues.

In MarNP, the respondents mainly mentioned *poor infrastructure and management* (46%) as a hindrance. Similar to MapNP, these issues refer to “bad roads”, “division of the park”, “difficult access”, “misinformation” and “mismanagement”. Furthermore, half of MZNP respondents indicated no hindrances affecting their park experiences. However, *poor infrastructure and management* (25%) were mentioned as an issue of concern to respondents and included “bad roads” and “mismanagement”. The mismanagement also referred mainly to the neglected condition of the ablution facilities at the campsite, referring to “bad drainage and tiny shower cubicles” (MZNP129). Representative quotations are given in Table 9.7.

The poor infrastructure and management were mentioned in all less preferred national parks and mainly referred to the neglected state of facilities and lack of amenities in GGHNP and MZNP. In MapNP and MarNP, respondents mentioned similar hindrances concerning poor infrastructure and management, including bad roads, park division, difficult access roads, and misinformation. A study conducted in the national parks of Sri Lanka (Prakash *et al.*, 2019) discovered that inadequate visitor management, deteriorating road conditions, and a lack of visitor-supporting services like interpretation and information all contributed to a decrease in the quality of tourism experiences. Furthermore, Douglas *et al.* (2022) indicated that millennials voiced a need to learn about the history, vegetation, birds, and animals of specific national parks in South Africa. The respondents in this research were much older; however, they indicated a need for more information, in the form of tourist maps and brochures, in the less preferred national parks.

9.4 SUMMARY

The factor analysis revealed that all items can be measured under one factor, *environmental problems*, as this solution had acceptable BTS, KMO and α scores. The variance accounted for the preferred parks was 46.00%, and 48.14% for the

less preferred parks was 48.14%. KNP had the overall highest rating for all environmental problems. This park scored the highest on each problem, except for climate change and unpredictable weather patterns. The latter was most threatening to KTP respondents. The scores for climate change were low for all park respondents, indicating a lack of awareness from the tourists. Other studies found MapNP to be most vulnerable to climate change. Other vulnerable parks were GGHNP and KNP. The following conclusions are made when considering the highest mean score per park.

- Loss of wilderness was scored highest by KTP and GGHNP respondents.
- Poaching of wildlife was scored highest by KNP, MapNP, MarNP and MZNP respondents.

The most significant additional threat mentioned by respondents to the preferred national parks was the increase in tourism. It is regarded as an internal threat. Another important threat mentioned by KNP respondents was the external political issues. In most of the less preferred national parks, respondents were mostly concerned about internal threats, such as tourism and mismanagement. This is especially evident in GGHNP. The internal threat that mostly concerns MapNP respondents is the various conservation issues the park has been plagued with over the last two decades. In addition, they also mentioned external threats, such as political issues that include land claims, government involvement and unsecured borders. MarNP and MZNP respondents were mainly concerned about the mismanagement of the parks and political issues.

The three most concerning hindrances to preferred park respondents were over-commercialisation, bad behaviour and poor infrastructure and management. The context of these differed slightly. In KTP, they explained their fear of external funding leading to popular brands setting up restaurants and other facilities, making the park more expensive and too exclusive. KNP respondents are bothered by the existing level of commercialisation and want to avoid a further increase in tour operators and independent safari operators inside the park. Bad behaviour universally refers to tourist behaviour, for example, littering, speeding, selfishness at sightings, and drinking and being noisy, etc. Less preferred park respondents had unique

hindrances. GGHNP respondents are mainly hindered by the bad behaviour and poor infrastructure and management caused by the uncontrolled access to the park. MapNP respondents mentioned conservation issues most frequently and referred to the domesticated animals, the destruction of the elephants and people crossing into the park. They feel unsafe in MapNP. MarNP respondents also mentioned poor infrastructure and management regarding the parks being divided into separate sections, being difficult to access, and having bad roads. They also mentioned general mismanagement and misinformation. In addition, updated maps and visitor booklets are necessary. MZNP respondents mainly referred to the badly corrugated roads and the poor condition of the ablution blocks at the camping site.

CHAPTER 10

STRUCTURAL EQUATION MODELS

10.1 INTRODUCTION

The final objective of the research was to determine the relationships between the variables using Structural Equation Models (SEM). The steps involved in a SEM are explained in section 3.4.1. The following hypotheses were considered:

- H₁: *Nature-relatedness* has a positive and significant effect on the awareness of *environmental problems*.
- H₂: *Environmental problems* negatively and significantly affect place attachment (*place identity* and *place dependence*).
- H₃: *Environmental problems* negatively and significantly affect *cultural ecosystem services*.
- H₄: *Nature-relatedness* positively and significantly affects *cultural ecosystem services*.
- H₅: *Nature-relatedness* positively and significantly affects place attachment (*place identity* and *place dependence*).
- H₆: *Environmental problems* mediate the relationships between *nature-relatedness* and place attachment (*place identity* and *place dependence*).
- H₇: *Environmental problems* mediate the relationships between *cultural ecosystem services* and *nature-relatedness*.

10.2 ASSESSMENT OF NORMALITY

Before examining the model fit indices, “a normality test is conducted to confirm whether the model can be estimated using the maximum likelihood method” (Byrne, 2010:104). Two common normality tests are the Kolmogorov-Smirnov test and the Shapiro-Wilk. However, the “Shapiro–Wilk test is a more appropriate method for small sample sizes (< 50 samples) although it can also be handling on larger sample size while Kolmogorov–Smirnov test is used for $n \geq 50$ ” (Mishra *et al.*, 2019:70).

Although many statistical methods have been proposed to test the normality of data in various ways, there is yet to be a current gold standard method. Kim (2013:52) furthermore states that “normality tests including Shapiro-Wilk test and Kolmogorov-Smirnov test may be used from small to medium-sized samples (e.g. $n < 300$) but may be unreliable for large samples”. Therefore, skewness and kurtosis of the distribution may be used as an alternative normality test, which may be reasonably accurate in both small and large samples.

The skewness and kurtosis coefficients of all the model variables were assessed and displayed in Table 10.1 with the initial sample sizes. Kim (2013) recommended that the indicators’ skewness and kurtosis values be less than ± 2 and ± 7 , respectively. The results indicate that the assumption of univariate normality was met, as none of the values exceeded the thresholds.

Table 10.1 Assessment of normality

	Preferred Parks (<i>n</i> = 1 307)		Less Preferred Parks (<i>n</i> = 716)	
	<i>Skewness</i>	<i>Kurtosis</i>	<i>Skewness</i>	<i>Kurtosis</i>
Cultural ecosystem services	-0.650	0.847	-0.698	0.944
Place attachment	-0.934	0.678	-0.117	0.127
Nature-relatedness	-0.895	1.670	0.060	-0.335
Environmental problems	-1.042	1.062	-0.816	0.345

10.3 CONFIRMATORY FACTOR ANALYSIS (CFA) AND GOODNESS OF FIT AND VALIDITY OF THE MEASUREMENT MODEL

Confirmatory Factor Analysis (CFA) is the step of SEM that deals with the measurement models – the relationships between observed measures or indicators and latent variables or constructs (Brown, 2015). Initial measurement models were drawn from SPSS AMOS 27 for both the preferred and less preferred national parks. The initial models were improved to meet the required thresholds – see the requirements in Table 3.4. A summary of the improved model thresholds is given in Table 10.2.

Table 10.2 Summary of the improved model thresholds for the preferred and less preferred national parks

Fit Indicator	Threshold adapted from Hair <i>et al.</i> (2014:579-580)	Preferred Parks (n = 1 307)	Less Preferred Parks (n = 716)
CMIN/DF (Chi-square/degree of freedom)	Less than 3 (good) Between [3-5] (acceptable) Above 5 (bad)	3.054	2.601
RMSEA (Root Mean Square Error of Approximation)	Less than .05 (good) Between [.06-.1] (acceptable) Above .1 (bad)	0.040	0.047
CFI (Comparative Fit Index)	Less than .90 (bad) Above .90 (good)	0.983	0.970
TLI (Tucker Lewis Index)	Less than .80 (bad) Between [.80-.90] (acceptable) Above .90 (good)	0.978	0.961
GFI (Goodness-Of-Fit-Index)	Less than .80 (bad) Between [.80-.90] (acceptable) Above .90 (good)	0.971	0.957

The improved measurement models are also indicated for the preferred national parks (Figure 10.1) and less preferred national parks (Figure 10.2). The reliability and convergent validity are discussed next.

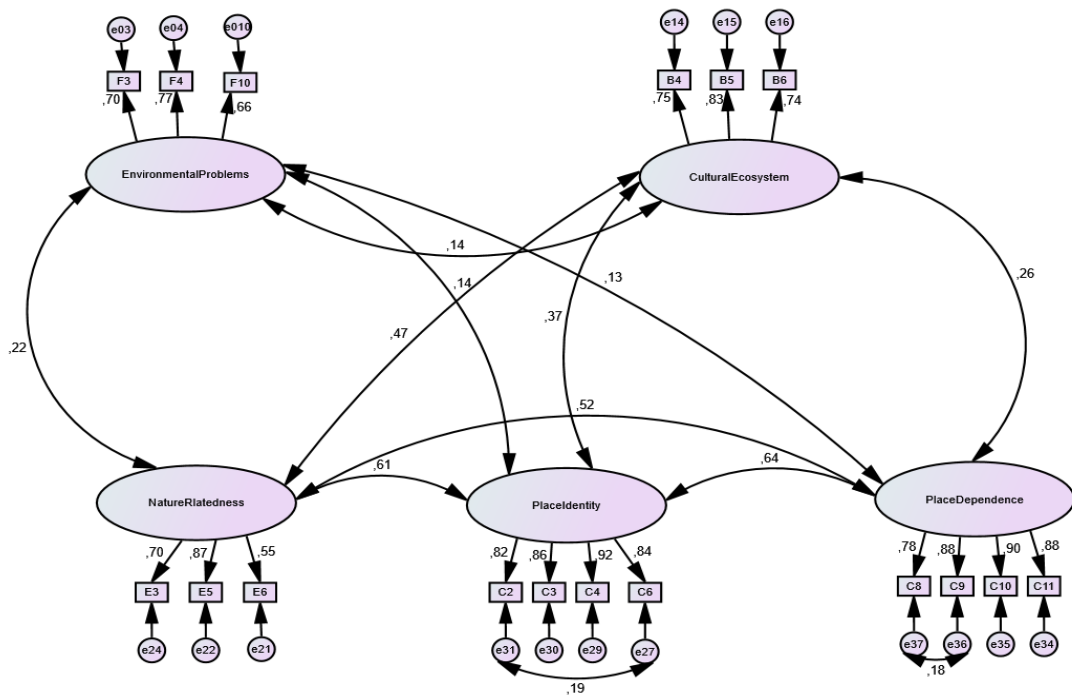


Figure 10.1 Improved measurement model for the preferred national parks.

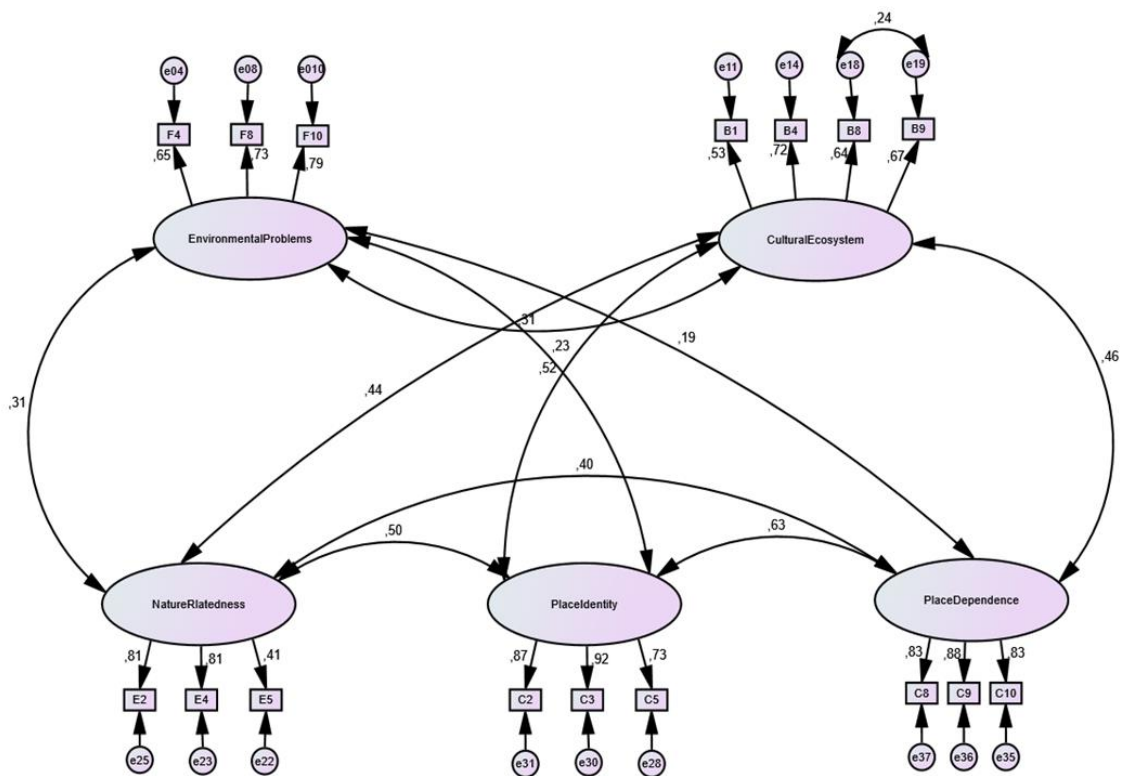


Figure 10.2 Improved measurement model for the less preferred national parks.

10.4 RELIABILITY, CONVERGENT VALIDITY AND DISCRIMINANT VALIDITY

10.4.1 Reliability of the scales

The degree to which measuring a phenomenon yields consistent and stable results is known as reliability (Taherdoost, 2016). Cronbach's alpha and Composite Reliability (CR) are generally used to assess individual selectivity and scale reliability, respectively (Field, 2013). The required cut-off value of Cronbach's alpha and composite reliability is 0.7, although 0.6 is sometimes permissible (Malhotra *et al.*, 2017). Results in Table 10.3 show that Cronbach's alpha ranges from 0.75 to 0.92 for the preferred parks and from 0.70 to 0.88 for the less preferred parks, indicating an overall level of internal consistency of all five constructs considered in the model. These results are further supported by composite reliability coefficients, ranging from 0.75 to 0.92 for the preferred parks and 0.73 to 0.88 for the less preferred parks. All constructs involved in this research are considered reliable based on Cronbach's alpha and the CR.

10.4.2 Convergent validity

The degree to which a collection of items only measures one latent variable in the same direction is known as convergent validity (Hosany *et al.*, 2015). According to the results, the visual representation of the measurement model suggests a convergent validity because all the factor loadings are above or equal to 0.5. The statistical evidence (figures 10.1 and 10.2) further supports the convergent validity of the measurements through Average Variance Extracted (AVE) estimates above 0.5. (Table 10.3). These results support convergent validity (Malhotra *et al.*, 2017).

The results statistically support the reliability and the convergent validity of the items retained in the final measurement model. Overall, the items retained in the final measurement model are good measures of their respective constructs.

Table 10.3 Statistical evidence of reliability and convergent validity

Constructs	Items	Factor loadings	P-value	Cronbach's Alpha	Composite Reliability	Average variance extracted (AVE)	Final number of items and
PREFERRED NATIONAL PARKS							
CULTURAL ECOSYSTEM SERVICES	B4	0,754	***	0.81	0.82	0.60	3(12)
	B5	0,830	***				
	B6	0,738	***				
ENVIRONMENTAL PROBLEMS	F3	0,699	***	0.75	0.75	0.51	3(10)
	F4	0,770	***				
	F10	0,660	***				
NATURE-RELATEDNESS	E3	0,862	***	0.75	0.76	0.52	3(6)
	E5	0,874	***				
	E6	0,551	***				
PLACE IDENTITY	C2	0,823	***	0.92	0.92	0.74	4(6)
	C3	0,862	***				
	C4	0,917	***				
	C6	0,837	***				
PLACE DEPENDENCE	C8	0,785	***	0.92	0.92	0.74	4(5)
	C9	0,884	***				
	C10	0,899	***				
	C11	0,877	***				
LESS PREFERRED NATIONAL PARKS							
CULTURAL ECOSYSTEM SERVICES	B1	0,528	***	0.74	0.74	0.42	4(12)
	B4	0,725	***				
	B8	0,644	***				
	B9	0,665	***				
ENVIRONMENTAL PROBLEMS	F4	0,646	***	0.76	0.76	0.52	3(10)
	F8	0,726	***				
	F10	0,787	***				
NATURE-RELATEDNESS	E2	0,814	***	0.70	0.73	0.50	3(6)
	E4	0,814	***				
	E5	0,412	***				
PLACE IDENTITY	C2	0,867	***	0.87	0.88	0.71	3(6)
	C3	0,921	***				
	C5	0,732	***				
PLACE DEPENDENCE	C8	0,834	***	0.88	0.88	0.72	3(5)
	C9	0,879	***				
	C10	0,828	***				

*** Indicates the significance of the factor at a 99% confidence interval.

The statistical evidence of discriminant validity is presented and discussed through the matrix of correlations and AVE square root coefficients (Table 10.4).

10.4.3 Discriminant validity

Discriminant validity is the extent to which a latent variable or construct discriminates from other latent variables (Taherdoost, 2016). The square root of the AVE is expected to be above the inter-construct correlation coefficients. Discriminant validity was assessed by comparing correlations between all pairs of constructs with the square root of AVE of each construct (Malhotra *et al.*, 2017). Correlations greater than the square root of AVE indicate poor discriminant validity between the constructs involved. For example, 0.775 (square root of *Cultural Ecosystem Services*) is greater than 0.136, the correlation coefficient between *Cultural Ecosystem Services* and *Environmental Problems*. The results in Table 10.4 indicate no discriminant validity concern between the constructs because all their AVE square roots are above their respective inter-construct correlation values.

Table 10.4 Correlation matrix to assess the discriminant validity for the preferred and less preferred parks

PREFERRED NATIONAL PARKS							
	Cultural Ecosystem Services	Environmental Problems	Nature-Relatedness	Place Identity	Place Dependence		
Cultural Ecosystem Services	0,775						
Environmental Problems	0,136	0,711					
Nature-Relatedness	0,472	0,224	0,721				
Place Identity	0,365	0,140	0,608	0,860			
Place Dependence	0,256	0,133	0,521	0,643	0,862		

LESS PREFERRED NATIONAL PARKS								
	Cultural Ecosystem Services	Environmental Problems	Nature- Relatedness	Place Identity	Place Dependence			
Cultural Ecosystem Services	0,644							
Environmental Problems	0,309	0,722						
Nature-Relatedness	0,442	0,310	0,706					
Place Identity	0,517	0,228	0,500	0,844				
Place Dependence	0,458	0,187	0,403	0,635	0,847			

The measurement models (figures 10.1 and 10.2) fit the data satisfactorily. All the instruments used in the final measurement model are reliable. Convergent and discriminant validity were supported in the context of this research. The confirmatory factor analysis (CFA) results are satisfactory, so the structural model can now confidently be considered.

10.5 STRUCTURAL MODEL ANALYSIS

The structural model was tested using the maximum likelihood performed with IBM AMOS 27. The structural models for the preferred and less preferred national parks are graphically presented in Figure 10.3 and Figure 10.4, respectively.

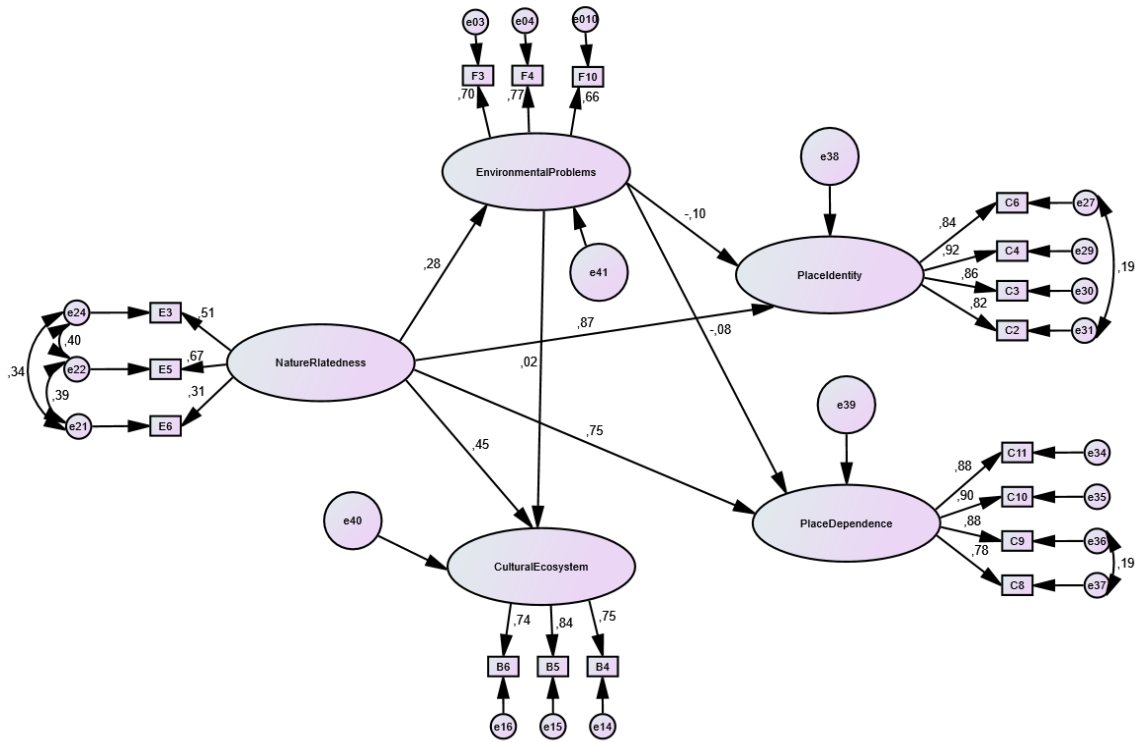


Figure 10.3 Structural model for the preferred national parks.

The model's fit was assessed before testing the relationships stated in the hypotheses. Results indicate satisfactory fit indices of the structural model for the preferred national parks ($Chi-square = 341.874$; $P = .000$; $df = 107$) because $CMIN/DF = 3.195$; $AGFI = 0.969$; $NFI = 0.973$; $TLI = 0.977$; $CFI = 0.982$; $RMSEA = 0.041$. Likewise, the results indicate satisfactory fit indices of the structural model for the less preferred national parks ($Chi-square = 226.835$; $P = .000$; $df = 95$) because $CMIN/DF = 2.388$; $AGFI = 0.946$; $NFI = 0.955$; $TLI = 0.966$; $CFI = 0.973$; $RMSEA = 0.044$. It can be concluded that the structural model fits the data satisfactorily. Therefore, the structural models (Figure 10.3 and Figure 10.4) can be used confidently to test the research hypotheses.

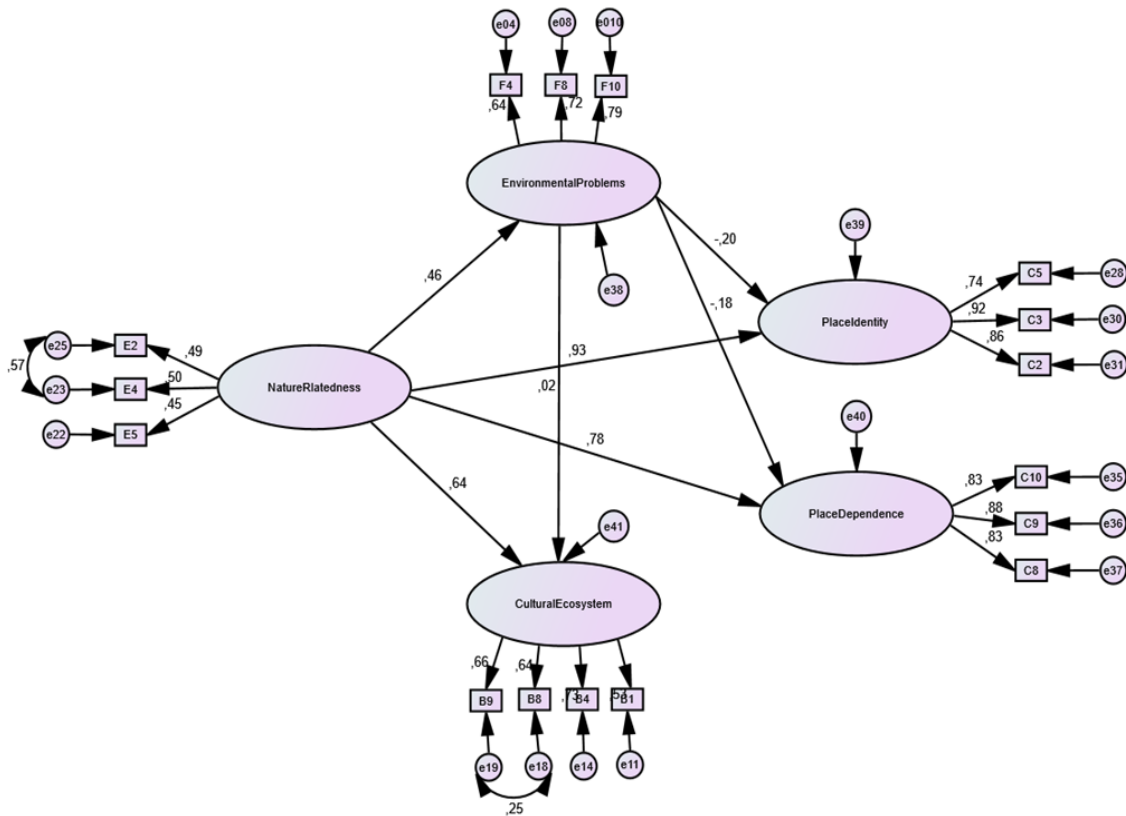


Figure 10.4 Structural model for the less preferred national parks.

Tables 10.5 and 10.6 establish the predictive effects of independent variables on dependent variables for the preferred and less preferred parks, respectively. The beta (β) values indicate the relationship's direction and strength, while the p estimates the significance of the predictive effect (Pallant, 2010). The significance of the relationship is set at 0.05. The values in blue indicate the statistically significant relationships ($p < 0.05$).

Based on the results shown in Tables 10.5 and 10.6, it can be concluded that the awareness of *environmental problems* (threats), the importance of *cultural ecosystem services*, and the level of *place attachment* (place identity and place dependence) are driven by *nature-relatedness* in both the preferred and less preferred parks.

Table 10.5 Standardised regression weights and hypothesis conclusion for preferred national parks

Dependent variables		Independent variables	Estimate	P-value	Conclusion
H₁: Nature-relatedness has a positive and significant effect on the awareness of <i>environmental problems</i>.					
Environmental Problems	<---	Nature-Relatedness	0.275	0.000	<i>Nature-relatedness</i> has a positive ($\beta = 0.275$) and significant ($p = 0.000$) effect on the awareness of <i>environmental problems</i> as $p < 0.05$. This means that when <i>nature-relatedness</i> improves by one (1) standard deviation, the awareness of <i>environmental problems</i> also increases by 27.5% of its standard deviation. Therefore, this hypothesis is accepted.
H₂: Environmental problems negatively and significantly affect place attachment (<i>place identity</i> and <i>place dependence</i>).					
Place Identity	<---	Environmental Problems	-0.100	0.008	<i>Environmental problems</i> have a negative ($\beta = -0.100$) and significant ($p = 0.008$) impact on <i>place identity</i> as $p < 0.05$. This result implies that an increase of one (1) standard deviation of <i>environmental problems</i> will result in a 10% decrease in <i>place identity</i> . Therefore, this hypothesis is accepted.
Place Dependence	<---	Environmental Problems	-0.077	0.036	<i>Environmental problems</i> have a negative ($\beta = -0.077$) and significant ($p = 0.036$) impact on <i>place dependence</i> $p < 0.05$. This result implies that an increase of one (1) standard deviation of <i>environmental problems</i> will result in a 7.7% decrease in <i>place dependence</i> . Therefore, this hypothesis is accepted.
H₃: Environmental problems negatively and significantly affect <i>cultural ecosystem services</i>.					
Cultural Ecosystem Services	<---	Environmental Problems	0.017	0.638	<i>Environmental problems</i> does not significantly affect <i>cultural ecosystem services</i> as its p -value (0.638) is greater than 0.05. This means that awareness of <i>environmental problems</i> will not negatively influence the perceived importance of <i>cultural ecosystem services</i> . Therefore, this hypothesis is rejected.

H₄: Nature-relatedness positively and significantly affects cultural ecosystem services.					
Cultural Ecosystem Services	<---	Nature-Relatedness	0.445	0.000	<i>Nature-relatedness</i> has a positive ($\beta = 0.445$) and significant ($p = 0.000$) effect on <i>cultural ecosystem services</i> as $p < 0.05$. This means that when <i>nature-relatedness</i> improves by one (1) standard deviation, the importance of <i>cultural ecosystem services</i> also increases by 44.5% of its own standard deviation. Therefore, this hypothesis is accepted.
H₅: Nature-relatedness positively and significantly affects place attachment (place identity and place dependence).					
Place Identity	<---	Nature-Relatedness	0.870	0.000	<i>Nature-relatedness</i> has a positive ($\beta = 0.870$) and significant ($p = 0.000$) effect on <i>place identity</i> as $p < 0.05$. This means that when <i>nature-relatedness</i> improves by one (1) standard deviation, <i>place identity</i> also increases by 87% of its own standard deviation. Therefore, this hypothesis is accepted.
Place Dependence	<---	Nature-Relatedness	0.755	0.000	<i>Nature-relatedness</i> has a positive ($\beta = 0.755$) and significant ($p = 0.000$) effect on <i>place dependence</i> as $p < 0.05$. This means that when <i>nature-relatedness</i> improves by one (1) standard deviation, <i>place dependence</i> also increases by 75.5% of its own standard deviation. Therefore, this hypothesis is accepted.

Table 10.6 Standardised regression weights and hypothesis conclusion for less preferred national parks

Dependent variables		Independent variables	Estimate	P-value	Conclusion
H₁: Nature-relatedness has a positive and significant effect on the awareness of environmental problems.					
Environmental Problems	<---	Nature-Relatedness	0.463	0.000	<i>Nature-relatedness</i> has a positive ($\beta = 0.463$) and significant ($p = 0.000$) effect on the awareness of <i>environmental problems</i> as $p < 0.05$. This means that when <i>nature-relatedness</i> improves by one (1) standard deviation, awareness of <i>environmental problems</i> also increases by 46.3% of its own standard deviation. Therefore, this hypothesis is accepted.
H₂: Environmental problems negatively and significantly affect place attachment (place identity and place dependence).					
Place Identity	<---	Environmental Problems	-0.205	0.002	<i>Environmental problems</i> have a negative ($\beta = -0.205$) and significant ($p = 0.002$) impact on <i>place identity</i> as $p < 0.05$. This result implies that an increase of one (1) standard deviation of <i>environmental problems</i> will result in a 20.5% decrease in <i>place identity</i> . Therefore, this hypothesis is accepted.
Place Dependence	<---	Environmental Problems	-0.180	0.004	<i>Environmental problems</i> have a negative ($\beta = -0.180$) and significant ($p = 0.004$) impact on <i>place dependence</i> as $p < 0.05$. This result implies that an increase of one (1) standard deviation of <i>environmental problems</i> will result in an 18% decrease in <i>place dependence</i> . Therefore, this hypothesis is accepted.
H₃: Environmental problems negatively and significantly affect cultural ecosystem services.					
Cultural Ecosystem Services	<---	Environmental Problems	0.015	0.804	<i>Environmental problems</i> does not significantly affect <i>cultural ecosystem services</i> as its p -value (0.804) is greater than 0.05. This means that awareness of <i>environmental problems</i> will not negatively influence the perceived importance of <i>cultural ecosystem services</i> . Therefore, this hypothesis is rejected.

H₄: Nature-relatedness positively and significantly affects cultural ecosystem services.					
Cultural Ecosystem Services	<---	Nature-Relatedness	0.637	0.000	<i>Nature-relatedness</i> has a positive ($\beta = 0.637$) and significant ($p = 0.000$) effect on <i>cultural ecosystem services</i> as $p < 0.05$. This means that when <i>nature-relatedness</i> improves by one (1) standard deviation, the importance of <i>cultural ecosystem services</i> also increases by 63.7% of its own standard deviation. Therefore, this hypothesis is accepted.
H₅: Nature-relatedness positively and significantly affects place attachment (place identity and place dependence).					
Place Identity	<---	Nature-Relatedness	0.931	0.000	<i>Nature-relatedness</i> has a positive ($\beta = 0.931$) and significant ($p = 0.000$) effect on <i>place identity</i> as $p < 0.05$. This means that when <i>nature-relatedness</i> improves by one (1) standard deviation, <i>place identity</i> also increases by 93.1% of its own standard deviation. Therefore, this hypothesis is accepted.
Place Dependence	<---	Nature-Relatedness	0.785	0.000	<i>Nature-relatedness</i> has a positive ($\beta = 0.785$) and significant ($p = 0.000$) effect on <i>place dependence</i> as $p < 0.05$. This means that when <i>nature-relatedness</i> improves by one (1) standard deviation, <i>place dependence</i> also increases by 78.5% of its own standard deviation. Therefore, this hypothesis is accepted.

10.6 MEDIATION ANALYSIS

The mediation analysis was performed on IBM AMOS Version 27. The analysis was conducted to investigate whether *environmental problems* mediate the relationship between nature-relatedness and *place attachment (place identity and dependence)* (H₆) and between *cultural ecosystem services* and *nature-relatedness* (H₇). The number of bootstrap samples extracted was 2 000 and the bias-corrected confidence intervals were set at 95%. The confidence intervals implied a 95% chance that the proposed mediations would occur. The mediation analysis results for the preferred and less preferred national parks are in Tables 10.7 and 10.8, respectively. The values in blue indicate the statistically significant relationships.

Table 10.7 Mediation analysis results for the preferred national parks

Relationships	Mediator	Estimates (β)	P-Values	Conclusions
Nature-relatedness --> Place identity	Environmental problems	-0.024	0.007	<i>Environmental problems</i> negatively mediate ($\beta = -0.024$) the relationship between <i>nature-relatedness</i> and <i>place identity</i> because the <i>p</i> -value (0.007) is less than 0.05. This implies that the mediator <i>environment problems</i> increase the relationship between <i>nature-relatedness</i> and <i>place identity</i> .
Nature-relatedness --> Place dependence		-0.036	0.038	<i>Environmental problems</i> negatively mediate ($\beta = -0.036$) the relationship between <i>nature-relatedness</i> and <i>place dependence</i> because the <i>p</i> -value (0.038) is less than 0.05. This implies that the mediator <i>environment problems</i> increase the relationship between <i>nature-relatedness</i> and <i>place dependence</i> .
Nature-relatedness --> Cultural ecosystem services		0.007	0.594	<i>Environmental problems</i> do not mediate the relationship between <i>nature-relatedness</i> and <i>cultural ecosystem services</i> , as the <i>p</i> -value (0.564) is greater than 0.05.

Based on the hypotheses regarding the preferred national parks, the results indicate that *environmental problems* mediate the relationships between *nature-relatedness* and *place attachment* (*place identity* and *place dependence*), but that effect is negative. Therefore, this hypothesis is partially accepted. The results also show that *environmental problems* do not mediate the relationships between *cultural ecosystem services* and *nature-relatedness*. Therefore, this hypothesis is rejected.

Table 10.8 Mediation analysis results for the less preferred national parks

Relationships	Mediator	Estimates (β)	P-Values	Conclusions
Nature-relatedness --> Place identity	Environmental problems	0.000	0.956	<i>Environmental problems do not mediate the relationship between nature-relatedness and place identity because the p-value (0.956) is greater than 0.05.</i>
Nature-relatedness -> Place dependence		-0.004	0.933	<i>Environmental problems do not mediate the relationship between nature-relatedness and place dependence because the p-value (0.933) is greater than 0.05.</i>
Nature-relatedness --> Cultural ecosystem services		0.179	0.001	<i>Environmental problems mediate the relationship between nature-relatedness and cultural ecosystem services because the p-value (0.001) is less than 0.05.</i>

According to the hypotheses relating to the less preferred national parks, the results reveal that *environmental problems* do not mediate the relationships between *nature-relatedness* and *place attachment* (*place identity* and *place dependence*). Therefore, this hypothesis is rejected. Additionally, *environmental problems* mediate the relationships between *cultural ecosystem services* and *nature-relatedness*. Therefore, this hypothesis is accepted.

10.7 SUMMARY

All tests of normality, CFA, goodness of fit, validity and reliability were addressed and discussed. This final section will summarise and discuss the main hypotheses tested in the SEM and mediation analysis.

H₁: Nature-relatedness has a positive and significant effect on the awareness of environmental problems.

This hypothesis is *accepted* for both preferred and less preferred national parks. Research has shown that when people are connected to nature, they are more aware of negative issues about environmental problems and concerned for the environment (Mayer & Frantz, 2004; Nisbet *et al.*, 2009; Nisbet & Zelenski, 2013; Zylstra, 2014; Zylstra *et al.*, 2014). This leads to the development of pro-environmental behaviour.

H₂: Environmental problems negatively and significantly affect place attachment (place identity and place dependence).

The hypothesis is *accepted* for both preferred and less preferred national parks. As environmental issues arise, this slightly impacts visitors' place attachment to national parks. Respondents' attachment to the less preferred parks was affected roughly twice as much by environmental problems compared to respondents from the preferred parks. In both cases, the place identity was more affected than the place dependence of respondents. In their study of Appalachian Trail hikers, Kyle *et al.* (2004) found that perceptions of unfavourable environmental conditions increased with place identity. Similarly, Farnum *et al.* (2005) and Smaldone *et al.* (2005) reported that visitors with special places were likelier to be aware of every critical management issue. This research shows that the opposite is also true. Furthermore, Halpenny (2010) found that place identity has stronger relationships with place-specific pro-environment intentions. This explains why place identity is affected more by environmental problems.

H₃: Environmental problems negatively and significantly affect cultural ecosystem services.

This hypothesis is *rejected* for both preferred and less preferred national parks. Environmental problems do not significantly affect cultural ecosystem services and

will not negatively influence the perceived importance thereof. This proves that respondents still perceive the CES as equally important, irrespective of the adverse environmental problems in national parks.

H4: Nature-relatedness positively and significantly affects cultural ecosystem services.

This hypothesis is *accepted* for both preferred and less preferred national parks. This means that the more connected to nature and related visitors feel to the natural environment, the more aware they are about the importance of cultural ecosystem services.

H5: Nature-relatedness positively and significantly affects place attachment (place identity and place dependence).

This hypothesis is *accepted* for both preferred and less preferred national parks. These results show that respondents' attachment to the national parks increased as their connectedness and relatedness to nature increased. Overall, the place identity increased more than the place dependence in both instances.

H6: Environmental problems mediate the relationships between nature-relatedness and place attachment (place identity and place dependence).

This hypothesis is *partially accepted* for the preferred and *rejected* for the less preferred national parks. Results of the mediation show that environmental problems mediate the relationships between nature-relatedness and place attachment (place identity and place dependence), but that effect is negative. Smaldone *et al.* (2005) posit that visitors with high place attachment could be more sensitive to changes, and respondents to the preferred parks had a higher place attachment overall. However, Ajuhari *et al.* (2023) claim that highly attached visitors need to pay more attention to the potential hazards that might occur at the place they visit.

H7: Environmental problems mediate the relationships between cultural ecosystem services and nature-relatedness.

This hypothesis is *rejected* for the preferred parks and *accepted* for the less preferred national parks. Environmental problems do not mediate the relationship

between cultural ecosystem services and nature-relatedness in preferred parks but positively affect the less preferred parks. Visitors to the less preferred parks are more likely to realise the importance of cultural ecosystem services with increased environmental problems.

CHAPTER 11

CONCLUSIONS, MANAGERIAL RECOMMENDATIONS, LIMITATIONS AND FUTURE RESEARCH

11.1 INTRODUCTION

This final chapter focuses on the main conclusions of this research. Conclusions are made according to the objectives. After that, the contribution of this research is indicated and explained in terms of the strategic adaptive management framework of SANParks. The managerial recommendations arising from the research findings follow. Lastly, the limitations of this research and suggestions for future research are outlined.

11.2 CONCLUSIONS PER OBJECTIVE

11.2.1 Objective 1: Preferred and less preferred national parks

The research's first objective was to determine preferred and less preferred parks. This objective also focussed on the reasons for visiting and their general socio-demographic profiles.

- The first phase of the research determined that the KTP and KNP were the preferred parks. These two parks are considered flagship parks and, unsurprisingly, the respondents 'favourite' parks. The less preferred parks selected were GGHNP, MapNP, MarNP and MZNP. These four parks were visited for reasons different from the KTP and KNP (for example, conveniently located en route to another destination) and were therefore categorised as less preferred.
- The general motivations for visiting the parks were also explored. The themes uncovered were push- and pull motivational factors.
- Respondents to the preferred parks were mainly motivated by their loyalty, a push motivational factor. Loyal visitors are important to any business. Loyalty in the scope of this research included statements about their love for the parks and the fact that they long to return.
- Preferred park respondents were pulled to the parks due to the diversity of the species. This was unsurprising, as these parks have great biodiversity and several charismatic species.

- Respondents to the less preferred parks were motivated by pull motivational factors, such as accessibility for GGHNP, MarNP and MZNP. These parks are all located on main routes in the respective provinces. For MapNP, the main motivation was novelty-seeking, a push motivational factor. If these motivations of accessibility and novelty-seeking are considered, it is clear that the less preferred parks are currently not attracting return visitors.
- The socio-demographic characteristics were summarised and corresponded to previous studies in South African national parks. This shows a market segment that has not changed in the last decade. The preferred parks were visited more often and for longer periods than less preferred parks. This could be ascribed to the larger size of these parks and the fact that these visitors are pushed to visit due to their loyalty towards these parks.

11.2.2 Objective 2: Special features and conservation attributes

The second objective of this research was to explore the special features and conservation attributes of the preferred and less preferred national parks. This objective was determined by exploring the highlights experienced, their favourite features (living or non-living) and provided photographs with narrative descriptions.

- Four themes from the highlights of the respondents were derived, namely, unique attributes, animals, sensory experiences and subjective experiences. Respondents to the preferred parks mainly referred to the sighting of animals, followed by personal subjective experiences and close animal encounters. It was clear that the thrill of seeing animals up close seemed to attract visitors to these parks.
- In the less preferred parks, respondents were diverse in highlighted experiences. In GGHNP, sensory experiences stood out; in the MapNP, MarNP and MZNP, it was the sighting of animals. The fact that animal sightings were not mentioned as a highlight in GGHNP is likely because of the lack of predators and other charismatic species.
- As expected, the favourite feature mentioned in the preferred parks was large predators, animals regarded as iconic, charismatic and flagship species.
- Photographic content produced by respondents confirmed the above and consisted of animals and landscapes selected as 'favourite features'.

Narratives accompanying the photos were mainly subjective and described the emotions experienced while photographing or reminiscing the experience.

11.2.3 Objective 3: Value of cultural ecosystem services

The third objective of the research was to determine how visitors value the cultural ecosystem services within preferred and less preferred national parks.

- The conservation of the national parks is a top priority for the respondents, as the existence values were rated highest for all parks. The ability of future generations to experience these parks is important and needs to be emphasised.
- CES is still a novel concept in national park research, especially in South Africa. It must be noted that most of the CES was rated relatively low and, therefore, might be because of the uncertainty of the available benefits, a lack of knowledge, or respondents did not fully understand the questionnaire items or the context.
- The fact that most respondents rated cultural heritage poorly overall shows that the parks should be investigated further as the cultural heritage is recognised in each desired state (Table 11.1).
- This also showed that sense of place and identity were rated highest by the KTP and KNP respondents, which links to the highest place attachment scores for these parks.

11.2.4 Objective 4: Place attachment

The fourth objective of the research was to determine how attached visitors were to the respective national parks and their reasons for feeling attached. The following conclusions are drawn per park based on the attachment, special experiences and feelings of respondents:

- Kruger National Park respondents are most attached and have a high place identity. This identity refers to the emotional attachment and is strengthened by the park's rich biodiversity and animal sightings. These experiences resonate with them, especially when they are the first people at a sighting, and they mention peacefulness and relaxation as positive feelings. These results

were surprising as the very nature of the park differs in terms of its commercialisation, number of tourists and open-safari vehicles.

- Kgalagadi Transfrontier Park respondents are also highly attached and have a higher place identity. These respondents highlighted the park's unique nature experiences and features that enhanced their attachment. These experiences included solitude, quietness, night sounds, remoteness, sunrise/sunsets, and other weather phenomena that enabled them to have these emotional experiences. Likewise, viewing animal behaviour and their sightings elicited similar emotions, particularly if they were the only vehicle at a special sighting. The main effect or feeling emphasised by the respondents was peacefulness and a strong desire to return.
- Golden Gate Highlands National Park respondents had a moderate attachment to the park and mainly mentioned aesthetic features contributing to their experiences there. These aesthetic features include the beautiful scenery and different vistas from the hiking routes. The nature of this park and the absence of large predators enable the activities that contribute to feeling small and appreciating beauty and peacefulness.
- Mapungubwe National Park respondents were moderately attached to the park. The special experiences they mentioned were the aesthetic value of the park's varied landscapes scattered with baobabs and rocky outcrops. Several respondents highlighted the confluence viewpoint. Respondents also felt that the activities at the park contributed to their special experiences and appreciation of the cultural heritage. Respondents' primary after-effects or feelings were peacefulness and appreciation of the park's beauty. Several respondents also felt disappointed after their visit because of the presence of domesticated species and people crossing the dry riverbeds.
- Marakele National Park respondents had the lowest attachment to the park. Respondents referred to the aesthetic values of this park as special experiences, especially the different landscapes, due to the microclimatic regions found in the park. In addition, focus was placed on the Lenong Viewing Point. Nature experiences and emotions highlighted by the respondents were that the landscapes made them feel small; they felt an immense sense of peacefulness and appreciation for the beauty.

- Mountain Zebra National Park respondents had a moderate attachment to the park. These respondents highlighted the animal sightings in this park as contributing to their special experiences, especially the birdlife, babies, mountain zebras and the predators. They also referred to their overwhelming freedom in viewing landscapes and mountaintops. Other effects and feelings mentioned were peacefulness and appreciation of the beauty.

Overall, the preferred park respondents had a higher attachment to the parks than the less preferred park respondents. Respondents had an overall higher place identity to the parks, which shows that subjective experiences take the lead. The parks (MarNP and MZNP) with the lowest place attachment and place dependence scores also had the least visitor amenities. The addition of some amenities might assist in fostering a place's dependence and improving their overall attachment. The preferred parks' biodiversity enhanced respondents' special experiences and could be improved in the less preferred parks. All respondents had favourable and positive encounters and feelings about their recent experiences in the respective parks. Since the less preferred park respondents were mainly first-time visitors and usually stayed for short periods, management can introduce awareness campaigns or activities to engage visitors for longer periods.

11.2.5 Objective 5: Connectedness to the natural environments

The fifth objective of the research was to determine the connectedness of visitors to the natural environments within the respective national parks.

- The respondents from the GGHNP had the highest INS mean score amongst the respective parks. This could be attributed to the physical activities in this park that enable them to experience the area more intensively and, therefore, feel more interrelated. However, all parks had exceptionally high scores.
- The nature-relatedness means for the preferred parks were highest overall. Respondents in these parks frequently highlighted the vastness, remoteness, and wilderness qualities of these parks that allow them to feel 'more' related to nature.
- Respondents were asked if they felt connected to nature in the respective parks. The majority of respondents 'felt' connected to nature within the parks.

The reasons for their connectedness varied between physical and subjective connectedness. The unique environments of the respective national parks assisted with respondents feeling connected as they frequently referred to physical features and being surrounded by these features. They often mentioned hiking and camping to strengthen their connectedness as these occur within nature. Respondents mostly associated their connectedness with a subjective realm if one considers all the subjective categories (i.e., emotional well-being, mindful experiences, sense of identity and the values of nature). Of these categories, the values of nature were highlighted, referring to care, oneness, primitiveness, remoteness, solitude, spirituality, timelessness, humility and self-knowledge.

- Respondents were not always consciously aware of these particular values as they were not all experienced in all parks. The values shared in all parks were oneness, solitude, spirituality and humility. Visitor Management Services could use the outstanding values to enhance visitors' overall experiences. These values of nature could be shared with park visitors alongside the ecosystem services available in the respective parks using infographics.
- Visitors could potentially form an attachment to the parks through awareness and increased connectedness. This research concludes that all national park visitors are connected to nature. National parks, in general, contribute towards achieving the United Nations 2030 Sustainable Development Goals. Several SDGs covered by SANParks were discussed in section 8.2.2. The subjective experiences and, in particular, this nature connectedness visitors have toward the parks contribute to people's well-being.

11.2.6 Objective 6: Actual and potential threats (environmental problems)

The sixth objective of the research identified the actual and potential threats during a nature experience at the respective national parks. Respondents indicated the level of threat for specific environmental problems and disclosed other hindrances and future threats to the respective parks.

- KNP had the overall highest rating for all environmental problems. This park also scored the highest on each problem, except for climate change and unpredictable weather patterns.

- The latter was most threatening to KTP respondents. The scores for climate change are low for all park respondents, indicating a lack of awareness from the tourists. Other studies found MapNP to be most vulnerable to climate change. Other vulnerable parks were GGHNP and KNP.
- The following conclusions are made when considering the highest mean score per park.
 - Loss of wilderness was scored highest by KTP and GGHNP respondents. This could be ascribed to climate variability identified by research in these two parks. Further development and commercialisation of these parks also threaten the wilderness experienced.
 - Poaching of wildlife (including various faunal and floral species) was scored highest by KNP, MapNP, MarNP and MZNP respondents. Respondents were mainly aware of the poaching of the rhinos as it occurs in all of these parks. Elephant poaching is also a concern to respondents as it appears in KNP, MapNP and MarNP. Park management should encourage better awareness regarding the unique poaching threats in the respective parks.
- Respondents were asked to elaborate on any other threats. Two themes emerged, namely internal- and external threats. Internal threats included conservation issues, economic issues, mismanagement, and tourism. External threats consisted of COVID-19, development, mining, and political issues. Highlights of these threats and conclusions are explained below:
 - Respondents to the preferred parks mentioned increased tourism as the most significant threat. There is already an influx of tourists in the KNP, especially in the park's southern section. The respondents to KTP fear the same increase in tourism as they value the park for its remoteness and wilderness qualities.
 - An additional threat that KNP respondents are wary of is political issues of corruption, land claims and government focusing more on revenue generation than conservation.
 - Less preferred park respondents varied in their responses. Tourism and mismanagement were mentioned mostly by GGHNP respondents. These are internal threats that the parks' management can look into. Control measures are necessary to keep the number of people entering and driving

through the park in check. The most significant mismanagement mentioned by several respondents was the decrease in the size of the camping area and the lack of safety.

- Conservation and political issues were mentioned by MapNP respondents, referring to the domesticated animals and illegal immigrants crossing the borders (dry riverbeds).
- Respondents to MarNP mentioned mismanagement and political issues most frequently. They feel the roads could be better maintained as well as other park infrastructure.
- Political issues and mismanagement were also a concern to MZNP respondents. Land invasions and the general culture of greed are always feared.
- The hindrance themes uncovered were internal (bad behaviour, conservation issues, development, over-commercialisation, and poor infrastructure and management) and external (industrial pressures) hindrances. Conclusions are drawn below:
 - The three most concerning hindrances to preferred park respondents were over-commercialisation, bad behaviour and poor infrastructure and management. The context of these differed slightly. In KTP, they explained their fear of external funding, leading to popular brands setting up restaurants and other facilities and making the park more expensive and exclusive. KNP respondents are bothered by the existing level of commercialisation and do not want a further increase in PPP commercialisation, tour operators and independent safari operators inside the park. Bad behaviour universally refers to tourist behaviour, for example, littering, speeding, selfishness at sightings, drinking and being noisy, etc.
 - Less preferred park respondents had unique hindrances. GGHNP respondents are mainly hindered by the bad behaviour and poor infrastructure and management caused by the uncontrolled access to the park.
 - The MapNP respondents mentioned conservation issues most frequently and referred to the domesticated animals, the destruction of the elephants and people crossing into the park. They do not feel safe.

- The MapNP and MarNP respondents also mentioned poor infrastructure and management regarding the parks being divided into separate sections, difficult to access, and bad roads. They also mentioned general mismanagement and misinformation. Updated maps and visitor booklets are necessary.
- The MZNP respondents mainly referred to the badly corrugated roads and the poor condition of the ablution blocks at the camping site.

Depending on the degree of hindrance or threat, management could use the results as a suggestion to revamp, control or improve certain aspect(s). The respective national parks' management plans include a wider range of threats (SANParks, 2014; 2016a; 2016b; 2018b; 2019b; 2020b), especially focusing on environmental threats. The threats included in the management plans are quite comprehensive. However, this research highlighted the threats of visitors as one of the crucial stakeholders of these parks. Although national park managers may be aware of the threats in the respective parks, they still affect respondents. In other instances, visitors might be less aware of specific threats, such as climate change, which had an average score.

11.2.7 Objective 7: Structural equation models

The final objective of the research was to determine the relationships between the variables using structural equation models for both the preferred and less preferred national parks. The conclusions are drawn for each of the hypotheses.

- *H₁: Nature-relatedness has a positive and significant effect on the awareness of environmental problems.* This hypothesis is *accepted* for both preferred and less preferred national parks. People are more aware of environmental problems when they are connected (related) to nature and often form a pro-environmental attitude or care for the national park.
- *H₂: Environmental problems negatively and significantly affect place attachment (place identity and place dependence).* The hypothesis is *accepted* for both preferred and less preferred national parks. The increase in environmental problems and general threats affects visitors' attachment to

national parks. Respondents' attachment to the less preferred national parks was affected more than that of preferred park respondents.

- *H₃: Environmental Problems negatively and significantly affect cultural ecosystem services.* This hypothesis is *rejected* for both preferred and less preferred national parks. Irrespective of the negative environmental problems in national parks, respondents still perceive the CES as equally important.
- *H₄: Nature-relatedness positively and significantly affects cultural ecosystem services.* This hypothesis is *accepted* for both preferred and less preferred national parks. The awareness of the benefits of cultural ecosystem services increases with the connectedness or relatedness of visitors to nature in the national parks.
- *H₅: Nature-relatedness positively and significantly affects place attachment (Place identity and place dependence).* This hypothesis is *accepted* for both preferred and less preferred national parks. As people become more connected or feel related to nature, they also become more attached to the national parks.
- *H₆: Environmental problems mediate the relationships between nature-relatedness and place attachment (place identity and place dependence).* This hypothesis is *partially accepted* for the preferred and *rejected* for the less preferred national parks. The mediation is, however, negative, and research has shown that attached individuals are more sensitive to changes.
- *H₇: Environmental problems mediate the relationships between cultural ecosystem services and nature-relatedness.* This hypothesis is *rejected* for the preferred parks and *accepted* for the less preferred national parks. Visitors to the less preferred parks are more likely to realise the importance of cultural ecosystem services with increased environmental problems.

The findings of this research will inform SANParks about strategies for improved management and marketing to maintain or create place attachment of visitors. Croy *et al.* (2020) state that because there is more competition for funding for conservation, park agencies must show the benefits they bring to society. It is essential to communicate the differences and uniqueness of each park as a source of potential competitive advantage to visitors. It can also assist the parks in making

better and informed decisions for conservation and the needs of ecotourists – balancing the triple bottom line and ‘connecting society’ to their parks. Therefore, this research uncovered the sense of place and place attachment to different national parks managed by SANParks. Generally, all respondents were connected to nature and respondents to the preferred parks had a higher level of place attachment. This attachment should be encouraged at the less preferred parks. The environmental problems, threats and hindrances identified in the parks affect visitors’ place attachment, especially in the less preferred national parks. There are positive associations between nature connectedness and place attachment.

11.3 MANAGERIAL RECOMMENDATIONS

11.3.1 Contributions to SANParks’s management structure and process

SANParks’ corporate vision for all national parks is: ‘A world-class system of sustainable national parks re-connecting and inspiring society’ (SANParks, 2020a). This research shows that this ‘reconnection’ and ‘inspiration’ could occur through place attachment. There are several ways in which different national parks could establish these attachments and a special sense of place. These are suggested in the recommendations. In addition to the vision, SANParks has identified a desired state (strategic direction) for each park. The strategic direction is intended to enhance the overall significance of South Africa's national park system in terms of recreational opportunities, biodiversity and heritage conservation, and regional socioeconomic contribution, complementing the role of other parks (SANParks, 2014; 2016a; 2016b; 2018b; 2019b; 2020b). Thus, the research contributes to the desired state of the parks. The place attachment and unique qualities and features identified by the respondents could be highlighted as part of the desired state declarations.

According to the management plans for the national parks, the desired states are summarised in Table 11.1 with the addition of the findings of this research. The research contributions contain a summary of all the features and experiences as highlighted by respondents. A consolidation of the desired state and research contribution is given per park.

Table 11.1 Desired states of the respective national parks and the contributions of this research

National Park	Desired state	Research contributions/ conclusions
KTP	<p>Management plan:</p> <ul style="list-style-type: none"> • Depending on the interpretation capacity, there is significant potential for improvement in cultural heritage value. The potential of local communities to contribute to tourism and cultural heritage should be developed to improve the socio-economic impact of the park. • There are planned tourism development projects for which funding has been secured. The high potential to increase surplus income should, therefore, be realised. Supporting infrastructure needs include staff housing, road networks and bulk services. 	<ul style="list-style-type: none"> • The five CES most important to visitors are the existence value, aesthetics value, emotional well-being, sense of place and identity. Although cultural heritage and environmental education were not rated among visitors' top five CESs, they remain essential services in every national park. • The park identified the need to increase its tourism revenue. However, this contrasts with visitors to the park, as they are pushed by their loyalty and pulled by the park not being crowded and its species diversity. Highlights of their visits are sightings, personal experiences (e.g. spiritual, solitude, etc.) and close encounters with animals, which are possible due to the fewer tourists. Other special experiences included nature experiences and features (e.g. night sky, sounds, spirituality, etc.) and the observation of animal behaviours. Visitors are generally positive and most often express feelings of peacefulness, a desire to return and an appreciation of the beauty. Visitors were highly connected to nature and ascribed their connectedness to some physical features (e.g. no reception, not crowded, species richness

National Park	Desired state	Research contributions/ conclusions
	<ul style="list-style-type: none"> <li>• The biodiversity value is predicted to remain stable over the next 20 years. <li>• Risks to biodiversity are low, being confined to alien and invasive species and the impact tourism developments principally have on the water supply. (SANParks, 2016a) 	<p>and survival, etc.) and experienced the values of nature (e.g. care, oneness, primitiveness, remoteness, solitude, spirituality, timelessness and humility).</p> <ul style="list-style-type: none"> <li>• Visitors have mentioned species diversity as one reason they visit; it forms part of their special experiences. This indicates that the biodiversity is still good. They referred to charismatic large predators (e.g. Kalahari lions) and birds (e.g. bateleur eagle, martial eagle, etc.) as important features to protect. <li>• Contrary to the park management stating the low biodiversity risk, the most apparent environmental problems (or threats) to respondents were the loss of wilderness areas, overcrowding by visitors, and desertification. As a ‘problem’, visitors did not rate alien invasive species highly. Climate change was rated highest among all the other parks in the research. The most significant future threat was increased tourism, and hindrances to their nature experiences were over-commercialisation, bad behaviour of tourists and poor infrastructure and management. The increase in tourism will influence the biodiversity of the park.

National Park	Desired state	Research contributions/ conclusions
Consolidation:	<ul style="list-style-type: none"> • <i>The park is part of the †Khomani Cultural Landscape World Heritage site. SANParks management wants to improve its cultural heritage value and tourism development, which may conflict with why visitors are loyal to the park. They are loyal due to the wilderness qualities and unobstructed views of the park species.</i> 	
	<ul style="list-style-type: none"> • <i>Visitors did not rate the cultural heritage value highly, and this could indicate the need for awareness. The anticipated interpretation centre would assist in this instance</i> 	
	<ul style="list-style-type: none"> • <i>Many of the cultural ecosystem services and values of nature highlight the importance of the park’s remote, uncrowded character.</i> 	
	<ul style="list-style-type: none"> • <i>Although the park regards itself to have a low risk for biodiversity loss, visitors disagree and mention the loss of wilderness and desertification as possible environmental problems. Many of the threats and hindrances mentioned all point towards the detrimental effect that increased tourism development may have on the park.</i> 	
Management plan:	<ul style="list-style-type: none"> • Kruger North does not have the potential to generate income comparable to that of the South, and its cultural heritage value is slightly higher than that of the South. In other respects, the two are similar. 	<ul style="list-style-type: none"> • The CES most important to visitors are the existence value, aesthetics value, sense of place, emotional well-being and environmental education value. The cultural heritage value was not among the five most important CES. However, environmental education was rated important.
	<ul style="list-style-type: none"> • The transfrontier status gave it significance in the bioregional and regional context. There is potential to generate additional income over the next ten years. The socio-economic impact could be improved by implementing 	<ul style="list-style-type: none"> • The transfrontier status might lead to better tourism revenue, though increasing tourism threatens the visitors’ experiences. Communities should be front and centre when considering the socio-economic status of the park. However, political issues were mentioned as a threat, including land

National Park	Desired state	Research contributions/ conclusions
	<p>sustainable post-settlement land claimant packages, generating economic benefits for communities.</p> <ul style="list-style-type: none"> <li>• The GLTFCA cooperation agreement between state, private and community partners seeks to leverage responsible conservation compatible socio-economic opportunities and impact by unlocking transboundary access, tourism, marketing, branding, and development opportunities. <li>• It is anticipated that the next 20 years will see an increased impact on biodiversity because of global environmental change. 	<p>claims and the fear that these issues would not be dealt with correctly or fairly.</p> <ul style="list-style-type: none"> <li>• In contrast with the desired state for the park, indicating better access, tourism, development and marketing, visitors are pushed by their loyalty and pulled by the park's species diversity. Highlights of their visits are sightings, personal experiences (e.g. nostalgia, spiritual, etc.) and close encounters with animals. These experiences are possible in non-crowded areas. Visitors are generally positive and often express feelings of peacefulness, relaxation and a desire to return. Visitors were highly connected to nature and attributed their connectedness to the experiencing of the values of nature (e.g. care, oneness, primitiveness, solitude, spirituality, timelessness, humility and self-knowledge) and to physical features (e.g. activities, animals roaming freely, limited reception, unspoilt nature, etc.). More tourism will negatively impact the park's visitor experiences, especially in the South of the park. <li>• The park is wary of the threat to its biodiversity; however, the visitors still regard this as the park with the best species diversity. Large predators (e.g. leopards) and large herbivores (e.g. elephants, giraffes, rhinos, etc.) are

National Park	Desired state	Research contributions/ conclusions
<ul style="list-style-type: none"> Risks to biodiversity are high, especially poaching, diminished water quantity and quality and impacts of development in the buffer zone. (SANParks, 2018b) 	<ul style="list-style-type: none"> Similarly, visitors' most visible environmental problems were wildlife poaching, urban development and loss of biodiversity. Hindrances that affected their nature experiences were the bad behaviour of tourists, over-commercialisation, and poor infrastructure and management. 	<p>important features to protect. Other special experiences included animal sightings, nature experiences, and features (e.g. peacefulness, rain, rivers, etc.). The diversity in this park refers to the charismatic species and the unique features due to the park's different bioregions.</p>
<p>Consolidation:</p> <ul style="list-style-type: none"> <i>This park realises the difference between the northern and southern sections. Many visitors preferred the northern section due to its remoteness and the ability to experience various cultural ecosystem services and values of nature.</i> <i>Visitors are highly attached to this park due to nostalgia.</i> <i>Further commercialisation is not recommended as it is coupled with increased tourism and its associated issues. When considering the special experiences of visitors, it is clear that the wilderness qualities of the park influence their attachment to the park and their connection to nature.</i> <i>Environmental education value was important to visitors, and hence the focus and development of the cultural heritage in this park could be enhanced.</i> <i>The visitors noted the risks to this park's biodiversity overall, and they felt this park has the highest risk for wildlife poaching, urban development and loss of biodiversity.</i> 		

National Park	Desired state	Research contributions/ conclusions
<p>Management plan:</p> <p>GGHNP</p>	<ul style="list-style-type: none"> <li>• The park has a high scenic value and intermediate overall biodiversity value. Environmental education is well-developed. The cultural heritage assets are of value. <li>• There is a fair diversity of tourism products. There are prospects for surplus income generation. The local socio-economic contribution will be improved through job creation. 	<ul style="list-style-type: none"> <li>• Corresponding with the park's desired state, CESs most important to visitors are the existence value, aesthetic value, emotional well-being, environmental education value and physical well-being. Other special experiences also included aesthetic values, nature experiences, and features (e.g. feeling small, geology, etc.). The respondents did not rate the cultural heritage value highly, although this may be due to the unhappiness about the museum's location at the time of the research. <li>• Similarly, respondents felt that the park has diverse tourism products, as they are mainly pulled by the park's accessibility and the activities offered. Highlights of their visits are the ability to engage all their senses, especially due to the activities such as hiking, camping and canoeing. Visitors are generally positive and most often express appreciation for beauty, peacefulness and freedom. Visitors were highly connected to nature and attached their connectedness to some physical features (e.g. camping, scenery, vastness, not crowded, unspoilt nature, etc.) and experience the values of nature (e.g. oneness, remoteness, solitude, spirituality, timelessness,

National Park	Desired state	Research contributions/ conclusions
<ul style="list-style-type: none"> The road network has been identified for improvement. The relative biodiversity value is predicted to remain stable over the next 20 years. (SANParks, 2020b) 	<ul style="list-style-type: none"> 	<p>humility and self-knowledge). A surplus income generated by tourism might threaten the above visitor experiences.</p> <p>Future threats to the park were an increase in tourism and mismanagement. One of the issues is the road running through the park. The traffic and safety risks are evident from respondent quotes. Tourists' bad behaviour and poor infrastructure and management hindered their experiences in the park.</p> <p>Visitors appreciated the current biodiversity and highlighted the birds (e.g. bearded vultures) and the natural features (e.g. unique geology) as essential aspects to protect. However, the environmental problems most threatening to respondents were the loss of wilderness areas, wildlife poaching, and urban development.</p>
<p>Consolidation:</p> <ul style="list-style-type: none"> <i>This park highlights its aesthetic value and diverse tourism products. Visitors also mentioned these qualities repeatedly throughout the research. The sandstone mountains, unique geology and various activities are drawcards for visitors.</i> <i>The accessibility of the park is a double-edged sword. It is easily accessible and centrally located for visitors. However, the uncontrolled access is worrisome to several visitors.</i> 		

National Park	Desired state	Research contributions/ conclusions
	<ul style="list-style-type: none"> • <i>Although not specified by the visitors, the cultural heritage in this park is good. It includes visits to the Basotho Cultural Village, the new Dinosaur Interpretation Centre and the Visitor Interpretation Centre.</i> • <i>Visitors did mention the poor infrastructure and management of most facilities, especially the camping site, due to the building of the new interpretation centre.</i> 	
	<p>Management plan:</p> <ul style="list-style-type: none"> • The park's main strengths are high cultural heritage and scenic values. The cultural and environmental awareness effort will be considerably strengthened. 	<ul style="list-style-type: none"> • Likewise, the CES most important to visitors are the existence value, aesthetic value, emotional well-being, sense of place and environmental education value. However, not part of the top five CES in the park, cultural heritage value were rated highest among all parks in the research. Other special experiences included aesthetic values, activities, and amenities such as the visitor centre.
MapNP	<ul style="list-style-type: none"> • It has, however, a higher-than-average diversity of tourism products. Its transfrontier status gave it significance in the bioregional context. High-impact Corporate Social Investment Projects will strengthen Mapungubwe's status as a socio-economic catalyst. There are no real prospects of Mapungubwe generating surplus income, but means are available to reduce the deficit. 	<ul style="list-style-type: none"> • The park's desired state recognises the diversity of the tourism products, and visitors also mention this as they are mainly pushed by novelty-seeking and pulled by the park's activities. Highlights of their visits were sightings, the use of one's senses, and unique activities (e.g., heritage walk). Visitors are generally positive and most often express feelings of peacefulness, an appreciation of the beauty and a desire to return. Visitors were highly connected to nature and attributed their connectedness to the physical features (e.g. activities, scenery, not crowded, vastness,

National Park	Desired state	Research contributions/ conclusions
<ul style="list-style-type: none"> • The consolidation of the park, through agreements with adjacent landowners, should be addressed urgently. Future infrastructure development requirements include staff houses, an extended road network and offices. • It is amongst the lowest of all national parks regarding biodiversity value. • The biodiversity value of the park is expected to remain stable over the next 20 years. The biggest biodiversity risk is diminished water quality and quantity. (SANParks, 2019b) 	<p>unspoilt nature, etc.) and experience the values of nature (e.g. care, oneness, remoteness, solitude, spirituality, humility and self-knowledge). The park does not have real ‘prospects’ of generating surplus income, but it could improve the current offerings to create loyal customers.</p> <ul style="list-style-type: none"> • This park’s most significant future threats were conservation issues (e.g. domesticated animals spreading diseases to wildlife, etc.) and political issues. The conservation issues mentioned by visitors also included the inconvenience of the farms separating the park. • Although visitors agree with the low biodiversity and the threat of the domesticated species, they appreciate the charismatic large herbivores (e.g. elephants) and birds (e.g. Pel’s fishing owl). • In contrast with the park’s desired state, the environmental problems visible to respondents (or threatening) were poaching of wildlife, loss of wilderness areas and loss of biodiversity. The water quality and quantity were mentioned by some respondents, especially during the drier winter season when the riverbeds are dry. This encourages the crossover of domestic animals and people into the park. 	

National Park	Desired state	Research contributions/ conclusions
		<p>Visitors' nature experiences were hindered by poor infrastructure and management and conservation issues.</p> <p>Consolidation:</p> <ul style="list-style-type: none"> <i>The park management noted its cultural heritage values and aesthetic values to be most significant. This research findings concur as visitors rated cultural heritage amongst all other parks as the highest. However, none of the visitors highlighted the park's world heritage status as a pull factor. More awareness regarding this status is needed.</i> <i>Visitors are also mainly attracted due to novelty-seeking. Many visitors indicated that they visit all national parks as part of their bucket list. With improved marketing and awareness of the UNESCO World Heritage status, visitors might be attracted to the park.</i> <i>The park indicated that they do not foresee a surplus in tourism growth and would first focus on infrastructure development. Visitors currently appreciate the park because of its wilderness qualities and remote atmosphere.</i> <i>Wildlife poaching was the main environmental problem noted by visitors, which might negatively impact the park's biodiversity. The park's statement indicated that the biodiversity value remains stable. Still, visitors are concerned about various conservation issues, such as illegal immigrants crossing the river and domesticated animals roaming the park freely.</i>
MarNP	<p>Management plan:</p> <ul style="list-style-type: none"> Marakele National Park is of average value regarding most of the desired state components, but there is strong potential to develop tourism and environmental education. The goal is to generate revenue through 	<ul style="list-style-type: none"> Currently, visitors are mainly pulled by the park's accessibility and pushed by novelty-seeking. A new and better diversity of tourism products per the park's desired state might appeal to visitors looking for new experiences. Highlights of their visits were sightings, personal experiences (e.g. spiritual, etc.) and the ability to engage

National Park	Desired state	Research contributions/ conclusions
	<p>increased diversity of tourism products, including establishing a rest camp.</p> <ul style="list-style-type: none"> <li>• Environmental education and heritage values have been targeted for improvement. Funding for some development projects has been secured. <li>• Completing contractual arrangements with neighbours will strengthen the value of MarNP 	<p>all their senses. Other special experiences included aesthetic values and nature experiences and features (e.g. feeling small, peaceful, etc.). Visitors are generally positive and often express feelings of peacefulness, an appreciation of the beauty and relaxation. Visitors were highly connected to nature and ascribed their connectedness to the physical features (e.g. activities, scenery, not crowded, vastness, unspoilt nature, etc.) and experienced the values of nature (e.g. care, oneness, solitude, spirituality, humility and self-knowledge). The improvement or increase in tourism may negatively impact the above visitor experiences.</p> <ul style="list-style-type: none"> <li>• CES most important to visitors are the existence value, aesthetic value, emotional well-being, sense of place and physical well-being. Environmental education and cultural heritage values were not rated high in this park. The park management should proceed to foster better awareness of heritage. The educational centre could be marketed better and perhaps be used to interpret some features to visitors. <li>• Likewise, visitors will agree with the statement to improve the infrastructure. Some of the future threats mentioned

National Park	Desired state	Research contributions/ conclusions
	<p>as a regional node. Infrastructure development requirements include the road network and fences.</p> <ul style="list-style-type: none"> The biodiversity value is predicted to remain stable over the next 20 years, and the park faces no outstanding biodiversity risks. (SANParks, 2014) 	<p>were mismanagement and political issues. Hindrances mentioned overall, were poor infrastructure and management (e.g. lack of updated maps, etc.). Visitors emphasised the inconvenience of the park being split into two sections.</p> <ul style="list-style-type: none"> Visitors did indicate a preference for charismatic large herbivores (e.g. rhinos) and birds (e.g. Cape vultures, etc.), which are important to protect. However, environmental problems visible to respondents (or threatening) were wildlife poaching, loss of wilderness areas and loss of biodiversity.
Consolidation:		
<ul style="list-style-type: none"> <i>The management plan is outdated compared to the other parks.</i> <i>Park management envisioned improved environmental education, cultural heritage and diverse tourism products. After a decade, most of these are not realised. The Bontle Tented Camp has a new swimming pool (SANParks Volunteers, 2023). The park also has the Thutong Environmental Centre, which could improve in terms of cultural heritage. The park could also be marketed for its contribution to the conservation of the Cape vulture population.</i> <i>Nevertheless, visitors have experienced various cultural ecosystem services and values of nature due to the vastness and unspoilt nature of the park. It is, therefore, that a significant increase in tourism is not recommended as they do appreciate the non-crowded feeling of the park.</i> <i>Although the park did not regard any outstanding biodiversity risks, visitors' most threatening environmental problems were wildlife poaching and a loss of wilderness and biodiversity.</i> 		

National Park	Desired state	Research contributions/ conclusions
	<ul style="list-style-type: none"> Overall, visitors felt that infrastructure and management could improve and especially mentioned the outdated maps and the fact that the park is split into different sections. 	
MZNP	<p>Management plan:</p> <ul style="list-style-type: none"> Although the park's overall biodiversity value is rated lower than most other national parks, it significantly contributes to the international conservation of endangered or threatened species such as cheetah, rhino and Cape Mountain zebra. Therefore, one of its recognised strengths is as a genetic bank of these rare species. The role of the park as an organism bank will be strengthened. In addition, MZNP is the only proclaimed conservation unit in the Eastern Mixed Karoo veld vegetation type. Other valued natural assets include the wide-open spaces and landscapes typical of the Karoo. 	<ul style="list-style-type: none"> In agreement with the park's desired state, visitors highlighted the importance of protecting the charismatic large herbivores (e.g. Cape mountain zebra) and large predators (e.g. lions, etc.). Other special experiences included animal sightings and aesthetic values. An activity that stood out was the cheetah tracking. Similarly, visitors highlighted various experiences made possible due to the specific landscape of the park. Visitors were highly connected to nature and credited their connectedness to the physical features (e.g. activities, scenery, not crowded, vastness, unspoilt nature, etc.) and experiencing the values of nature (e.g. care, oneness, primitiveness, remoteness, solitude, spirituality, humility and self-knowledge).

National Park	Desired state	Research contributions/ conclusions
<ul style="list-style-type: none"> • Tourism can be improved through diversifying products. A focus will be on improving the park's status as a socio-economic catalyst through job creation. 	<ul style="list-style-type: none"> • Cultural heritage value can improve depending on interpretation capacity. 	<ul style="list-style-type: none"> • Although the park aims to diversify its tourism products, visitors are primarily pulled by the park's accessibility and pushed by loyalty. They are satisfied with the current offerings. Highlights of their visits were sightings, the ability to engage all their senses, and unique activities (e.g. cheetah tracking, etc.). Visitors are generally positive and most often express feelings of peacefulness, an appreciation of the beauty and a desire to return. The park allows day visitors and has various picnic areas. Allowing more tourists might negatively affect loyal visitors.
<ul style="list-style-type: none"> • The biodiversity value of the park is anticipated to increase over the next 20 years in the national context but not in the SANParks context. Risks to biodiversity are generally low. (SANParks, 2016b) 	<ul style="list-style-type: none"> • Cultural heritage value can improve depending on interpretation capacity. 	<ul style="list-style-type: none"> • The CES most important to visitors are the existence value, aesthetic value, emotional well-being, sense of place and physical well-being. The park has several archaeological sites and old burial sites dating back to the Late Stone Age and the Anglo-Boer War, respectively. Adding an interpretation centre could improve cultural heritage and the existing environmental education.
<ul style="list-style-type: none"> • The biodiversity value of the park is anticipated to increase over the next 20 years in the national context but not in the SANParks context. Risks to biodiversity are generally low. (SANParks, 2016b) 	<ul style="list-style-type: none"> • Cultural heritage value can improve depending on interpretation capacity. 	<ul style="list-style-type: none"> • Although the park's desired state indicates low biodiversity risks, the environmental problems visible to respondents (or threatening) were wildlife poaching, loss of wilderness areas and desertification. Political issues and mismanagement were noted as significant future threats.

National Park	Desired state	Research contributions/ conclusions
		The most significant hindrance to their experiences was the poor infrastructure and management (e.g. corrugated gravel roads, poor ablution facilities, etc.).
	<p>Consolidation:</p> <ul style="list-style-type: none"> • <i>The park management indicated a low overall biodiversity but protected several endangered and threatened species. Visitors highlighted these special animal sightings, such as the cheetah and Cape Mountain zebra.</i> • <i>Visitors also mentioned several characteristics of the park that indicate its biodiversity. This park offers visitors with vast, unspoilt nature and is not crowded. This enabled them to experience many of nature's cultural ecosystem services and values. The scores were lower compared to the other parks in the case study.</i> • <i>The park indicated the need to improve the cultural heritage offerings, interpretation and tourism products. Currently, the park does not have an interpretation centre, which could benefit future visitors.</i> • <i>The park noted the risk to biodiversity as low; however, visitors mentioned wildlife poaching and loss of wilderness areas as significant environmental problems. Overall, mismanagement and poor infrastructure in the park should be improved.</i> 	

Source: Adapted by the author from SANParks (2014; 2016a; 2016b; 2018b; 2019b; 2020b).

This research contributed to this part of the SAM (see section 2.12) as it explored the features and experiences of tourists in the respective national parks (objectives 2, 3, 4 and 5). This research also contributes to the thresholds of potential concern as the threats and hindrances to visitor experiences in the national parks were explored (objective 6). The visitor experiences and threats are indicated in Figure 11.1. The summary of the key findings is given in Table 11.1.

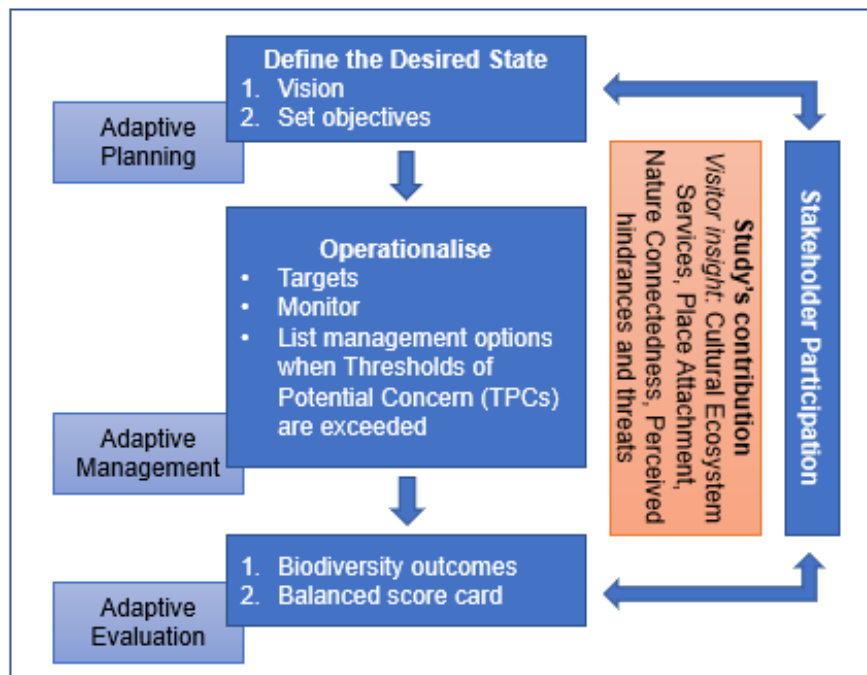


Figure 11.1 Steps in the adaptive management cycle used by SANParks and an indication of where the research’s contribution might be incorporated.

Source: Adapted by the author from SANParks (2016a; 2016b; 2018b; 2019b; 2020b).

Tourists are important stakeholders, as Novellie *et al.* (2016:44) indicated that “the bulk of SANParks’ budget comes from tourism” due to the well-developed tourism infrastructure in several national parks. It is important to note that the vision, mission, and vital attributes identified at the parks inform the objectives. This is done successfully in the respective national park management plans and the contribution of this research adds to these attributes (Figure 11.2). These contributions are summarised in Table 11.1.

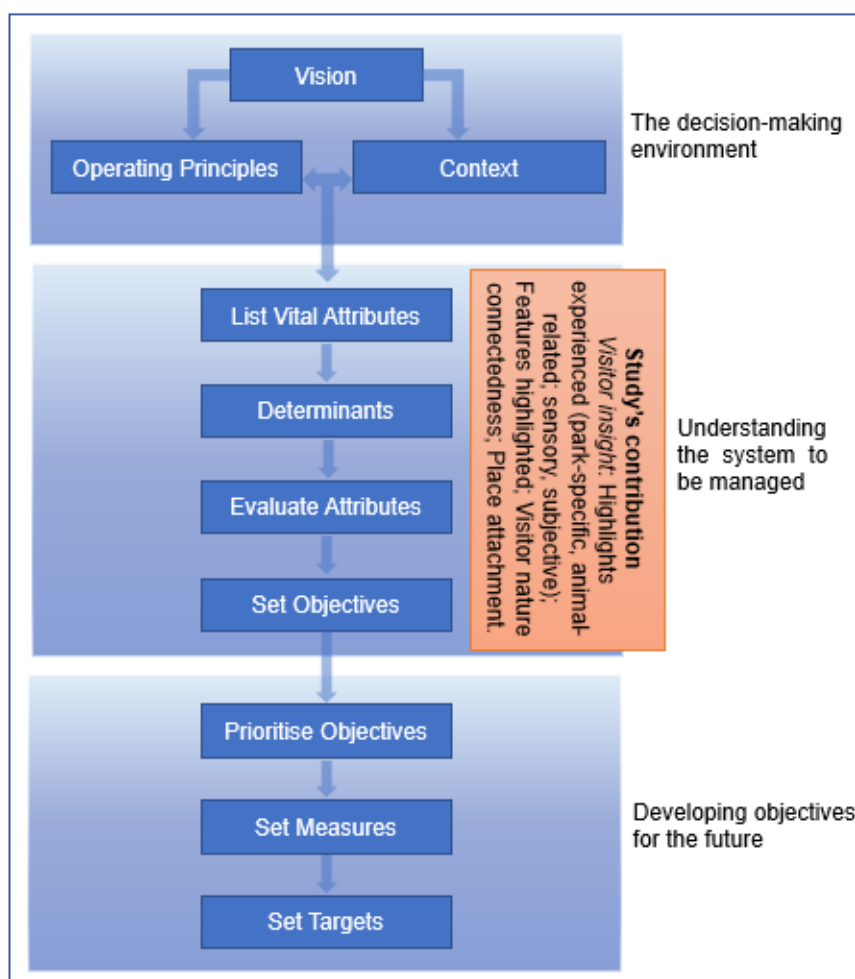


Figure 11.2 The adaptive planning process used by SANParks and an indication of where the research’s contribution might be incorporated.

Source: Adapted by the author from SANParks (2016a; 2016b; 2018b; 2019b; 2020b).

In addition to the SAM, the ‘SANParks Vision 2040’ was launched in April 2023 by the Minister of DFFE, Barbara Creecy (SANParks, 2023). This initiative aims to attract and include all stakeholders to establish a new long-term vision for national protected areas managed by SANParks. This research could contribute to the start of this new initiative, where the results give an overview of tourist's experiences as stakeholders.

11.3.2 Recommendations arising from research conclusions

These recommendations are given in no specific order and provide guidelines that may be followed to improve visitor experiences in South African national parks.

- Preferred park respondents visited mainly because of their loyalty to the parks and to view wildlife. In contrast, the less preferred park respondents visited primarily because of the accessibility and to experience something new. Thus, SANParks could develop activities to attract and enhance less preferred park visitors' recreational experiences and improve their loyalty. The activities could include the following:
 - Hosting frequent events focusing on a unique feature of the respective parks, for example, birdwatching, stargazing, painting of landscapes, etc.
 - Having collaborations with surrounding tourist centres and companies to offer activities at a discounted rate.
 - Creating activities for children in the rest camps. For example, a movie room with nature or educational films, face or finger painting, craft projects, interpretive routes, a day care centre during holidays, etc.
 - Interpretive displays and trails highlighting the park's special features, history, and species.
- This research showed that preferred park respondents were overall more attached than the less preferred park respondents. This again refers to the loyalty that they displayed in their narratives. National parks must assist visitors in building a personal connection to these places. This personal connection is highly sought after as all respondents indicated a higher place identity. They want authentic and unique experiences that can assist with memorable tourism experiences. Park employees could help in the fostering of a personal connection and the creation of memorable experiences in the following ways:
 - Create a family-friendly environment where the young and the old are accommodated by including interactive park activity booklets that engage all their senses. For example, listen to and identify the sounds of nature, all the scents you can smell, the colours and shapes in a landscape, feel and compare the different leaf surfaces, etc.
 - Train employees (e.g. guides) to provide mindful experiences or to become mindfulness practitioners. Various institutions, such as the Institute for Mindfulness South Africa (IMISA), offer training and programmes.

- Create quiet spaces for visitors to become mindful and fully aware of their surroundings. These quiet spaces could be provided at a bird hide or a stop along a tourist route with limited visitors.
- Provide authentic experiences whereby the local culture of the surrounding area is incorporated into the décor of the accommodation, the food offered and activities where possible.
- Provide a welcoming and personal touch for the visitors from the moment they arrive, during their accommodation, while visiting shops or restaurants and during activities. Sometimes, small gestures captivate visitors, such as offering a helping hand at check-in, opening a door, handing a glass of water or smiling to ease a frustrated client.
- Another way to reach visitors personally is through social marketing campaigns. The marketing campaigns should focus on the vital characteristics that differentiate each park. These characteristics must be enhanced to increase each park's competitive advantage, especially for the less preferred parks.
 - Focus on their unique qualities, such as the cultural heritage and history visitors might not know.
 - Inform visitors about the world heritage status of the parks and the reasons for being proclaimed, for example, the #Khomani Cultural Landscape in the Kgalagadi Transfrontier Park and the special cultural heritage aspects of the Mapungubwe National Park.
 - Satisfied and devoted guests are vital to parks because their loyalty to a park may suggest a tendency to refer the park to others, supporting the promotion of nearby services.
 - Encourage word-of-mouth advertising using Facebook, TripAdvisor, and other related and other social media platforms. Social media influencers could assist in accomplishing this.
- Create environmental education programs designed to promote pro-environment behaviours. Examples of such programmes include:
 - Reuse, reduce and recycle: Emphasise the need for recycling in the parks by having clearly marked recycling bins in dedicated areas. Include

recycling activities for children where they create art using plastics and other recyclable items.

- Many of the parks lack well-maintained and interactive interpretation centres. Interactive refers to technology-enhanced or first-person interpretation that allows tourists to immerse fully. These interpretive centres could assist in the education of visitors and increase pro-environmental behaviour. Activities in these centres could focus on identifying different animal families and species, differentiating and identifying animal spoors, paring animal habitats and niches, etc.
- Other environmental education activities include learning about animal behaviours and when they are considered dangerous. For example, when is being close to an animal too close? Each park could tailor their activities to fit with their main features.
- SANParks staff must address and inform visitors regarding their bad behaviour (e.g. littering, speeding, noise, public drinking, etc.). They could address most of these issues by issuing fines. Furthermore, better policing is needed and should be visible. These fines should be included for all suppliers and open vehicle safari operators driving in the parks.
- Awareness campaigns by SANParks management must accentuate climate change. This research showed that visitors are unaware of the effects of climate change. The campaigns could, therefore, focus on their direct and indirect impacts, the broader effect on nature and mitigation efforts.
- One important observation of this research was that respondents were unfamiliar with many of the benefits or threats in the parks. Therefore, tourist awareness is one of the most important factors to address. Tourists are not always aware of the benefits of being in nature or how to experience or identify cultural ecosystem services. Infographics could be created and displayed for visitors. An example of such an infographic was created from the research results and displayed in Figure 11.3. Similar infographics could be created for other constructs. These infographics could be displayed on bulletin boards to promote and educate (e.g. picking up litter and inhibiting others from destroying the environment) tourists to assist them in demonstrating

behaviours to protect the parks or become aware of various benefits or values of nature.



Figure 11.3 Infographic that may assist with park visitor awareness of cultural ecosystem services. (Source: Authors' design and compilation.)

- Affordability for the domestic tourism market should be encouraged. If local tourism to the parks is no longer possible and is limited to overseas visitors only, belonging or a sense of support for the parks will disappear. The following measures could be used:
 - Parks could have diverse offerings, such as the Kruger National Park, catering to different budgets. There are different offerings, but the quality does not match the high prices charged. In this case, the park could lower the prices for the accommodation not yet upgraded or updated.
 - Smaller parks that do not have diverse offerings could charge different tariffs for domestic versus international visitors.
 - Large group discounts and longer stay discounts have proven effective. This could be used in the low season coupled with an event. For example, 'book the entire Bontle Tented Camp for a weekend and receive a 30 per cent discount on the birdwatching tour'.
- When creating interpretive materials, national park marketers should include images of visually appealing natural features. They may consider the favourite features and respondent photographs of this research. This will likely be an efficient way to improve communication with potential visitors.
- The visitor profile seems to stay stagnant as the profile of visitors remains predominantly similar for several years. Different market segments could be targeted and marketed for. Continued research is needed to evaluate the needs of such markets.
- Different market segments might need specialised services or preferences. At the same time, the parks must stay competitive as it remains a business. They need to be innovative and try new things. One alternative is to build separate camps for families or other niche market groups, as long as they do not affect the park's loyal visitors.
- The biodiversity in the preferred parks enhances visitors' experiences. Sustainable development and adapting park areas according to visitor needs should improve this in the less preferred parks.
- The subjective experiences of people visiting national parks are important, and SANParks should encourage research in this domain. Especially how these experiences could contribute to the SDGs. The Good Health and Well-being

(SDG 3) could be explained in terms of the well-being visitors experience due to their nature connectedness and attachment to the national parks.

- Incorporate local community knowledge by allowing experts to interpret certain natural features and local stories to people visiting the parks. This could be through demonstrations, storytelling, field guiding, and cultural dances.
- Park managers should note and address the environmental problems, threats and hindrances that affect visitors to the respective parks. All measures should be taken to improve the experiences of visitors. Clear communication is needed to inform visitors of specific persistent issues. For example, visitors to Mapungubwe National Park are shocked to see domesticated animal species in the park. Inform them why this is the 'norm' in the park and what the park management is doing to lessen issues such as diseases spreading to wildlife.
- This research shows that environmental problems negatively mediate the relationship between nature-relatedness and place attachment in the preferred national parks. It means that the worse the problems are, the higher the place attachment and nature-relatedness of visitors. This is a good outcome and proves the type of loyalty of these visitors.

11.4 LIMITATIONS OF THE RESEARCH

The limitations of the research were as follows:

- The study was affected by the COVID-19 pandemic as it halted the research halfway through the data collection. This might have impacted the type of visitors who participated in the research and the typical park experiences.
- The data lacks international visitor experiences partly due to COVID-19 during the final data collection phase.
- The research focussed on specific parks only, and the questionnaires included respondents from the SANParks databases for the respective parks. The respondents indicated a willingness to partake in research activities; hence, the respondents might be too like-minded.

11.5 SUGGESTIONS FOR FUTURE RESEARCH

The following are suggested for future research:

- This research could be repeated in the remaining national parks not used in this study.
- This research could be replicated in provincial and private protected areas.
- Future research could explore the place attachment levels and compare the different socio-demographic information to investigate if certain groups are more prone to form an attachment.
- Geographical Information System (GIS) technology could be used to explore place attachment and cultural ecosystem services using a Global Positioning System (GPS), where visitors map out places within the parks where they experience different services.
- Conduct this research in other national parks and focus on pro-environmental behaviour instead of environmental problems.

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ANNEXURE A
INITIAL ONLINE QUESTIONNAIRE

Place attachment to the different SANParks

Thank you for your interest and support of our study on determining place attachment to South African national parks! The objective of this questionnaire is to provide us with information to improve our understanding of your experience in our parks and how you feel about your visits in general. SANParks and UNISA’s ethics committees have approved this study. It will take approximately 10 minutes to complete the questionnaire.

Instructions:

1. All information is collected by an independent contractor, who fully anonymises the data before providing it to the researchers for analysis. Thus, your data will be treated **confidentially** and will not be distributed or used for any reason other than the purpose of this project. We function under a code of ethics that forbids us to distribute or use information otherwise. There are **no right or wrong answers**. So please feel free to be honest in your responses.
2. This questionnaire has 14 questions in total. Please read through every question or statement and answer by clicking your desired response.
3. Kindly email the research team any questions about any part of this project that you do not fully understand. It is important that you are fully satisfied that you clearly understand what this research is about and how you can be involved. Also, your participation is **entirely voluntary**, and you are free to decline to participate. There are no foreseeable risks associated with this project. However, if you feel uncomfortable answering any questions, you can withdraw from the survey at any point - even if you do initially agree to take part. If you say no, this will not affect you negatively in any way whatsoever.
4. If you have questions at any time about the survey or the procedures, you may contact Tanya Erasmus at 074 565 0106 or by email (tanyae@vut.ac.za).
5. After you have completed this survey, we will invite you to participate in a **follow-up questionnaire and/or interview**. You may decide not to participate or complete this or any of the follow-up questionnaires at any time.
6. Please start with the survey now by clicking on the Continue button below.

SECTION A – FAVOURITE SOUTH AFRICAN NATIONAL PARK

A1. What is your favourite South African national park?

A2. Why is the _____ National Park your favourite park? Elaborate as much as you like.

A3. How often do you visit the _____ National Park?

It was my first visit	1	Yearly	2	Twice a year	3	Monthly	4	Every couple of months	5	Other Specify:	6
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A4. How many nights per visit do you usually stay at the _____ National Park?

Day visitor	1	1 - 2 nights	2	3 - 4 nights	3	5 - 6 nights	4	7 or more nights	5
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A5. Of all the animals/birds/features found in the _____ National Park, which is your favourite? Please name only ONE animal/bird/feature.

A6. What other features or experiences in this park do you enjoy?

A7. Why do you like these most? Elaborate as much as you like.

SECTION B: PLACE ATTACHMENT IN THE _____ NATIONAL PARK

Kindly indicate the extent to which you agree or disagree with each of the following statements regarding your experiences in this National Park. (1 = Strongly disagree; 5 = Strongly agree)

	1	2	3	4	5
Strongly agree					
Agree					
Neutral					
Disagree					
Strongly disagree					
B1. I feel this National Park is a part of me	1	2	3	4	5
B2. This National Park is very special to me	1	2	3	4	5
B3. I identify strongly with this National Park	1	2	3	4	5
B4. I am very attached to this National Park	1	2	3	4	5
B5. Visiting this National Park says a lot about who I am	1	2	3	4	5
B6. This National Park means a lot to me	1	2	3	4	5
B7. This National Park is the best place for what I like to do	1	2	3	4	5
B8. No other place can compare to this National Park	1	2	3	4	5
B9. I get more satisfaction out of visiting this National Park than any other park	1	2	3	4	5
B10. Doing what I do at this National Park is more important to me than doing it in any other place	1	2	3	4	5

B11. I wouldn't substitute any other area for doing the types of things I do at this National Park	1	2	3	4	5
B12. The things I do at this National Park I would enjoy doing just as much at a similar National Park	1	2	3	4	5

SECTION C: OTHER PARKS VISITED

Which of these national parks have you visited before? Please indicate how recent you have visited each park.

South African National Parks	Never	1 – 2 Months ago	3 – 4 Months ago	5 – 6 Months ago	6 – 11 Months ago	1 Year ago	2 Years ago	3 Years ago	3+ Years ago
C1. Addo Elephant National Park									
C2. Agulhas National Park									
C3. Ai-Ais/Richtersveld Transfrontier Park									
C4. Au-grabies Falls National Park									
C5. Bontebok National Park									
C6. Camdeboo National Park									
C7. Garden Route National Park									
C8. Golden Gate Highlands National Park									
C9. Karoo National Park									
C10. Kgalagadi Transfrontier Park									
C11. Kruger National Park									
C12. Mapungubwe National Park									

C13. Marakele National Park									
C14. Mokala National Park									
C15. Mountain Zebra National Park									
C16. Namaqua National Park									
C17. Table Mountain National Park									
C18. Tankwa Karoo National Park									
C19. West Coast National Park									

C19. Are you a Wild Card holder?*

Yes	1	No	2
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* Questionnaires were developed separately for each park and the specific park were left out in the previous question. Therefore, this question will be C19 and not C20.

SECTION D - SOCIO-DEMOGRAPHIC INFORMATION

Mark with (x) where applicable.

D1. Age

D2. Gender:

Male	1	Female	2
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D3. Nationality:

If South African, in which province do you reside in?

Eastern Cape	1	Free State	2	Gauteng	3	KZN	4	Limpopo	5
Mpumalanga	6	North West	7	Northern Cape	8	Western Cape	9		

Ethnic group:

Coloured	1	Indian	2	Ndebele	3	Sepedi	4	Sotho	5	Swazi	6
Tswana	7	Venda	8	White	9	Xhosa	10	Zulu	11	Other (Specify:)	

D4. What is your highest level of education?

Grade 12	1	Higher certificate	2	Diploma	3	Degree	4	Postgraduate degree	5
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D5. What is your marital status?

Married	1	Single	2	Divorced	3	Widow/er	4	Living together	5
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AVAILABILITY FOR FURTHER PARTICIPATION

Would you be willing to fill in an additional in-depth questionnaire or partake in an interview with regards to your experiences in this national park?

Yes	1	No	2
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If yes, kindly type your email address below.

Thank you for your participation in this research.

ANNEXURE B

INITIAL ONLINE QUESTIONNAIRE INVITATION

From: SANParks Tourism Research [mailto:Tourism.Research@sanparks.org]
Sent: Thursday, 03 May 2018 13:13
To: david.powell@vodamail.co.za
Subject: How attached are you to your favourite national park?
Dear S [REDACTED]

Which is your favourite South African National Park to visit? Just how attached are you to this Park?

A PhD student from the University of South Africa is assisting SANParks with measuring place attachment of visitors to all of the national parks. Please help us out by answering a few questions. This will only take a few minutes of your time.

Click on this link to go to the survey: <https://www.questionpro.com/a/TakeSurvey?tit=ETXq9qgFcAsbpI8PwBZHhNe/5qs5s6LN>

If the link doesn't open automatically, you can also copy and paste the link into your web browser.

Should you have any concerns or queries, please send an email to the researcher at tanyae@vut.ac.za.

Thank you!

Manager: Tourism Research

Visitor Services unit

South African National Parks

Tel: +2712 426 5000

Email: tourism_research@sanparks.org

www.sanparks.org

www.wildcard.co.za



ANNEXURE C SEMI-STRUCTURED INTERVIEW GUIDE

Interview code:

<i>Date:</i>	
<i>Time:</i>	
<i>Place:</i>	

Description of physical environment

<i>National Park/Cluster</i>	
<i>Natural surroundings</i>	
<i>Climatic factors</i>	Rainy Sunny Season: Temperature: _____ _____
<i>Activity</i>	

Kindly recall and reflect on each of the following questions regarding particular nature experiences within this National Park. There are neither 'good' nor 'bad' or 'right' nor 'wrong' reflections. What is important to this study is your individual subjective experience during your visit to this National Park.

Informed consent will be obtained with regards to the confidentiality of the interview.

Socio-Demographic information:

- Age:
- Gender:
- Ethnic group:
- Nationality:
If South African, in which province do you reside in?
- What is your highest level of education?
- What is your marital status?
- Have you visited this park before? Yes or NO
- If yes...How often do you visit this park?
- How many nights per visit do you usually stay at the park?

Guiding questions:

Main research question: *How do visitors' level and descriptions place attachment as a cultural ecosystem service compare between selected South African National Parks?*

Research objectives	Possible interview questions
1. To determine which national parks are preferred or less preferred and the reasons.	<ul style="list-style-type: none"> • Would you say this is one of your favourite or preferred parks and why/why not?
2. To describe the ‘special features’/conservation attributes of the preferred and less preferred parks according to visitors.	<ul style="list-style-type: none"> • If you can highlight one feature/animal or plant species (or any specific experience) found in this National Park, what would it be? • Why do you regard this as a highlight?
3. To determine how visitors value the different cultural ecosystem services.	<ul style="list-style-type: none"> • What do you value within this national park? <i>Prompts: cultural heritage, spiritual, recreational, aesthetic, attached, social, inspiration, physical or subjective well-being, preservation for future generations</i>
4. To determine the attachment of visitors to the respective national parks and their reasons for feeling attached.	<ul style="list-style-type: none"> • Would you say you are “attached” to this place/park? Why? • Explain the (your) ‘sense of place’ of this park. • Would you visit this park again and why? • What is your favourite activity/experience in this park? • Can you explain the significance of this experience and describe your (feelings/emotions) in that moment?
5. To determine the connectedness of visitors to the natural environments within the respective national parks.	<ul style="list-style-type: none"> • Nature can mean many things to people. What does it mean to you? • How will you explain the concept of ‘connected to nature’? • Do you regard yourself as connected to nature? Elaborate. • Do you see yourself as part of nature?
6. To identify the actual and potential threats during a nature experience at the respective national parks.	<ul style="list-style-type: none"> • Is there anything that you are aware of that may disrupt or hinder the quality of your experience in this National Park?
7. To determine whether connectedness to nature lead to place attachment.	<ul style="list-style-type: none"> • Inferential statistics

Could you show images, such as photos that represent more detailed informative stories as supplements? This may include special or meaningful places/spaces, species or features within this National Park.

This is only a guide and it should be acknowledged that the sequence and questions may vary between participants.

ANNEXURE D
FINAL ONLINE QUESTIONNAIRE

Place attachment in Golden Gate Highlands National Park
Welcome to our survey

Dear prospective participant,

My name is Tanya Erasmus, and I am studying towards a PhD in Environmental Management at the University of South Africa. My research and this survey, in particular, relates to the experiences of visitors to South African National Parks and to study the attachments formed to these parks.

You were chosen to participate in this survey as you are a valuable stakeholder of SANParks. The answers you provide are essential to my research and will help to improve the quality of the nature experiences in South African National Parks in the future. It may assist managers to consider place attachment and place meanings in future management and development of the national parks.

The survey is anonymous, meaning that we will have no way of connecting the information that you provide to you personally. Consequently, you will not be able to withdraw from the study once you have clicked the send button based on the anonymous nature of the survey. If you choose to participate in this survey, it will take up no more than 15 minutes of your time.

If you have any questions or concerns regarding this survey, please contact me at 074 565 0106 or 56520299@mylife.unisa.ac.za. Alternatively, you can contact the UNISA-CAES Health Research Ethics Committee on 011 670 9391.

Thank you for sharing your thoughts and ideas!

SOCIO-DEMOGRAPHIC INFORMATION

1. What is your age?

2. What is your gender?

Male	1	Female	2	Prefer not to disclose	3	Other – Please specify: _____	4
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3. What is your nationality?

4. If South African, in which province do you reside?

Eastern Cape	1	Free State	2	Gauteng	3	KZN	4	Limpopo	5
Mpumalanga	6	North West	7	Northern Cape	8	Western Cape	9		

5. What is your home language?

6. What is your highest level of education?

Below grade 12	1	Grade 12 (Senior certificate)	2	Higher certificate	3
Diploma	4	Degree	5	Postgraduate degree	6

7. What is your marital status?

Married	1	Single	2	Divorced	3
Widow/er	4	Living together	5	Prefer not to disclose	6

SECTION A: VISITOR BEHAVIOUR IN THE GOLDEN GATE HIGHLANDS NATIONAL PARK

8. When was your most recent visit the Golden Gate Highlands National Park?

2019	1	Before the national lockdown	2	Three to six months ago	3	Two months ago	4	One month ago	5	Two weeks or less ago	6	Other Please specify:	7
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9. Why did you visit the Golden Gate Highlands National Park?

10. How often do you visit the Golden Gate Highlands National Park?

It was my first visit	1	Yearly	2	Twice a year	3	Monthly	4	Every couple of months	5	Every couple of years	6	Other Please specify: _____	7
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11. How many nights per visit do you usually stay at the Golden Gate Highlands National Park?

Day visitor	1	1 - 2 nights	2	3 - 4 nights	3	5 - 6 nights	4	7 or more nights	5
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12. Please highlight an experience during your visit. Why was this a highlight to you?

13. Of all the animals/birds/features found in this national park, which is your favourite? If possible, name only ONE animal/bird/feature. Why is this your favourite?

14. Please share any images or photographs of your favourite places or features within the Golden Gate Highlands National Park.

This is optional. Feel free to share any photograph, drawing or stories about your most recent experience in the park. You are welcome to put a watermark or signature on your photograph.

Upload file (In Survey Monkey)

15. What does this photograph mean to you when looking at it again?

SECTION B: CULTURAL ECOSYSTEM SERVICES IN THE GOLDEN GATE HIGHLANDS NATIONAL PARK

16. How important are the following cultural ecosystem services?

	Not at all important	Slightly important	Moderately important	Very Important	Extremely important
Assess the following values and rate the importance of each in this national park from 1 to 5, where: 1 = Not at all important (I do not think it is important at all); 5 = Extremely important (I think it is of fundamental importance).					
B1. Spiritual value	1	2	3	4	5
B2. Cultural heritage	1	2	3	4	5
B3. Aesthetic value (scenery, landscape, sounds or smells)	1	2	3	4	5
B4. Inspirational value	1	2	3	4	5
B5. Sense of place	1	2	3	4	5
B6. Identity	1	2	3	4	5
B7. Social relations	1	2	3	4	5
B8. Environmental educational value	1	2	3	4	5
B9. Emotional well-being	1	2	3	4	5
B10. Physical health	1	2	3	4	5
B11. Recreational opportunities	1	2	3	4	5
B12. Existence value (future existence of this park)	1	2	3	4	5

SECTION C: PLACE ATTACHMENT IN THE GOLDEN GATE HIGHLANDS NATIONAL PARK

17. How attached are you to the Golden Gate Highlands National Park?

Kindly indicate the extent to which you agree or disagree with each of the following statements regarding your experiences in this national park by circling the appropriate number, where:

1 = Strongly disagree;

5 = Strongly agree

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
C1. I feel this national park is a part of me.	1	2	3	4	5
C2. This national park is very special to me.	1	2	3	4	5
C3. I identify strongly with this national park.	1	2	3	4	5
C4. I am very attached to this national park.	1	2	3	4	5
C5. Visiting this national park says a lot about who I am.	1	2	3	4	5
C6. This national park means a lot to me.	1	2	3	4	5
C7. This national park is the best place for what I like to do.	1	2	3	4	5
C8. No other place can compare to this national park.	1	2	3	4	5
C9. I get more satisfaction out of visiting this national park than any other park.	1	2	3	4	5
C10. Doing what I do at this national park is more important to me than doing it in any other place.	1	2	3	4	5
C11. I would not substitute this national park for any other national park for doing the types of things I do here.	1	2	3	4	5
C12. The things I do at this national park I would enjoy doing just as much at a similar national park.	1	2	3	4	5

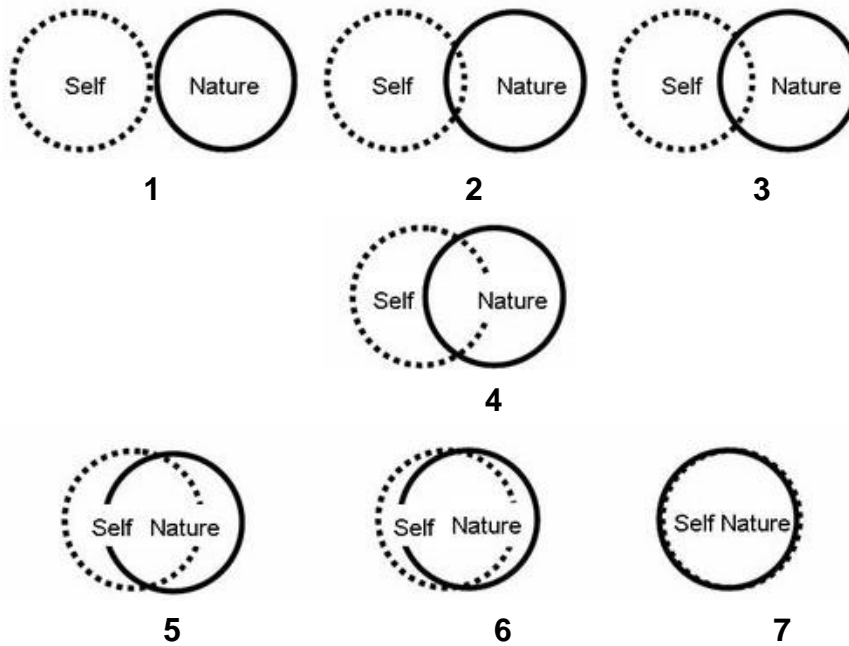
PLACE ATTACHMENT SCALE (Adapted from Williams & Vaske, 2003)

18. Did you experience any ‘aha’ or ‘wow’ moment during your visit to the Golden Gate Highlands National Park? Please elaborate, if your answer is yes.

19. What feeling or effect do you still have or remember after visiting the Golden Gate Highlands National Park?

SECTION D: INCLUSION OF NATURE IN SELF

How interconnected are you with nature in general?



20. From the above image, kindly choose the picture which best describes your relationship with the natural environment.

Dropdown question: option 1 – 7 (Survey Monkey)

SECTION E: NATURE-RELATEDNESS

21. Kindly indicate the extent to which you agree or disagree with each of the following statements regarding your experiences in this national park by choosing the appropriate response on the scale, where:

1 = Strongly disagree;

5 = Strongly agree

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
E1. My ideal national park would be in a remote, wilderness area.	1	2	3	4	5
E2. I always think about how my actions affect the environment.	1	2	3	4	5
E3. My connection to nature and this national park is part of my spirituality.	1	2	3	4	5
E4. I take notice of wildlife wherever I am.	1	2	3	4	5
E5. My relationship to nature and this national park is an important part of who I am.	1	2	3	4	5
E6. I feel very connected to all living things and the earth.	1	2	3	4	5

NATURE-RELATEDNESS SCALE – Short version (Adapted from Nisbet & Zelenski, 2013)

22. Did you feel connected to nature in the Golden Gate Highlands National Park?

Yes	1	No	2
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23. Regarding your above answer, what made you feel this way?

24. Is there anything that you are aware of that may disrupt or hinder the quality of your experience in the Golden Gate Highlands National Park? Please elaborate.

SECTION F: ENVIRONMENTAL PROBLEMS

25. Which of the following potential environmental problems may affect the future of the Golden Gate Highlands National Park?

On a scale from 1 (I don't think this is a threat at all) to 5 (I think it is a great threat), please rate how threatening each of these environmental problems are to the future existence of the park. Choose the appropriate response on the scale.

	Not threatening	Less threatening	Moderately threatening	Threatening	Most threatening
F1. Climate change or unpredictable weather patterns	1	2	3	4	5
F2. Loss of biodiversity/wildlife	1	2	3	4	5
F3. Loss of wilderness areas	1	2	3	4	5
F4. Non-native plant and animals (i.e. exotic/alien invasive species)	1	2	3	4	5
F5. Overcrowding of visitors within the park	1	2	3	4	5
F6. Poaching of wildlife	1	2	3	4	5
F7. Pollution (air, land, water, noise, light)	1	2	3	4	5
F8. Desertification or water scarcity	1	2	3	4	5
F9. Recreational development and expansion	1	2	3	4	5
F10. Urban development	1	2	3	4	5

Adapted from Zylstra (2014)

26. In your opinion, which other threats do you think might influence the future existence of the Golden Gate Highlands National Park?

Thank you for your participation!

ANNEXURE E

From: SANParks Tourism Research <Tourism.Research@sanparks.org>
Sent: Friday, 15 January 2021 14:51
To: van Rensburg, Johan <Johan.vanRensburg@debeersgroup.com>
Subject: Place attachment - Mapungubwe National Park

This message originated outside De Beers Group and its businesses

Dear SANParks Visitor,

A PhD student from the University of South Africa is conducting research on visitors' attachments formed in national parks.

You were chosen to participate in this survey as you are a valuable stakeholder of SANParks. The research may assist SANParks in considering place attachment and place meanings in future management and development of the national parks.

The survey is anonymous, meaning that the researchers will have no way of connecting the information that you provide to you personally. If you choose to participate in this survey, it will take no more than 20 minutes of your time.

To participate in the survey, please click here: [Place attachment in Mapungubwe National Park](#)

If you have any questions or concerns regarding this survey, please contact the researcher, Tanya Erasmus at 074 565 0106 or 56520299@mylife.unisa.ac.za. Alternatively, you can contact the UNISA-CAES Health Research Ethics Committee on 011 670 9391.

We thank you for your time and contribution to this study.

If you no longer wish to receive any marketing or research related emails from SANParks, please [unsubscribe here](#).

Manager: Tourism Research

Visitor Services unit

South African National Parks

Tel: +2712 426 5000

Email: tourism.research@sanparks.org

www.sanparks.org

www.wildcard.co.za



In addition, Facebook invitations were posted by SANParks to the respective national park pages.



South African National Parks ▶ SANParks - Mapungubwe National Park

January 25 · 🌐

Find Mapungubwe National Park a special place? Please consider participating in this online survey by a PhD student from UNISA studying place meanings and place attachment. Click here to go to the questionnaire: <https://www.surveymonkey.com/r/HMDN6CF>

ANNEXURE F

CONFIDENTIALITY AND REMUNERATION CONTRACT BETWEEN RESEARCHER AND FIELDWORKER

FOR FIELDWORK TO BE CONDUCTED AT

MAPUNGUBWE NATIONAL PARK: 28 September to 1 October 2019

MARAKELE NATIONAL PARK: 1 October to 4 October 2019

The purpose of this contract is to lay out the terms and conditions by which the named fieldworker will be remunerated by the researcher.

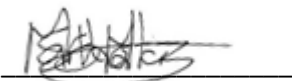
Researcher: Tanya Erasmus

Fieldworker: Mart-Mari Scholtz

Terms

1. The fieldworker will earn a remuneration of R45.00 per hour.
2. The fieldworker will be required to assist with interviews, observations and brief transcriptions from 08:00-16:00 at the national parks (8 hours per day).
3. The fieldworker must agree to a brief training session before the fieldwork.
4. The fieldworker will inform visitors of the purpose of the study and their rights.
5. The researcher undertakes to remunerate the fieldworker no later than 30 October 2019. Remuneration will be in cash only and requires the fieldworker to sign a document as proof that remuneration was received.
6. The fieldworker should bring an additional notebook to write down her/his own reflection during the fieldwork.
7. The fieldworker will ensure that information will be kept confidential.
8. The fieldworker will receive a Philips voice recorder, a pen, clipboard and a plastic satchel. If any items are lost or not returned, the researcher will subtract the items value from final payment to the fieldworker.

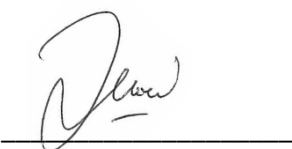
Signed at _____ Pretoria _____ this 23 day of September **2019**.



Fieldworker

_____ / 212115282

ID/Student Number



Witness

ANNEXURE G

INFORMED CONSENT LETTER

Title: A comparison of place attachment as a cultural ecosystem service in South African National Parks: an adaptive management strategy

Dear Prospective Participant

My name is Tanya Erasmus and I am doing research with Prof EP De Crom, a professor in the Department of Nature Conservation (TUT) and Ms ME Brand, a senior lecturer in the Department of Environmental Sciences towards a PhD at the University of South Africa. We are inviting you to participate in this study.

WHAT IS THE PURPOSE OF THE STUDY?

People have long felt the need to visit natural areas and to break away from their daily lives and stresses. Natural areas provide people with many benefits that can range from health and well-being, physical fitness as well as psychological benefits. It is argued that because of these benefits, natural areas (which include urban green spaces, protected areas, national parks and wilderness areas) are becoming increasingly more important. Not just because of these benefits to people, but also the conservation of the biodiversity of ecosystems and the species within. However, there is also a growing disconnect between people and nature. Some reasons for this disconnection includes; improved technology, modern urban lifestyles of people, increased habitat transformation and indoor lifestyles of children. One concern about this growing disconnection between people and the natural environment is that there will be a parallel decline in support for parks and protected areas and other conservation initiatives. As a result, there is an increasing recognition of the importance of less tangible or quantifiable benefits that people derive from nature and protected areas. Such benefits may be referred to as 'nature's gifts'. This study will focus on the intangible benefits and to determine the type of subjective experiences of visitors to SANParks; to what extent they experience it; and if such an experience plays a part in return visitation, place attachment and conservation efforts. These experiences are personal and may differ for every park. The results of this study could be of fundamental value to the management of SANParks and also contribute to the international literature on sense of place (place attachment) as a cultural ecosystem service.

WHY AM I BEING INVITED TO PARTICIPATE?

The population for this study will be South African and foreign visitors above the age of 18 to the SANParks. The term visitors refer to both day and overnight visitors, as both these visitors were deemed necessary to include in the study. The approximate number of participants in this research is about 500 for the quantitative phase and 50 for the qualitative phase.

WHAT IS THE NATURE OF MY PARTICIPATION IN THIS STUDY?

The study involves questionnaires, field observations or semi-structured interviews and voice recording (during interviews).

If you decide to take part in the study, you will be required to do the following:

Kindly sign this informed consent form and fill in a questionnaire indicating your level of agreement to the statements listed. A series of closed and open-ended questions are included. It may be completed at your own time and will take approximately 10 minutes to complete.

OR

Kindly sign this informed consent form and you will be informally interviewed/observed at any time you are willing. Please respond to the interview questions as openly and honestly

as you can. Feel free to end the interview at any time. Each interview will be conducted verbally, with the researcher completing the interview schedule and might take approximately 20–60 minutes to complete. The researcher will make use of a voice recorder during interviews and the content will be transcribed for analysis.

CAN I WITHDRAW FROM THIS STUDY EVEN AFTER HAVING AGREED TO PARTICIPATE?

Participating in this study is voluntary and you are under no obligation to consent to participation. If you do decide to take part, you will be given this information sheet to keep and be asked to sign a written consent form. You are free to withdraw at any time and without giving a reason.

WHAT ARE THE POTENTIAL BENEFITS OF TAKING PART IN THIS STUDY?

You can help with the improving of the quality of the nature experiences in South African National Parks in the future. To help the scientific communities better understand the importance of 'sense of place' on the emotional state and experiences within natural areas for visitors. The outcome of the study can change the way developers see the environment and can make them realise the importance of considering people's feelings and/or preferences towards the environment first.

ARE THERE ANY NEGATIVE CONSEQUENCES FOR ME IF I PARTICIPATE IN THE RESEARCH PROJECT?

You might find it difficult to express yourself. Articulating your feelings of attachment, connection or meaningful nature experiences may touch on an emotionally sensitive time in your life. In such a case, you are not obliged to share such personal information. However, any such information shared will be treated without judgment and with the greatest sensitivity and confidentiality. Information can be withheld upon your request (or 'off-the-record') for the purposes of the study.

WILL THE INFORMATION THAT I CONVEY TO THE RESEARCHER AND MY IDENTITY BE KEPT CONFIDENTIAL?

You have the right to insist that your name will not be recorded anywhere and that no one, apart from the researcher and identified members of the research team, will know about your involvement in this research. In addition, no one will be able to connect you to the answers you give. Your answers will be given a code number or a pseudonym and you will be referred to in this way in the data, any publications, or other research reporting methods such as conference proceedings. Your answers may be reviewed by people responsible for making sure that research is done properly, including the transcriber, external coder, and members of the Research Ethics Review Committee. Otherwise, any transcripts and/or recorded materials that identify you will be available only to people working on the study, unless you give permission for other people to see the records.

HOW WILL THE RESEARCHER(S) PROTECT THE SECURITY OF DATA?

Hard copies of your answers will be stored by the researcher for a period of five years in a locked cupboard/filing cabinet at the institution for future research or academic purposes; electronic information will be stored on a password protected computer. Future use of the stored data will be subject to further Research Ethics Review and approval if applicable. After five years, hard copies will be shredded and/or electronic copies will be permanently deleted from the hard drive of the computer through the use of a relevant software programme.

WILL I RECEIVE PAYMENT OR ANY INCENTIVES FOR PARTICIPATING IN THIS STUDY?

Kindly note that you will neither be paid nor be given an incentive to participate in the study.

HAS THE STUDY RECEIVED ETHICS APPROVAL?

This study has received written approval from the Research Ethics Review Committee of the College of Agriculture and Environmental Sciences, UNISA. A copy of the approval letter can be obtained from the researcher if you so wish.

HOW WILL I BE INFORMED OF THE FINDINGS/RESULTS OF THE RESEARCH?

If you would like to be informed of the final research findings, require any further information or want to contact the researcher about any aspect of this study, please contact Tanya Erasmus on 074 565 0106 or tanyaer@vut.ac.za.

Should you have concerns about the way in which the research has been conducted, you may contact Prof EP De Crom on 012 382 4194 or decromep@tut.ac.za or Ms ME Brand on 011 471 2355 or bbrand@unisa.ac.za. Contact the research ethics chairperson of the UNISA-CAES Health Research Ethics Review Committee, Prof MA Antwi on 011 670 9391 or antwima@unisa.ac.za if you have any ethical concerns.

Thank you for taking time to read this information sheet and for participating in this study.

Thank you.

Tanya Erasmus

CONSENT TO PARTICIPATE IN THIS STUDY

I, _____ (participant name), confirm that the person asking my consent to take part in this research has told me about the nature, procedure, potential benefits and anticipated inconvenience of participation.

I have read (or had explained to me) and understood the study as explained in the information sheet.

I have had sufficient opportunity to ask questions and am prepared to participate in the study.

I understand that my participation is voluntary and that I am free to withdraw at any time without penalty (if applicable).

I am aware that the findings of this study will be processed into a research report, journal publications and/or conference proceedings, but that my participation will be kept confidential unless otherwise specified.

I agree to the recording of the interview.

I have received a signed copy of the informed consent agreement.

Participant Name & Surname..... (please print)

Participant Signature.....Date:.....

Researcher's (Assistant) Name & Surname..... (please print)

Researcher's signature.....Date:.....

ANNEXURE H
ETHICAL CLEARANCE



UNISA-CAES HEALTH RESEARCH ETHICS COMMITTEE

Date: 05/10/2020

Dear Ms Erasmus

NHREC Registration # : REC-170616-051
ERC Reference # : 2018/CAES/011
Name : Ms T Erasmus
Student # : 59520299

**Decision: Ethics Approval of
Amendment and Renewal of
Approval after Second Review**

Researcher(s): Ms T Erasmus
59520299@mylife.unisa.ac.za

Supervisor (s): Prof EP De Crom
decromep@tuf.ac.za; 012-382-4194

Ms ME Brand
bbrand@unisa.ac.za; 011-471-2355

Working title of research:

A comparison of place attachment as a cultural ecosystem service in South African national parks: an adaptive management strategy

Qualification: PhD Environmental Management

Thank you for the submission of your progress report to UNISA-CAES Health Research Ethics Committee for the above mentioned research. Ethics approval is renewed for a one-year period. After one year the researcher is required to submit a progress report, upon which the ethics clearance may be renewed for another year.

Furthermore, the following amendments are approved:

- The use of online platforms for the questionnaires and interviews.
- Addition of social media analysis as a data collection method.

Due date for progress report: 31 January 2022



University of South Africa
Pretter Street, Muckleneuk Ridge, City of Tshwane
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The low risk application was reviewed by the UNISA-CAES Health Research Ethics Committee on 01 October 2020 in compliance with the Unisa Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment.

The proposed research may now commence with the provisions that:

1. The researcher will ensure that the research project adheres to the relevant guidelines set out in the Unisa Covid-19 position statement on research ethics attached.
2. The researcher(s) will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.
3. Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study should be communicated in writing to the Committee.
4. The researcher(s) will conduct the study according to the methods and procedures set out in the approved application.
5. Any changes that can affect the study-related risks for the research participants, particularly in terms of assurances made with regards to the protection of participants' privacy and the confidentiality of the data, should be reported to the Committee in writing, accompanied by a progress report.
6. The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study. Adherence to the following South African legislation is important, if applicable: Protection of Personal Information Act, no 4 of 2013; Children's act no 38 of 2005 and the National Health Act, no 61 of 2003.
7. Only de-identified research data may be used for secondary research purposes in future on condition that the research objectives are similar to those of the original research. Secondary use of identifiable human research data require additional ethics clearance.
8. No field work activities may continue after the expiry date. Submission of a completed research ethics progress report will constitute an application for renewal of Ethics Research Committee approval.

Note:

*The reference number **2018/CAES/011** should be clearly indicated on all forms of communication with the intended research participants, as well as with the Committee.*

Yours sincerely,

 URERC 25.04.17 - Decision template (V2) - Approve

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Prof MA Antwi
Chair of UNISA-CAES Health REC
E-mail: antwi@unisa.ac.za
Tel: (011) 670-9391



Prof SR Magano
Acting Executive Dean : CAES
E-mail: magano@unisa.ac.za
Tel: (011) 471-3649



URERC 23.04.17 - Decision template (V2) - Approve

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ANNEXURE I

R Tourism Research Agreement: SANParks / Tanya Erasmus - PAC/2018/02



Research Project Addendum Approval

Title

A comparison of place attachment as a cultural ecosystem service in South African National Parks: an adaptive management strategy

Senior Researcher and co-workers

Erasmus, T. UNISA (PhD student, Main researcher)
De Crom, E.P. TUT (Supervisor)
Brand, M.E. UNISA (Co-supervisor)

SANParks coordinator

Liandi Slabbert

Duration of study

2018 – 2021/2022

Study Area

Golden Gate Highlands National Park
Kgalagadi Transfrontier Park
Kruger National Park
Mapungubwe National Park
Marakele National Park
Mountain Zebra National Park

Project category

Tourism

Reason for Addendum: Extension of the research agreement required.
Research could not be completed in 2020 due to challenges related to COVID-19. New completion date: April 2022.

SIGNED AT Pretoria ON THIS 01 DAY OF March 2021

AS WITNESS

Reference:

1. [Signature]

[Signature]
Researcher

2. [Signature]

FOR OFFICIAL USE ONLY

The signatures below indicate that the project addendum has been approved as an amendment to research agreement number:

Manager Visitor Services: _____ Date: 3/3/2021

[Signature] _____

APPROVED NOT APPROVED

Reason for decision:

ANNEXURE J

SANParks visited by all respondents – Last three years

Parks	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16	C17	C18	C19
C1. Addo Elephant NP	87	36	22	37	34	39	55	25	43	33	31	12	18	28	58	22	45	25	41
C2. Agulhas NP	1	5	0	1	2	2	2	0	3	1	1	1	1	3	2	2	4	3	4
C3. Ai-Ais/Richtersveld	8	6	15	9	8	3	9	5	7	7	11	4	4	7	8	11	8	7	9
C4. Au-grabies Falls NP	5	6	5	11	4	5	9	4	4	6	7	3	3	3	5	5	8	6	9
C5. Bontebok NP	2	1	1	1	3	0	2	0	2	0	0	0	0	0	0	0	1	0	2
C6. Camdeboo NP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C7. Garden Route NP	34	27	15	19	27	22	74	23	31	24	36	11	14	19	21	15	48	22	20
C8. Golden Gate NP	4	4	2	2	3	3	3	8	3	2	3	3	3	2	4	2	4	3	6
C9. Karoo NP	20	21	11	10	17	17	19	12	25	8	14	10	9	16	17	11	10	12	17
C10. Kgalagadi NP	224	151	138	246	130	132	211	160	241	398	287	97	98	156	164	145	216	153	219
C11. Kruger NP	533	344	244	399	311	359	541	513	524	397	1132	294	345	346	393	287	501	248	467
C12. Mapungubwe NP	6	4	5	7	3	6	5	12	6	5	13	13	12	6	6	4	9	5	10
C13. Marakele NP	2	3	2	5	1	4	4	6	2	5	7	3	8	4	4	2	5	2	3
C14. Mokala NP	22	14	13	19	16	18	20	19	21	15	18	11	10	33	21	13	20	14	21
C15. Mountain Zebra NP	46	26	8	21	20	25	38	17	35	21	29	10	11	22	52	11	30	13	22
C16. Namaqua NP	4	4	3	4	1	4	6	4	4	4	5	2	2	3	2	8	4	5	5
C17. Table Mountain NP	7	11	3	6	3	5	11	1	6	6	8	4	2	3	5	6	13	4	10

	2	6	873
	4	2	528
	2	3	931
	0	0	544
	2	1	765
	1	1	653
	0	1	541
	0	0	478
	2	3	1607
	1	0	933
	2	3	962
	4	2	815
	1	4	1014
	1	0	645
	2	0	585
	0	1	798
	2	1	490
	2	3	668
C18. Tankwa Karoo NP	2	1	1008
C19. West Coast NP			
Park Total			

Total % visited each park (park total/total respondents)

46%
28%
49%
28%
40%
34%
28%
25%
85%
49%
50%
43%
53%
34%
31%
42%
26%
35%
53%

Below: % respondents' favourite parks / each park total

Favourite parks % (yellow number per park/park total)

1,0%
1%
1%
1%
7%
5%
1%
3%
70%
43%
3%
1%
7%
0%
1%
1%
3%
1%
9%

Below: % respondents' favourite parks / total of respondents

Yellow = Favourite parks (Total respondents) Total: 1895

0,30%
0,2%
1%
0,4%
3%
2%
0,4%
1%
60%
21%
1%
0,5%
4%
0%
0,2%
1%
1%
0,3%
5%

ANNEXURE K

VITAL ATTRIBUTES OF THE RESPECTIVE NATIONAL PARKS:

GGHNP	<ol style="list-style-type: none"> 1. Majestic mountains and geological features; 2. Montane grassland ecosystems; 3. Special and unique species associated with landscape (such as Bearded Vultures, Oribi). 4. A key water source area and catchment in South Africa; 5. Exceptional palaeontology; 6. Extraordinary sense of place; 7. Value as a tourism hub; 8. Unique cultural heritage and history; 9. Use of a range of natural resources; 10. Important role-player in the Maluti-Drakensberg Transfrontier Conservation Area; 11. Robust relationships with local stakeholders; 12. Education and awareness opportunities for a range of stakeholders; 13. Dynamic, friendly and informed staff.
KNP	<ol style="list-style-type: none"> 1. A flagship South African wildlife attraction and iconic local experience; 2. Diverse and unique visitor experiences across a local and international range of conservation-friendly land uses; 3. The park is a catalyst for tourism and economic development in the region; 4. An international recognised brand and global tourism destination for a unique African wildlife experience in a safe, large protected area; 5. The park uniquely located in a diverse regional landscape with multiple land uses; 6. Multiple, diverse rivers across the park, promoting biodiversity and regional socio ecological connectedness; 7. Largely intact biota and ecological processes; 8. The park is one of the last remaining protected areas in South Africa which contains large undeveloped areas contributing to a wilderness qualities sense of place; 9. Rich and unique natural, historical and cultural heritage; 10. Well-developed infrastructure; 11. Internationally recognised long-term institutional management experience and reputation affording insight and foundations which support management decisions; and 12. Diverse stakeholder relations and co-operative governance.
KTP	<ol style="list-style-type: none"> 1. One of the largest contiguous conservation areas in the world that allows for a fully functioning open large predator-prey system; 2. Cultural heritage, including the land ownership of the Khomani San and Mier communities and symbolic rights of the Khomani San; 3. Successful joint management of the Kgalagadi Transfrontier Park; 4. Uniqueness (vastness / remoteness / wildness) of the landscape; 5. Iconic species; 6. The park is an economic driver / hub / catalyst in the region.
MapNP	<ol style="list-style-type: none"> 1. Cultural heritage resources, including of history and stories, are unique and of global significance; 2. Biodiversity, with iconic species in a unique geological landscape, with prominent geomorphological features that form a complex system; 3. Uniquely integrated in the Mapungubwe Cultural Landscape, Vhembe Biosphere and Greater Mapungubwe Transfrontier Conservation Area;

	<p>4. Wilderness experience and natural sense of place; and</p> <p>5. Interactive and diverse tourism experience, that allows for a unique ancient African reconnection.</p>
MarNP	<p>1. There is a diversity of stakeholders, each of which brings knowledge and expertise to the cooperation and SANParks is recognised as being able to provide particular skills in conservation and tourism.</p> <p>2. Marakele is an important element of the IUCN-recognised Waterberg Biosphere Reserve and falls within a South African National Biodiversity Institute (SANBI) recognised biodiversity hotspot.</p> <p>3. Nature based responsible tourism provides a long-term economic option in the region. There is currently a good diversity of adventure tourism activities and infrastructure in the region based on both cultural (pioneer country) and resource (wildlife and outdoor) markets. The area is malaria and bilharzia free and located near a large regional market (Gauteng).</p> <p>4. The mountain massif provides a large altitudinal range, a wide-open-space visual aesthetic and associated biodiversity within a short distance.</p> <p>5. Vital biodiversity attributes include the Cape vulture <i>Gyps coprotheres</i> breeding colonies, Waterberg cycad <i>Encephalartos eugene maraisii</i>, and a very wide range of vegetation types including Kalahari bushveld in the lowlands, and fynbos elements on the mountain.</p> <p>6. Many headwater streams arise within the park and contribute to important aquatic ecosystem services related to flow of good quality water to surrounding landscapes, for various livelihood benefits.</p> <p>7. Key important white and important black rhino populations.</p>
MZNP	<p>1. The park's biodiversity assets, primarily the ecological gradients, geology, soil and climate that produce the particular drainage lines, catchments and faunal and floral assemblages typical of the north-eastern Karoo-Grassland-Thicket interface;</p> <p>2. The park is a tourism drawcard in the region;</p> <p>3. Cultural heritage sites (including San rock paintings and engravings, grave sites, historical buildings etc.);</p> <p>4. Contribution to local economy (employment and procurement);</p> <p>5. Well established and growing tourism products;</p> <p>6. Conservation of important vegetation types and plant communities;</p> <p>7. The variable landscapes with uninterrupted views, nightscapes, wilderness qualities and tranquil atmosphere within an unpolluted environment;</p> <p>8. Contribution to metapopulations of Cape mountain zebra, black rhino and cheetah;</p> <p>9. Hospitality of staff;</p> <p>10. Conserving species of special concern;</p> <p>11. Entire catchment of the Wilgerboom River within the park;</p> <p>12. The park is an outdoor laboratory for learning opportunities.</p>

(SANParks, 2014; 2016a; 2016b; 2018b; 2019b; 2020b)