

A critical assessment of marine wildlife voluntourism in Southern Africa

CD Cilliers



orcid.org/0000-0002-3260-6192

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Promoter: Prof S Lucrezi

Co-Promoter: Prof P van der Merwe

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Student number: 31390560

DECLARATION OF PERSONAL WORK

"By 2050 there is going to be more plastic (by weight) than fish in the sea"

~ Melinda Watson

I, Charmaine Danielle Cilliers, identity number 9407240017085 and university number 31390560, hereby declare that this thesis registered as "A critical assessment of marine wildlife voluntourism in Southern Africa" as part of the completion of my Doctor of Philosophy in Tourism Management at the Potchefstroom Campus of the North-West University, is being submitted as my work, and complies with the Code of Academic Integrity, as well as other relevant policies, procedures, rules and regulations of the North-West University, and has not been submitted before to any institution by myself or any other person in fulfilment (or partial fulfilment) of the requirements for the attainment of any qualification.



19/11/2021

Ms CD Cilliers
Student

Date



19/11/2021

Dr S Lucrezi
Promotor

Date



21/11/2021

Prof P Van der Merwe
Co-Promotor

Date

FINANCIAL ASSISTANCE

"No water, no life, no blue, no green"

~ Sylvia Earle

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“There can be no greater issue than that of conservation in this country”

~ Theodore Roosevelt

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ABSTRACT

“We can’t save the earth by playing by the rules. The rules have to be changed”

~ Greta Thunberg

Marine wildlife tourism (MWT) is growing rapidly and is promoted as a sustainable activity that contributes to conservation. MWT, however, can also be considered as mass tourism that can be harmful to a destination and marine ecosystems. Volunteer tourism or voluntourism (VT) has become a popular alternative form of tourism compared to mass tourism. Southern Africa is a popular VT destination and offers a variety of opportunities for VT, especially marine wildlife voluntourism (MVT). MVT was developed to promote marine conservation and science while enjoying a coastal destination with its attractions. More people want to participate in MVT to support the protection of different wildlife and ecosystems, contribute to conservation issues, participate in scientific activities revolving around conservation, and increase their knowledge. MVT can have important effects on conservation, voluntourists, the local environment, community and economies, science, decision making and policy. However, there has been limited research on MVT in Southern Africa, specifically revolving around the structure of MVT.

The primary goal of this study was to carry out a critical assessment of MVT in Southern Africa. This included an in-depth analysis of both demand and supply sides across selected types of MVT for comparative purposes. Through this assessment, this research contributed to the knowledge base regarding MVT in Southern Africa and globally. The goal of the study was realised by setting four objectives. The first two objectives were achieved through a literature analysis of MWT, VT and MVT (including a content analysis of web-based information concerning MVT).

The third objective was achieved by assessing the structure of MVT in Southern Africa through a mixed-method research approach. MVT organisations were approached at three case study sites, South Africa, Mozambique and Madagascar. Between 25 June 2019 and 25 June 2020, structured questionnaire surveys and semi-structured interviews were used to collect data from the voluntourists at the case study sites. A total of 142 questionnaires were completed and 30 interviews were conducted with the voluntourists. An online structured questionnaire survey was used to collect data from

voluntourists internationally, to compare data with the case study sites. A total of 211 questionnaires were completed. Semi-structured interviews ($n = 24$) and a business model canvas were used to collect data from the staff at the case study sites. The data from the questionnaires were analysed using the software Tibco Statistica (Version 13.3, 2020) and the Statistical Package for the Social Sciences (SPSS Version 25, 2017) with extensions such as Analysis of Moment Structure (AMOS). The data obtained from the questionnaires were analysed using a variety of statistical analyses, and the data from the interviews were analysed via thematic analysis.

The results showed that the voluntourists at the case studies and internationally were mostly similar. The business model canvas and key characteristics of the MVT organisations at the three case study sites were similar to the business model canvas of MVT analysed in the literature and the internet. Marine wildlife voluntourists were motivated to participate in MVT by ecocentric, personal development, personal well-being, and social values reasons. They had ecocentric and activities-related preferences. They had expectations towards overall programme quality, detailed information, and a quality destination. Their satisfaction with the MVT experience revolved around destination and interactions, information and education, and overall programme quality. Perceived ethical conduct of the MVT organisation was an important factor to the voluntourists. Post-experience attitudes included attitudes towards education, the environment, compliance and advocacy, volunteering, citizen science (CS), career choices, and paying for conservation. The voluntourists were clustered into young enthusiasts, mature voluntourists, neutral elders and satisfied elders. The results showed that MVT seemingly draws different clusters, each one of which represents a phase in what could be called a marine voluntourist's path.

Motivation to participate in MVT and expectations towards MVT were hypothesised to influence satisfaction with MVT, perceived ethical conduct of the MVT organisation, and the attitudes of voluntourists. Indeed, motivations and expectations positively influenced satisfaction, the perceived ethical conduct of the MVT organisation and attitudes. Both satisfaction and perceived ethical conduct of the MVT organisation partially mediated the relationship between motivations and attitudes, and expectations and attitudes. The determinants of satisfaction and attitude were explored with regression models. Overall, perceived ethical conduct of the MVT

organisation and motivations were significant positive determinants of satisfaction and attitude. Only one motivation factor had a negative influence on two attitude factors.

The last objective was to use the information and outcomes of Objectives 1-3 to conclude, make the necessary recommendations and identify the contributions of this study. Recommendations included marketing and management as well as future research. The study provided various theoretical and practical contributions. Based on the critical assessment, new information was generated on the structure of MVT in Southern Africa, which is also generalisable. More research such as this would contribute to a better understanding of MVT in Southern Africa and globally, and guide its sustainable development.

Keywords: *critical assessment, voluntourism, marine wildlife voluntourism, travel motivation, tourism experience, tourism satisfaction, environmental attitude, citizen science, marine conservation, ethical conduct.*

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~ Howard Zinn

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“We are the last generation with a real opportunity to save the world”

~ Laurence Overmire

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“I have no special talent. I am only passionately curious”

~ Albert Einstein

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LIST OF ABBREVIATIONS

“Life’s most urgent question is: What are you doing for others?”

~ Martin Luther King Jr.

Abbreviation	Meaning
AMOS	: Analysis of Moment Structure
ANOVA	: Analysis of variance
CEFA	: Confirmatory exploratory factor analysis
CS	: Citizen science
EBS	: Environmental or biological sciences
EFA	: Exploratory factor analysis
EMS-REC	: Economic and Management Sciences Research Ethics Committee
IT	: Information Technology
MCS	: Marine citizen science
MD	: Madagascar
MPA	: Marine Protected area
MS	: Mozambique
MT	: Marine tourism
MVT	: Marine wildlife voluntourism
MWT	: Marine wildlife tourism
NGO	: Non-governmental organisation
NPO	: Non-profit organisation
PERT	: Participatory environmental research tourism
SA	: South Africa
SD	: Standard deviation
SE	: Standard error
SEM	: Structural equation modelling
SPSS	: Statistical Package for the Social Sciences
USA	: United States of America
VT	: Volunteer tourism / voluntourism

CHAPTER 1: INTRODUCTION AND PROBLEM STATEMENT

"When it comes to marine life, our existence depends upon their existence"

~ June Stoyer

1.1. INTRODUCTION

Volunteer tourism or voluntourism (VT) has been receiving much attention in tourism research and has become an important phenomenon, particularly due to its altruistic nature and the positive contribution it can provide to the sustainable growth of the tourism industry globally (Chen & Chen, 2011:435; Kainthola, Tiwari & Chowdhary, 2021:122; Mittelberg & Palgi, 2011:109; Mustonen, 2005:165; Wearing & Grabowski, 2011:194; Wickens, 2011:43). Clary *et al.* (1998:1517) introduced volunteers as people looking for opportunities to assist others, make commitments and deliberate about their involvement in volunteer activities. One needs to delve into the reasons behind people engaging in volunteering and VT to understand the benefits and potentials underpinning these activities. Cultural immersion, giving back and making a difference, seeking educational and bonding opportunities, conservation, scientific contribution, adventure, personal growth, and professional development are just some examples of travel motivations marking the journey of voluntourists around the world (Brown, 2005:487; Campbell & Smith, 2006:89; Mostafanezhad, 2012:326; Wearing & McGehee, 2013:123). The growth of VT is supported by the phenomenon of globalisation together with technological advances, better communication, and the ability to travel more easily and reach remote areas (Albu, Baltescu & Chitu, 2017:109; Kontogeorgopoulos, 2017:1). As a result, the capacity of the VT industry is significant and the portfolio of activities and locations that can be visited is varied (Barbieri, Santos & Katsube, 2012:510; Kontogeorgopoulos, 2017:1).¹

The attractiveness of coastal destinations in developing countries, as well as the need for help in management, monitoring and conservation efforts in these areas, has led to the creation of a marine VT market and, in particular, one revolving around marine

¹ Tourism trends, in general, have been altered by the COVID-19 pandemic (Fotiadis, Polyzos & Huan, 2020:1). Given its nature as a tourism type attracting international travel, VT has been severely hit by the consequences of the pandemic (King, Iba & Clifton, 2021:1). The result may be a shift in the marketing strategy for VT, attracting more domestic travellers.

wildlife species, hereafter referred to as marine wildlife voluntourism (MVT) (Campbell & Smith, 2005:169; Kitney, Stanway & Ryan, 2018:1091). Charismatic and vulnerable species such as turtles, penguins, dolphins, corals, and sharks possess qualities that are attractive to tourists (Campbell & Smith, 2006:84; Shum, Benham, Jones & Ariel, 2021:1). These species are often located in areas that need assistance in raising awareness of marine issues and increasing conservation efforts. These areas include developing countries with extensive coastlines and limited resources to manage the conservation of species (Roques, Jacobson & McCleery, 2018:1; Shum *et al.*, 2021:387; Young, 2010:441). It may be assumed that these countries will either have or require a well-established and solid network of VT, taking advantage of the growing interest of people in ocean issues and the status of marine species. There is some evidence from popular VT search engines that developing countries are aiming to reach an MVT market, and that MVT is somewhat popular (Appendix 1). Literature focusing on VT in marine habitats and wildlife is, however, scant (Appendix 2). This raises two questions. Firstly, whether or not the potential of MVT is being properly and fully tapped? Secondly, what can assist in the development and growth of sustainable and meaningful forms of MVT? These questions are especially applicable to countries that could benefit greatly from this type of tourism. To be successful, VT needs to have a sustainable impact on the natural, economic and social environment of a destination and, at the same time, avoid transforming into another type of tourism based on the commodification of altruistic intent (Wearing & McGehee, 2013:127).

This study focused on bridging the gap between the growing market of MVT in developing countries and a general lack of information on MVT, its potential and its impacts. Southern Africa was the main destination for this research, with a focus on South Africa, Mozambique, and Madagascar. There are three reasons for this:

- 1) these countries have extensive coastlines and require considerable management and conservation efforts for seascapes and species (Greenan, Griffiths & Santamaria, 2018:1; Hatton & Couto, 1992:49; Motta, Rodrigues & Schleyer, 2000:43).
- 2) these countries host several charismatic and vulnerable marine wildlife species that tend to move across trans-frontier boundaries between the same countries (Sink *et al.* 2011:5).

- 3) based on the literature search (see also Appendix 2), there is limited understanding of the dynamics of MVT in these countries.

This study intended to carry out a critical assessment of the *status quo* regarding MVT at the case study sites, to establish proper marketing and management guidelines for the development of MVT. The assessment was broken down into the following components: general literature analysis of marine wildlife tourism (MWT), VT and MVT, and content analysis of the offer of MVT; and analysis of MVT from the demand and supply side, using empirical research. The analysis of the demand and supply sides included multi-dimensional components and the testing of theoretical models that could be relevant to understanding MVT. At the case study sites, organisations with different structures and focusing on different species were selected. This selection enabled important comparisons between MVT types. The demand side analysis at the case study sites was also complemented with broader demand side analysis using an online survey. The outcomes of this research could be generalised, where appropriate, to other developing countries and similar realities, also thanks to the application of the demand side analysis to an international context, using the online survey. The outcomes of this study aimed to contribute to the body of knowledge of MVT, and understanding and unpacking its potential. The following sections include a background to the research, research problem, the goal and objectives of the research, a description of the method, ethical considerations, a definition of key concepts, and chapter classification.

1.2. BACKGROUND TO THE STUDY

The following section provides the background to the study.

1.2.1. VOLUNTOURISM: DEFINITION, CHARACTERISTICS, AND BENEFITS

A precise definition of VT has been provided by several authors. Wearing (2001:1) defines VT as taking a holiday to a destination where one becomes involved in organised volunteer activities, which can include assisting in reducing poverty in society, restoring the environment, or contributing to research in society and environments. Brown (2005:480) defines VT from a tour operator viewpoint as a tourism niche, where tour operators provide tourists with a travel opportunity to become involved in optional voluntary excursions and cultural exchange. McGehee

and Santos (2005:760) define VT as a non-compulsory activity that tourists can take, using their time and money to go out of their way to help others in need. According to Sin (2009:480) and the Department of Tourism in South Africa (2017:5), VT involves tourists who participate in volunteer work in local communities as part of a unique travel opportunity. Further studies categorise VT as alternative tourism (Uriely, Reichel & Ron, 2003:61) and justice tourism (Stoddart & Rogerson, 2004:311). From the various definitions, VT can be described as tourists travelling to a destination and participating in non-profit work that will benefit other people, cultures, economies, and environments.

There are two main categories of VT. These are formal, which is organised by associations and organisations and informal, which is done directly amongst the people and without the use of an official intermediary (United Nations Volunteer Programme, 2018:102). Within these categories, there are different types of VT activities identified in both the literature (Alexander, 2012b:119; Cousins, 2008:1025; Lee, Reisinger, Kim & Yoon, 2014:36) and some of the major search engines for VT (Earthwatch.org, Goabroad.com, Gooverseas.com, Projects-abroad.org, Volunteerworld.com, Voluntourism.org). These activities revolve around animals (marine, wildlife and stray animals), community (childcare, construction and orphanage), education (English teaching, primary school and special needs), environment (climate change, agriculture, conservation work, energy and water), healthcare (medical training, nutrition and food) and non-governmental organisation (NGO) support (business development, marketing, information technology (IT) and management). According to the VT search engines listed above, trending topics for VT at the time of this study (2019-2021) included education, marine conservation, animals and wildlife, and childcare.

Voluntourists can play an important role at destinations where they carry out their work. One of their main characteristics is the provision of free labour in activities that would normally demand a monetary reward (Davies & Olivier, 2016:6; Tomazos & Butler, 2012:177). Additionally, VT has been identified as providing important contributions to scientific research and discovery through the voluntary collection or provision of data and information during organised scientific expeditions in conservation areas (protected areas, nature reserves and national parks) and other

locations such as research institutes and wildlife rehabilitation centres (Brown, 2005:487; Campbell & Smith, 2006:89; Ellis, 2003b:45; Mostafanezhad, 2012:336; Wearing & McGehee, 2013:123; Wearing, 2001:2). VT can contribute to several research fields, from medicine to biology and archaeology (Broad, 2003:63; Godfrey, Wearing & Schlenker, 2015:112; Kaminski, Arnold & Benson, 2011:157).

1.2.2. MARINE WILDLIFE VOLUNTOURISM

VT in marine settings owes its popularity and fascination to it revolving around coastal and offshore locations, from tropical to temperate and Polar Regions, and to the possibility of accessing many wildlife species (Koss & Kingsley, 2010:447; Otley & Ingham, 2003:1534; Thiel *et al.* 2014:257). VT in marine settings can simultaneously address growing interests in the marine environment and wildlife, thus being considered partly a form of MWT. MWT entails sightings of, and encounters with, non-domesticated animals, generally in their natural habitat (Higginbottom, 2004:2). It ultimately involves studying, viewing, and enjoying marine wildlife, and is most popular when it revolves around charismatic and iconic species such as whales, dolphins, sharks, turtles, and birds, as well as coral reefs (Masters, 1998:1). This form of tourism has been identified as playing an essential role in tourism development (Shum *et al.*, 2021:1; Xu, Fu & Jia, 2018:632) and the economy of various countries through the improvement of income and employment creation (Bob, Swart, Ngalawa & Nzimande, 2018:202; Zulpikar, Tambunan, Utami & Kiyat, 2018:34). Due to its key attributes, including the ability to contribute to education, awareness-raising, conservation, science, livelihoods, and economies, MWT has stimulated the growth in MVT (Dobson, 2007:67).

Some of the benefits of MVT to destinations include increasing foreign exchange earnings, capacity building, conservation, poverty alleviation, environmental protection, increasing social awareness, and increasing scientific knowledge (Barbieri *et al.* 2012:509; Clifton & Benson, 2006:238; Gray & Campbell, 2007:463; Roques *et al.*, 2018:387; Shum *et al.*, 2021:1; Wearing, 2001:5). Benefits to the tourist include personal growth, cross-cultural understanding, production of active learning, emotional satisfaction, a sense of achievement, increasing social awareness, and increasing self-awareness (Coghlan & Gooch, 2011:713; Guttentag, 2015:69; Thiel *et al.* 2014:281). Tourists are usually motivated by altruistic motives, stay for long periods

at the destination, and provide direct contributions to the host community (Govender & Rogerson, 2010:7). However, MVT can also have negative impacts including promotion of dependency, greenwashing, the commodification of nature and conservation, a negative impact on host culture, the exploitation of local people and money leakages (Duffy, 2008:327; Guttentag, 2009:538; King & Stewart, 1996:293; Smith & Font, 2014:948).

1.2.3. MARINE WILDLIFE VOLUNTOURISM IN SOUTHERN AFRICA

VT has been growing in African countries, particularly Southern African ones that tend to offer greater levels of health and safety for tourists when compared to less fortunate countries affected by disease outbreaks or socio-political instabilities (Anderson & Cairncross, 2005:9; Keese, 2011:262). In 2016, neighbouring countries including South Africa and Mozambique had 331 366 and 315 088 volunteers, respectively (United Nations Volunteer Programme, 2018:102). According to the search engine Volunteerworld.com (© 2021), VT rates have increased over the last few years (at least until the outbreak of COVID-19), although it is unclear to what extent.

As of 2019, just before the outbreak of the pandemic, Southern African countries stood out as hotspots for VT, as highlighted by global VT search engines (Alexander, 2012b:119). Southern Africa has an extensive coastline spanning different latitudes and thus offering a variety of tourism opportunities in marine settings. South Africa, for instance, is rich in marine fauna and flora due to the extreme divergence between the East and the West coast water masses (Branch, Griffiths, Branch & Beckley, 2008:1). The country holds the advantage of offering habitat and migratory routes to some iconic marine wildlife species, such as the great white shark (*Carcharodon carcharias*), the African penguin (*Spheniscus demersus*), the bottlenose dolphin (*Tursiops spp.*), whales, and loggerhead and leatherback turtles (*Caretta caretta* and *Dermochelys coriacea*) (Branch *et al.* 2008:212; Petres, 2003:216; Seddon & Ellenberg, 2007:164; Speedie, 2003:207). Given the mobile nature of these marine wildlife species, the establishment of trans-frontier marine conservation areas has meant spillover conservation benefits to species in neighbouring countries, such as Mozambique and Madagascar, with the consequent establishment and development of MWT in these countries (National Research Council, 2001:19). MWT is well-rooted in South Africa and neighbouring coastal countries including Mozambique and Madagascar. This has

enabled the emergence of some forms of MVT in these countries, mainly as a collaboration between the marine tourism (MT) sector, scientists, conservationists, and organisations (Roques *et al.* 2018:382; Appendix 1 and 2).

Appendix 1 provides a summary of the types of MVT programmes offered in South Africa, Mozambique, and Madagascar (at the time of the research in 2019-2020 and excluding the effects of COVID-19), including the location, species of interest, duration, price per week and work expected from the volunteers. The current structure of MVT in these countries is peculiar. Overall, they offer fewer MVT programmes in comparison with other popular MVT destinations including North and South America. Nevertheless, according to Volunteerworld.com (© 2021), South Africa alone was expected to be one of the most sought after MVT destinations for the years 2019-2020 (this was before the COVID-19 pandemic). This is an indication that MVT in Southern Africa is popular, regardless of the portfolio of projects offered.

One way to shed light on the reasons behind the putative popularity of MVT in Southern Africa is to have an idea of the projects offered here. Setting aside the various characteristics of the programmes, what stands out from Appendix 1 is that the majority of the programmes focus on charismatic, unique, vulnerable and conservation value-laden species like the great white shark and the African penguin. Based on this analysis, it may be assumed that MVT projects revolving around such species hold enormous potential, bringing advantages to the countries promoting these initiatives, regardless of the portfolio of MVT that these countries make available to the potential market.

1.2.4. RESEARCH GAPS IN MARINE WILDLIFE VOLUNTOURISM IN SOUTHERN AFRICA

Southern African countries have been the focus of research unpacking the characteristics and benefits of VT in developing countries and, indirectly, some focus has been given to VT revolving around marine environments, wildlife, and conservation. Appendix 2 provides a summary of the research. From the appendix, it can be seen that the majority of the studies on VT in South Africa, Mozambique and Madagascar have revolved around community development and wildlife conservation in terrestrial habitats. This research is valuable in that it helps to identify the number

of research gaps and unanswered questions regarding VT. Importantly, it is evident that research could benefit from a less fragmentary and more comprehensive assessment of the structure of various VT projects. The table also shows that the putative increasing popularity of MVT in Southern Africa (Appendix 1) has not yet been sided by research efforts to assess this potential.

From a broad literature-based perspective, it is understood that MVT can contribute to the economies of countries involved, especially developing countries such as South Africa, Mozambique, and Madagascar (Bob *et al.* 2018:202; Zulpikar *et al.* 2018:34). It can contribute to increased awareness and knowledge of marine environments and marine issues (Thiel *et al.* 2014:281), helping to achieve goals set in ocean management strategies globally and in Southern African countries. Marine rehabilitation and conservation centres improve the conservation of marine-based resources and offer significant tools to counter the rapid degradation of the ocean (Brown, Strickland-Munro, Kobryn & Moore, 2016:77). MVT that focuses on these places can contribute to conservation through the participation of people who volunteer their time to help other stakeholders achieve conservation goals (Shum *et al.*, 2021:1; Wearing, 2001:1). MVT can also contribute to scientific research and discovery and can financially assist organisations and private institutions working on wildlife research, rehabilitation and conservation (Brightsmith, Stronza & Holle, 2008:2833).

To this end, the question arises as to whether Southern Africa is effectively exploiting this potential. In addition, it would be important to establish the following:

- Whether different projects attract different markets;
- The implications of different markets and the relations between the characteristics of various market segments;
- Whether demand and supply share common visions and perceptions;
- Whether and how markets in Southern Africa differ from other MVT markets;
- Whether and how MVT effectively contributes to sustainability.

To answer these questions, a careful and thorough case study-based assessment was required of the MVT industry in Southern Africa. Answering these questions could

provide meaningful insight for the development of MVT in the areas under study as well as for the overall sustainable development of MVT.

1.3. PROBLEM STATEMENT

The primary advantage of MVT is to promote sustainable tourism development in a world where the putative positive effects of tourism growth, such as economy-boosting, are highly debated against its negative effects, such as habitat destruction and pollution (Anderson, Chapman, Escontrela & Gough, 2017:589; Wolfe & Pattengill-Semmens, 2013:1). MVT can promote activities that encompass several aspects of sustainability in tourism, from conservation to capacity building of affected communities, economic incentives, personal awareness and acquired knowledge (Barbieri *et al.* 2012:509; Clifton & Benson, 2006:238; Gray & Campbell, 2007:463; Roques *et al.* 2018:387; Shum *et al.*, 2021:1; Wearing, 2001:5). While the potential of MVT overall and, in particular, in Southern Africa is somewhat sketched, many unanswered questions make researchers and practitioners unable to fully tap such potential. Answering these questions is necessary to ensure the full understanding of MVT and its proper promotion and management. The main challenges related to MVT in Southern Africa are outlined as follows:

Firstly, MVT remains a relatively understudied subject, requiring thorough investigation not only to tap its potential, but also to address its main challenges and problems and, ultimately, to promote its sustainable growth (Kurniawan, Adrianto, Bengen & Prasetyo, 2016:308; Lee *et al.* 2014:38; Lucrezi, Milanese, Palma & Cerrano, 2018:1). Secondly, while some elements characterising the potential of MVT may seem obvious, such as the altruistic motives of travellers or the structure of MVT programmes and organisations, they require further investigation, thus translating into research questions yet to be answered (Hammerton *et al.* 2012:77; Roques *et al.* 2018:382).

Thirdly, MVT still requires to be analysed from a 360-degree viewpoint. This means that a thorough analysis is required of all that characterises MVT to highlight the qualities of MVT, properly address any challenges related to MVT, adapt successful case study sites and scenarios to poorly performing case study sites, and enhance the sustainable future of MVT with all its benefits. This particular problem is not exclusive

to the case study sites selected for this research but is characteristic of all MVT (Roques *et al.* 2018:382; Wearing & McGehee, 2013:122). Lastly, MVT, like any other VT programme, is based on the successful recruitment of people who are willing to volunteer their time for a given cause during a holiday. Recruitment strategies can be designed based on an understanding of the market, for which information is still limited for Southern Africa (Roques *et al.* 2018:382).

These problems indicate gaps in knowledge with regards to MVT, both in general and specifically for Southern Africa. A research plan was proposed that addressed, either singularly or concomitantly, all of the above problems, by answering appropriate research questions formulated based on each problem identified. This study generally sought to answer two main research questions:

- How is MVT structured (demand and supply) in Southern Africa?
- How can understanding the structure of MVT assist its sustainable development?

1.4. GOAL OF THE STUDY

The primary goal of this study was to carry out a critical assessment of MVT in Southern Africa. This included an in-depth analysis of both demand and supply sides across selected types of MVT for comparative purposes.

1.4.1. OBJECTIVES

To reach the formulated goal, the following objectives were set for this study:

Objective 1 - To analyse MWT and VT and, more specifically, MVT with all its characteristics (context, history, typologies, research done, outcomes and future directions) through an in-depth literature review.

Objective 2 - To gather all relevant information concerning MVT through a content analysis of web-based information. This analysis was performed to substantiate all information collected to achieve Objective 1.

Objective 3 - To use a scientific research process aimed at breaking down the structure of MVT in Southern Africa, including an in-depth analysis of both demand and supply sides at three case study sites (South Africa, Mozambique and Madagascar) for comparative purposes.

Objective 4 - To use the information and outcomes of Objectives 1-3 to conclude and to make the necessary recommendations to marketing and management regarding MVT and its sustainable future, and also to make suggestions for future research on MVT.

1.5. METHODOLOGY

The methodology of this study is elaborated in Chapter 4, and a summary is provided in Figure 1.1:

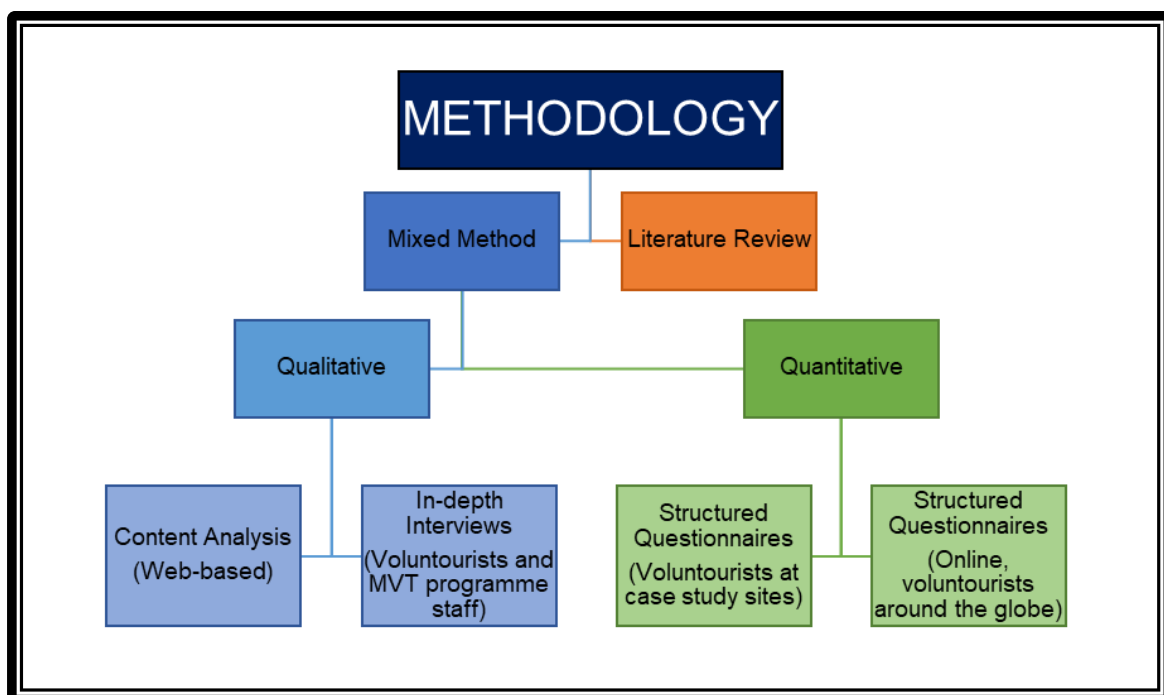


Figure 1.1: Concept diagram of the methodology of this study

Source: Author's compilation

1.5.1. LITERATURE REVIEW

A literature review is a crucial aspect of the research and is a systematic investigation of research-based knowledge that focuses on specific themes (Dawidowicz, 2010:5). The literature review in this study focused on an analysis of MVT. The analysis was

divided into two chapters. Chapter 2 involved an analysis of MWT and VT. Chapter 3 involved an investigation of the onset of MVT, the structure of MVT, and the documented impacts of MVT. This analysis included a considerable amount of published research on MVT that assisted in the identification of research gaps to be addressed, at least in part, through this study.

A range of reference sources was used in the study, including academic journals, texts books, and search engines such as Google Scholar, Scopus, Web of Science, and ProQuest. Databases that were used included library databases, EBSCOhost, Emerald and Science Direct, among others. The primary keywords and phrases involved in this study included: critical assessment, VT, MVT, travel motivation, tourism experience, tourism satisfaction, environmental attitude, citizen science (CS), marine conservation, and ethical conduct. Figure 1.2 illustrates the literature review of this study.

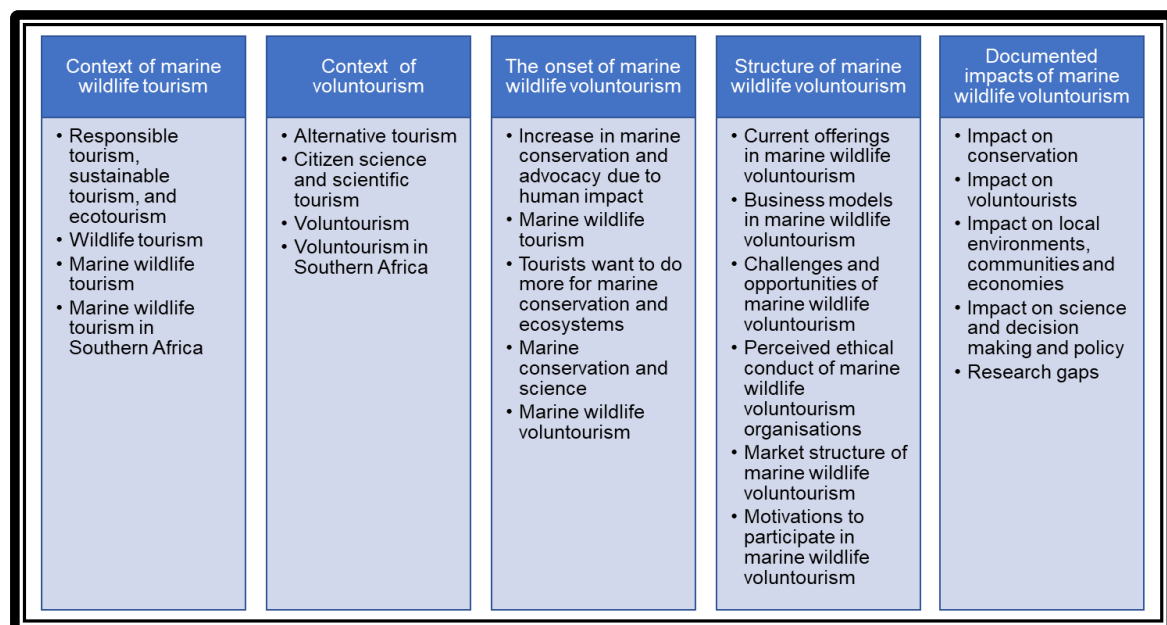


Figure 1.2: Concept diagram of the literature review

Source: Author's compilation

1.5.2. METHOD OF RESEARCH

This study was based on a scientific research process, which consisted of a deductive research approach and methods underpinned by different ontologies and epistemologies. These were used concomitantly and complementarily, creating

different types of intelligence about the subject under study and expanding its understanding (Creswell, 2009:203; Ritchie, 2003:24). This study followed a mixed-method approach, specifically a convergent parallel design, with the researcher gathering both quantitative and qualitative data on parallel variables (Ivanova, Creswell & Clark, 2016:312). These data were examined separately and compared to determine whether the results confirmed or disconfirmed one another (Creswell & Creswell, 2018:217; Ivanova *et al.* 2016:316). This approach was followed to develop a better and valid understanding of MVT (Ivanova *et al.* 2016:318).

1.5.2.1. Research design

The research was exploratory, including mixed-methods serving a contextual, explanatory, evaluative and generative function. Quantitative research methods targeted the MVT market (demand side) (Maree & Pietersen, 2019c:184). These encompassed the use of structured questionnaire surveys (Du Plooy-Cilliers & Cronje, 2014:152; Maree & Pietersen, 2019b:196; Pietersen & Maree, 2016:276) to collect data at the case study sites and through the internet. Qualitative research methods targeted both the MVT market (demand side) and the MVT organisations at the case study sites (supply side) (Nieuwenhuis, 2019b:56). These encompassed semi-structured in-depth face-to-face or Skype interviews (Henning, Van Rensburg & Smit, 2007:74; Nieuwenhuis, 2016:92; Nieuwenhuis, 2019c:108; Strydom & Bezuidenhout, 2014:183).

1.5.2.2. Development of measuring instruments

Information concerning the development of the measuring instruments is outlined as follows.

1.5.2.2.1. Demand side

The demand side of MVT was centred on the market (at the case study sites and around the globe) of MVT, namely the voluntourists. The demand side analysis addressed the following components: the demographic profile, preferred types of tourism, introduction to VT, previous volunteering experiences, trip duration, motivation to participate in MVT, preferences in MVT, expectations towards MVT, satisfaction with MVT, perceived ethical conduct of the MVT organisation, attitudes (e.g. towards the environment, education, conservation), and specific attitudes

towards MVT. Both quantitative and qualitative methods of research were used to collect data, deploying structured questionnaire surveys and face-to-face or Skype semi-structured interviews (Du Plooy-Cilliers & Cronje, 2014:152; Nieuwenhuis, 2016:92; Pietersen & Maree, 2016:250; Strydom & Bezuidenhout, 2014:183). These instruments were developed using conceptual models described in Chapter 4 and cross-checked with instruments deployed in other research, where available or described (Lee *et al.* 2014:41; Polus & Bidder, 2016:310).

1.5.2.2.2. Supply side

The supply side of MVT is not simply characterised by managers and programme leaders at specific case study sites, but also by the scientists and staff involved in MVT. The analysis addressed the following components: the demographic profile, business model, and key characteristics of the organisations at the case study sites. The supply side analysis involved qualitative research methods. These included face-to-face or Skype interviews with key players (including management and staff) at the MVT organisations (Nieuwenhuis, 2016:92; Strydom & Bezuidenhout, 2014:183). A standard business model canvas was used to assist the process of data collection from the supply side.

1.5.2.3. Case study sites

The selection of different case study sites of MVT is important as it provides information on different locations, markets, structures, and outputs. According to Nieuwenhuis (2016:81), a case study is an empirical inquiry about a modern phenomenon within a real-world context. Organisations operating in South Africa (2), Mozambique (1) and Madagascar (1) participated in this study. These ran MVT programmes primarily revolving around charismatic and iconic species (for instance sharks in South Africa, dolphins in Mozambique, and coral reefs in Madagascar) which are of great value for trans-frontier conservation areas connecting different countries. All organisations would share similarities or differences in context and structure (including vision, mission, and strategy). They also had different capacities (hosting programmes including ten to about a hundred volunteers).

1.5.2.4. Data collection

Data collection was carried out as follows.

1.5.2.4.1. Defining the population

The population for this study was characterised by (based on the explanation provided in Chapter 4): participants in MVT at the four organisations selected from the case study sites in 2019-2020 (estimated to be 184 marine wildlife voluntourists); participants in MVT around the globe accessible through selected online platforms (estimated to be less than one million); and anyone working in the four MVT organisations of the case study sites in 2019-2020 (36 people).

1.5.2.4.2. Sampling method

A non-probability sampling method, including convenience sampling, was used to collect data from the three targeted populations (Maree & Pietersen, 2019a:219). The estimated sample size was 163 for the marine wildlife voluntourists at the case study sites, 655 for the marine wildlife voluntourists around the globe, and 24 for the supply side of the MVT organisations at the case study sites.

1.5.2.4.3. Duration of data collection

Physical data collection began after ethical approval for this study was obtained (25 June 2019), and concluded on 25 June 2020, spanning one year. This time was divided into data collection trips to the case study sites. The online survey was launched on 4 July 2019 and promoted regularly through selected online platforms until 25 June 2020.

1.5.2.5. Data analysis

The data obtained from the questionnaires were captured in Microsoft Excel, cleaned, and prepared for further analysis. Analysis was done using the statistical software Tibco Statistica (Version 13.3, 2020) and the Statistical Package for the Social Sciences (SPSS Version 25, 2017) with extensions such as Analysis of Moment Structure (AMOS). The following data analysis was performed.

1.5.2.5.1. Quantitative data analysis

Data analysis for quantitative data (questionnaire data) is better described in Chapter 4 and included: frequency tables, descriptive statistics, cross-tabulation, correspondence analysis, Levene's test of homogeneity of variance, Brown-Forsythe

test of homogeneity of variance, Kruskal-Wallis test, analysis of variance (ANOVA), Tukey HSD post-hoc test, Mann-Whitney U non-parametric test, practical effect size (Cohen's *d*), exploratory and confirmatory factor analysis and reliability test, Spearman's rank-order correlation, cluster analysis, structural equation modelling (SEM), and Stepwise backward multiple regression analysis (Field, 2018:838; Pallant, 2010:207).

1.5.2.5.2. Qualitative data analysis

The qualitative data analysis of the interviews (described in Chapter 4) included thematic analysis and involved four main phases: organising the data, coding the data, establishing themes, and interpreting the data (Creswell & Creswell, 2018:192; Nieuwenhuis, 2019a:136).

1.6. ETHICAL CONSIDERATIONS

Ethical considerations for this study are outlined in Chapter 4. Ethical clearance was received from the Economic and Management Sciences Research Ethics Committee (EMS-REC) at the North-West University, Potchefstroom Campus. The ethical clearance number for this study is NWU-00767-19-A4.

1.7. DEFINING THE KEY CONCEPTS

The following concepts were used throughout this study and therefore need clarification:

1.7.1. CRITICAL ASSESSMENT

Critical assessment can be defined by Koltay (2016:128) as a critical approach to obtaining information that revolves around critical thinking and reading about a topic and its relevant information. In the context of the current study, a critical assessment was used to investigate MVT in Southern Africa through a study of the literature and empirical research.

1.7.2. VOLUNTOURISM

Voluntourism VT is defined by Wearing (2001:1) as a tourism activity where one participates, for a variety of reasons, in organised volunteer activities. These include taking a holiday and assisting with poverty reduction in society, restoring the

environment or contributing to research in society and environments. Another definition of VT is a non-compulsory activity that tourists can take, where they use their money and time to go out of their way to assist others in need (McGehee & Santos, 2005:760). From these two definitions, the author can define VT as tourists sacrificing their resources to travel and take part in non-profit work to assist others in need or to participate in rehabilitating the environment.

1.7.3. MARINE WILDLIFE VOLUNTOURISM

According to Collings (2007:112), tourism activities associated with the ocean waters and coast (fauna and flora) are categorised under MT. This can include activities such as boat trips, undersea walks, marine wildlife viewing, scuba diving, and snorkelling (Cater, 2003:157; Higham & Lück, 2007:1). Wildlife tourism is a form of tourism entailing encounters with non-domesticated animals (Higginbottom, 2004:2). Wildlife tourism involves interactions with free-ranging or captive animals, and it can include wildlife watching, hunting, and fishing tourism (Higginbottom, 2004:3). MVT can be defined as harmless, marine associated, non-profit work, whereby the tourists sacrifice their resources to travel to a destination and participate in activities revolving around marine wildlife, from monitoring to rehabilitation and rescue.

1.7.4. TRAVEL MOTIVATION

Motivation can be defined as biological and psychological wants and needs that integrate one's behaviour and activity (Dann, 1981:189; Pearce, 1982:20; Uysal & Hagan, 1993:798). Tourists have different reasons for travelling. Therefore travel motivation is a complex subject. According to Pearce and Lee (2005:228), travel motivation includes the socio-cultural and biological factors that make people travel and influence their travel behaviour.

1.7.5. TOURISM EXPERIENCE

According to Meyer and Schwager (2007:118), customer experience refers to the subjective and internal response of customers to any contact, direct or indirect, with a company. From this definition, tourism experience can be seen as the direct and indirect experience of a tourist with the subjective and internal responses of an establishment.

1.7.6. TOURISM SATISFACTION

Satisfaction is defined as an emotional response to evaluate the experience of a service or product (Wilkie, 1990:20). According to Kim and Kerstetter (2016:52), tourism satisfaction is the level of satisfaction perceived by a tourist during a tourism-related trip. Yang, Khoo-Lattimore & Arcodia (2017:89) added that it is the assessment of the overall satisfaction of the tourism experience.

1.7.7. ENVIRONMENTAL ATTITUDE

Environmental attitude is a collection of beliefs that impacts a person's behavioural intentions concerning environmental activities (Schultz, Shriver, Tabanico & Khazian, 2004:31). Hughes, Packer and Ballantyne (2011:307) defined environmental attitude as the attitude revolving around the protection of the environment. Chen and Qiu (2017:1405) added that it is an appreciation for the natural context.

1.7.8. CITIZEN SCIENCE

CS involves voluntary non-professional scientists participating in data collection, analysis and dissemination of a scientific project (Cohn, 2008:192; Craig, 2002:20; Silvertown, 2009:467). Serrano *et al.* (2014) defined CS as the engagement and contribution of the general public in activities revolving around scientific research.

1.7.9. MARINE CONSERVATION

Conservation is defined as the actions that directly increase the odds of species and habitats staying in the natural ecosystem. In other words, the act of conserving something (Leader-Williams, Adams & Smith, 2011:20; Sandbrook, 2015:565). From this definition, marine conservation can be seen as the act of conserving the marine environment.

1.7.10. ETHICAL CONDUCT

Ethics can be defined as standards of right and wrong (Safakli, 2005:24). According to Van Tonder (2007:29), ethical conduct is behaviour. Ethical behaviour is behaviour that helps people understand what is right from what is wrong (Beauchamp & Bowie, 2000:20). Morahan (2015:23) added that it revolves around the actions that are in agreement with cultural expectations relating to fairness and morality.

1.8. CHAPTER CLASSIFICATION

This thesis comprises the following seven chapters. Chapter 1 provided an overview of this study and how it was planned. It comprised an introduction to the study, a background, a clear description of the problem about the study, the goal, and the objectives of the study. It further elaborated on the methodology, ethical clearance, definitions of key concepts and chapter classification. Chapter 2 provided an in-depth literature review of MWT and VT. This included the context, history, typologies, research done, outcomes and future directions.

Chapter 3 provided an in-depth literature review of MVT and all its characteristics. The chapter also reported relevant information concerning the supply and demand side of MVT through a content analysis of web-based information. This analysis was performed to substantiate all information collected during the literature analysis. Chapter 4 comprised a detailed discussion of the methods of research employed in this study. The focus of the chapter was on the ontologies and epistemologies underpinning the research as well as the aspects of the empirical analysis including the geographical gap in research, case study sites selection, the method of research, and ethical considerations.

Chapter 5 reported on the findings from the empirical analysis. The components of MVT, including the characteristics of demand and supply sides, were presented and described. Chapter 6 discussed the findings from the empirical analysis. The components of MVT, including the characteristics of demand and supply sides, were discussed. Chapter 7 concluded from literature and the empirical results of the study. The limitations were identified, and the necessary recommendations were made regarding MVT and its sustainability, benefits, challenges, and future. The contribution of this study was indicated.

CHAPTER 2: MARINE WILDLIFE TOURISM AND VOLUNTOURISM

"How wonderful it is that nobody need wait a single moment before starting to improve the world"

~ Anne Frank

2.1. INTRODUCTION

Tourism is one of the most important industries globally; it is seen as a source of national pride, protects cultural heritage, and provides economic benefits (Almuhzzi & Al-Azri, 2019:148). Many coastal countries have developed marine wildlife tourism (MWT) to attract people from around the globe and enhance their annual gross domestic product (Truong & Jang, 2019:104). Today, MWT is one of the largest segments of the maritime economy sector and one of the largest components in the tourism industry (Tegar & Gurning, 2018:128). When responsibly managed, MWT can have a positive impact on the economy and societies for a coastal country and can contribute positively to the environment, while negative impacts on different levels can emerge when this industry is not properly controlled (Gormley *et al.* 2012:474). Tourism contributes to the impacts that are threatening marine wildlife since endangered and rare species are usually a tourism focus and can be highly vulnerable to even the smallest negative disturbance (Larm *et al.* 2017:257; Truong & Jang, 2019:104). The mass development of MWT can threaten marine wildlife through human impacts such as disturbance, fishing, pollution and habitat destruction (IUCN, 2021).

The advent of responsible, sustainable and eco-friendly tourism has called for more appropriate forms of tourism that would minimise negative impacts on different levels, including environmental, and would serve a purpose other than personal to the tourist (Bâc, 2012:132; Mihalic, 2016:461). In response, forms of alternative tourism have developed, including those revolving around the conservation of the marine environment and marine wildlife, which can also contribute to science (Coghlan & Gooch, 2011:713; Knollenberg, McGehee, Boley & Clemmons, 2014:922; Raymond & Hall, 2008:530).

Volunteer tourism or voluntourism (VT) is becoming a popular form of sustainable tourism and is one of the segments of alternative tourism that is growing rapidly (Bernstein & Woosnam, 2019:427). Many tourists from around the globe participate in VT (Molz, 2017:334). VT is promoted as green and culturally sensitive and offers equal exchanges between the guest (tourist) and the host community (Jakubiak, 2016:245). According to Molz (2017:334), it is estimated that 3.5 million tourists spend up to \$2.6 billion every year to participate in VT. Activities in which the volunteers participate revolve around assisting poverty reduction and education, restoring the terrestrial and marine environment as well as contributing to research in society and environments (Cousins, 2008:1025; Wearing, 2001:1). One typology of VT that is based on the general conservation of marine wildlife species is marine wildlife voluntourism (MVT).

This chapter aimed to achieve Objective 1, by analysing MWT and VT with all their characteristics through an in-depth literature review. This analysis is divided into two sections, the context of MWT and VT. The context of MWT discusses 1) responsible, sustainable and ecotourism; 2) wildlife tourism; 3) MWT; and 4) MWT in Southern Africa. The context of VT includes 1) alternative tourism; 2) citizen science (CS) and scientific tourism; 3) VT; and 4) VT in Southern Africa. These two sections will provide a background of MVT which is essential for the analyses of MVT in Chapter 3.

2.2. CONTEXT OF MARINE WILDLIFE TOURISM

This section elaborates on the aspects underpinning MWT to ensure its understanding, which will assist in analysing MVT in Chapter 3. MWT is usually promoted as a sustainable activity that contributes to conservation and is growing rapidly in terms of its value and volume (Brunnschweiler, 2010:30). It can be a form of ecotourism enhancing tourists' knowledge, attitudes and behaviour through first-hand experiences with marine wildlife (Apps, Dimmock & Huveneers, 2018:108). Depending on the type of activity, MWT can also be considered as mass tourism that can be detrimental to a destination and marine ecosystems (Dirhamisyah, 2019:78). An ecosystem is referred to as a community of living creatures that work together as a system in combination with the non-living elements of their environment (Ginge, 2016:61).

This section focuses on the elements that are essential factors characterising MWT. These are responsible tourism, sustainable tourism, ecotourism, and wildlife tourism. From the discussion of these elements, sustainable MWT will be scrutinised and the history of these elements will be illustrated later in the chapter.

2.2.1. RESPONSIBLE TOURISM, SUSTAINABLE TOURISM AND ECOTOURISM

Responsible tourism underpins sustainable tourism and ecotourism and is linked to new, green and smart tourism (Fennell, 2012:188; Leslie, 2012:5; Lorant, 2011:210; Saarinen, 2014:1; Sharpley, 2013:382; Spenceley, 2008:5; Weeden, 2013:5). These are all different forms of tourism that focus on minimising the negative impacts on the local community and natural environment, encouraging conservation, enhancing social benefits, and working towards sustainable tourism (Booyens & Rogerson, 2016:386). It must be noted that responsible tourism is not a synonym for sustainable tourism and ecotourism but encompasses them (Mathew & Sreejesh, 2017:83; Robin, Donald & Janel, 2010:112). The next section discusses the difference between responsible tourism, sustainable tourism and ecotourism and describes each in detail.

Responsible tourism is any form of tourism that promotes responsible travel, such as homestay in a local community and spending money in local stores. Sustainable tourism can be seen as a form of responsible tourism with the main goal of meeting the needs of present and future generations and developing sustainable principles. For example, not harming the plants or animals while on holiday, supporting companies that respect the environment, and respecting local cultures and traditions. Ecotourism is a form of sustainable tourism that focuses on travelling responsibly to undisturbed natural areas to study, admire and enjoy the environment, such as participating in turtle conservation and supporting wildlife conservation areas (Table 2.1).

Table 2.1: Summary of responsible, sustainable and ecotourism

Term	Definition	Emphasis	Author(s)
Responsible Tourism	Can be any tourism with the focus of minimising negative economic, environmental and socio-cultural impacts.	- Any form of tourism. - Enhance the environment, economy and socio-culture. - Reduce the negative impact of tourism. - Promote responsible travel.	DEAT (1996:4); Manente, Minghetti and Mingotto (2012:76); Xin and Chan (2014:26)
Sustainable tourism	Is the potential to improve the environment, society and the economy for the present generation, without compromising the ability of the future generations to meet their environmental, social and economic needs.	- Meet the needs of present and future generations. - Enhance the environment, economy and socio-culture. - Reduce the negative impact of tourism. - Focus on the development of sustainable principles.	Alhaddi (2015:6); Butler (1991:209); Hardy and Pearson (2016:660); UNWTO (2014); Zamfir and Corbos (2015:12711)
Ecotourism	Entails the tourists travelling responsibly to natural areas that conserve and sustain the environment and the well-being of local people.	- Natural and archaeological areas. - Enhance the environment and socio-culture. - Travel in a responsible manner, - Study, admire and enjoy. - Form of sustainable tourism.	Dowling (2013:19); Hetzer (1965:1); Honey and Stewart (2002:33); Khattab & Haggag (2015:13); Wearing & Neil (2009:232)

Initially, tourism was seen as a clean industry since it did not have obvious effects on the environment (Hanna, 2008:147). According to Aall (2014:2569), the 1987 United Nations World Commission's report did not discuss all the environmental challenges relating to the tourism industry. Tourism led to an increase in pollution, which placed pressure on the essential natural resources (Nunkoo & So, 2015:2; Timothy, 2011:65). Mass tourism grew popular across the globe and resulted in many communities, economies and environments being affected negatively (Sezgin & Yolal, 2012:73). This indicated that the impacts of the tourism industry should be addressed.

In 1965, Hetzer suggested that tourism should be developed into a more responsible form of tourism which included specific characteristics such as minimising environmental impacts, respecting the culture of the local community, enhancing the economic benefits to the local people and exceeding tourist satisfaction (Hetzer, 1965:1). According to Isaac (2014:87), responsible tourism was introduced in 1980 as a term that focused primarily on the planning, policy and development of tourism to achieve optimal benefits. In the early 1990s, responsible tourism was seen as all forms of tourism that respected the environment, culture, economy and interests of the local community (Jamal, Camargo & Wilson, 2013:4598; Mathew & Sreejesh, 2017:83). From 1990, responsible tourism was embraced by governments. Codes of conduct were developed and responsible tourism was seen as a way of enhancing profit (Jamal *et al.* 2013:4598; Mathew & Sreejesh, 2017:83). For example, in June 1992, the UN indicated that there was serious damage to the global life support systems, which led to the convention of the UN Conference on Environment and Development in Rio de Janeiro, Brazil (Mowforth & Munt, 1998:23). The conference was held to discuss strategies to reverse the effects of environmental degradation which led to six aspects: 1) Earth Summit, where the importance of responsible tourism was first highlighted; 2) agreement on specific legal measurements; 3) Agenda 21, a non-binding voluntary strategy that focuses on engaging sustainable development; 4) new financial resources; 5) transfer of technology; and 6) strengthening of institutional capacities and processes (Mowforth & Munt, 1998:23; Van Der Merwe & Wöcke, 2007:1; Weber *et al.* 2018:1548).

The first declaration on responsible tourism was published in 2002 in South Africa and is known as the Cape Town Declaration on Responsible Tourism. This declaration was later reviewed in 2008 by the Kerala Declaration in Kerala, India (Manente *et al.* 2012:76). The guidelines of the 2002 Cape Town Declaration on Responsible Tourism include (Franch, Martini, Buffa & Parisi, 2008:7; Jamal *et al.* 2013:4596):

- Reducing the negative economic, environmental and social impacts of tourism;
- Enhancing the economic benefit, well-being, working conditions and access to the industry for the local community;
- Involving local people in decision making that involves their community;

- Giving a positive contribution to the conservation of natural and cultural heritage;
- Increasing the experience for tourists;
- Providing access to physically challenged people;
- Building local confidence and pride, increasing respect between host and tourists, and developing a culturally sensitive industry.

Xin and Chan (2014:26) state that responsible tourism is a tourism management approach that focuses on enhancing environmental, economic and cultural benefits while, at the same time, reducing the negative impacts on a destination and community. According to the South African Department of Environmental Affairs and Tourism (DEAT), responsible tourism is defined as any tourism that promotes environmental responsibility, including the natural, social and economic environment (DEAT, 1996:4). The Cape Town Declaration definition of responsible tourism, which was reviewed by the Kerala Declaration, indicates that responsible tourism can be any tourism with the focus of minimising negative economic, environmental and socio-cultural impacts (Manente *et al.* 2012:76).

Sustainable tourism emerged in the early 1990s and has become the primary paradigm informing the management and planning of the global modern tourism sector (Weaver, 2014:131). The concept of sustainable tourism was introduced with the first issue of the *Journal of Sustainable Tourism* in 1993 (Dodds & Butler, 2009:43; Hunter, 2002:3; Weaver, 2006:10). According to Weaver (1998:31), the primary difference between mass tourism and sustainable tourism is moving the focus from the well-being of the tourists to the well-being of the host community. Tourism was the first sector to follow the recommendations of Agenda 21 (Aall, 2014:2569). The main objective of the tourism Agenda 21 was threefold: (1) to create methods to make tourism sustainable; (2) to develop an international system that would ensure sustainable development in all the decisions that are made in the tourism industry; and (3) to proclaim that the implementation of sustainable development goals (SDGs) in the tourism industry is the most effective strategy (Aall, 2014:2569). In 1999, after Agenda 21, the seventh session of the Commission on Sustainable Development took place in New York (USA). Afterwards, the UNWTO established the Sustainable Tourism - Eliminating Poverty Programme in 2002 in Johannesburg (South Africa). Specifically

concerning the SDGs, the United Nations adopted these as a call to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity (UNDP, 2022). The 17 SDGs address all the major and critical global challenges that poses a threat to the future, and tourism can help to address all of them (Filho *et al.*, 2020:1). The SDGs include 1) no poverty, 2) zero hunger, 3) good health and well-being, 4) quality education, 5) gender equality, 6) clean water and sanitation, 7) affordable and clean energy, 8) decent work and economic growth, 9) industry, innovation and infrastructure, 10) reduced inequalities, 11) sustainable cities and communities, 12) responsible consumption and production, 13) climate action, 14) life below water, 15) life on land, 16) peace, justice and strong institutions, and 17) partnerships for the goals (UN, 2022).

Sustainability is defined by Alhaddi (2015:6) as the potential to improve the environment, society and the economy for the present generation, without compromising the ability of future generations to meet their environmental, social and economic needs. Sustainable tourism is defined by the United Nations World Tourism Organisation (UNWTO, 2014), as tourism that takes into consideration the present and future impacts on the economy, environment and society while, at the same time, meeting the needs of the tourists, industry and communities. Butler (1991:209) defines sustainable tourism as a form of tourism that is developed and maintained to ensure that it remains viable and does not damage the society, economy and natural environment in which it exists while ensuring the successful development of other activities and processes for future generations. Sustainable tourism is defined by Zamfir and Corbos (2015:12711) as a form of tourism that considers present and future economic, social and environmental impacts while, at the same time, acknowledging the variety of needs of the environment, community, tourists and industry. Hardy and Pearson (2016:660) state that sustainable tourism is a type of tourism that focuses on sustainable development principles and takes responsibility for economic, social and environmental impacts.

According to Robin *et al.* (2010:112), ecotourism began when large national parks wanted to preserve remote sites from the negative effects of tourism and recreational activities. Fennell (2002:1) states that ecotourism was an outgrowth of the changes taking place in society during the 1960s and 1970s. Since the early 1980s, ecotourism

unfolded as a form of tourism that concentrated on the rural character of development (Robin *et al.* 2010:112; Sharpley, 2006:7). The supply and participation of ecotourism have shown significant growth around the globe and, in the late 1980s, ecotourism started to include travelling to natural areas (Robin *et al.* 2010:112; Sharpley, 2006:7).

According to Priskin (2001:639), ecotourism forms part of nature-based tourism, which is defined as an experience in natural areas that promotes an understanding of nature conservation to sustain the natural environment, economy and community. Ecotourism is defined by Hetzer (1965:1) as tourism that focuses on natural and archaeological resources. Ecotourism is defined by Honey and Stewart (2002:33) as travelling to natural destinations in a responsible way that conserves the environment and enhances the well-being of the local people. Dowling (2013:19) adds that ecotourism officially found a place in the tourism industry when the global tourism market started to expand and experienced an increased interest in natural areas. According to Mowforth and Munt (1998:139), ecotourism entails the tourists travelling responsibly to natural areas that conserve and sustain the environment and the well-being of local people. Ecotourism can also be defined as travelling to a relatively undisturbed or uncontaminated natural area with the main goal of studying, admiring and enjoying the natural environment of the destination (Ceballos-Luscarain, 1991:31; Wearing & Neil, 2009:232; Wearing, 2001:6). An analysis of ecotourism by Fennell (2003:11) demonstrated that the definition of ecotourism includes aspects of nature, relationships with local people, conservation and preservation. Ecotourism has grown and is seen as a form of sustainable tourism that could be a set of principles to improve conservation (Khattab & Haggard, 2015:13; Western, 1993:7). According to Fennell (2013:1), ecotourism practitioners should act according to the first principle when it comes to the use of animals for ecotourism purposes. This means that the wellbeing of animals is placed over the recreational interests of people (Fennell, 2013:1).

Responsible tourism and sustainable tourism focus on maximising positive environmental, economic and social impacts, and minimising any negative impacts of tourism to a destination and a community. While ecotourism only focuses on environmental and social impacts. Figure 2.1 illustrates the triple bottom line approach, which includes the environmental bottom line, social-cultural bottom line and economic bottom line. The triple bottom line is used to describe the economic, social and

environmental responsibility of an organisation (in this case, the tourism industry) and how the negative impacts of tourism could be reduced (Stoddard, Pollard & Evans, 2012:235).

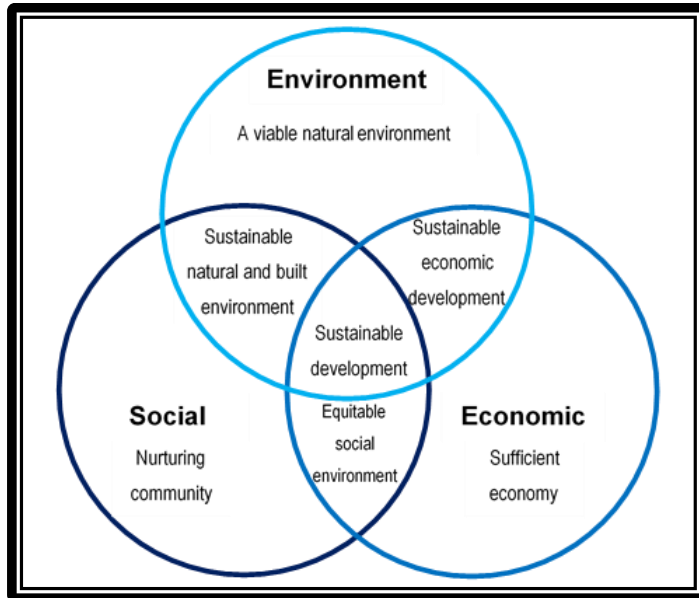


Figure 2.1: Triple bottom line

Source: Zavodna (2013:141)

2.2.1.1. Environmental bottom line

The environmental bottom line refers to a viable natural environment and sustainable practices that do not put the natural resources under stress or compromise them for future generations (Alhaddi, 2015:6; Zavodna, 2013:141). Such practices include preserving biodiversity, reduction in ecological footprints, protecting the natural environment, reducing the use of non-renewable resources, reducing greenhouse gas emissions, conserving the natural resources for future generations, and the efficient use of energy resources (Alhaddi, 2015:6; Fairley, Tyler, Kellet & D'Elia, 2011:144; Fons, Fierro & Patiño, 2011:552; Ozanne *et al.* 2016:250). The objective of the environmental bottom line is to identify the best methods of consuming natural resources, keeping ecological processes safe, and supporting the preservation of biodiversity and natural resources (Bâc, 2012:136).

2.2.1.2. Socio-cultural bottom line

The socio-cultural bottom line focuses on nurturing the community and fair business practices (Alhaddi, 2015:6; Zavodna, 2013:141). According to Bâc (2012:136), the

objective of the socio-cultural bottom line includes respecting the traditions of the local community and destinations, preserving local traditions and cultural heritage, and enhancing inter-cultural tolerance. Social responsibilities include the impact of an activity or practice on society and the well-being of the community and the individuals (Fairley *et al.* 2011:144). Impacts include increased community pride, increased income, improved quality of life, enhanced public participation, encouraged personal development, and increased respect for socio-cultural values (Fairley *et al.* 2011:144; Fons *et al.* 2011:552; Ozanne *et al.* 2016:250). The socio-cultural bottom line involves the interaction between an organisation and a community and addresses community involvement, employee relations and fair wage issues (Alhaddi, 2015:6).

2.2.1.3. Economic bottom line

The economic bottom line refers to the economic sufficiency and the impact of business practice on the economic system (Alhaddi, 2015:6; Fairley *et al.* 2011:144; Fons *et al.* 2011:552; Zavodna, 2013:141). This impact includes public investment, the viability of tourism and companies at the destination, and achieving a high demand satisfaction rate (Alhaddi, 2015:6; Fairley *et al.* 2011:144; Fons *et al.* 2011:552; Zavodna, 2013:141). The economic bottom line involves the customer value and financial performance of an organisation (Ozanne *et al.* 2016:250). It is a subsystem of sustainability, and it is critical for the survival and evolution of future generations (Alhaddi, 2015:6). The objectives of the economic bottom line include enhancing poverty reduction, increasing fair socio-economic benefits to all stakeholders, and promoting long term sustainable economic activities (Bâc, 2012:136).

The triple bottom line can result in a sustainable natural and built environment, sustainable economic and environmental development, and a fair social environment, as seen in Figure 2.1 (Zavodna, 2013:141). The triple bottom line has also been used to understand wildlife tourism in a social context and is used as a principle for the planning of wildlife tourism (Tyrrell, Paris & Biaett, 2012:283).

2.2.2. WILDLIFE TOURISM

According to Orams (2002:281), people have always had a close relationship with animals, whether captive, domestic or wild. As a result of exploration in the 18th and 19th centuries, people in the upper-class societies of Western Europe grew curious

about viewing and hunting wild animals (Adler, 1989:7). This led to more wildlife facilities being developed to keep wild animals captive and other areas being established to protect wild animals (Yale, 1991:20). Wildlife facilities such as zoos and natural parks increased, and more tourists travelled to interact with wild animals around the globe in a variety of settings (Orams, 2002:281).

Wildlife tourism tends to be adventure-based or nature-based and is built on the main objectives of ecotourism, sustainability, conservation and education (Lyngdoh, Mathur & Sinha, 2017:2188; Newsome *et al.* 2005:16). Wildlife tourism is defined by Newsome *et al.* (2005:16) as travelling to encounter and interact with wildlife in a variety of settings. According to Apps *et al.* (2018:108), wildlife tourism is seen as an activity that contributes to conservation through improving knowledge, attitude and behaviour towards the environment through information and first-hand experiences.

Wildlife tourism includes a variety of activities, from non-extractive activities such as wildlife viewing to extractive activities such as sport hunting (Avila-Foucat & Rodriguez-Robayo, 2018:224; Higginbottom, 2004:3; Schofield *et al.* 2015:517). The non-consumptive use of wildlife is regarded as a positive way to address conservation issues (Pirota & Lusseau, 2015:729).

The main forms of wildlife tourism include wildlife watching tourism, which is viewing or interacting with free-ranging animals; captive wildlife tourism, which entails viewing animals in human-made confinements; hunting tourism, including trophy hunting; and fishing tourism, such as deep-sea fishing (Higginbottom, 2004:2). Reynolds and Braithwaite (2001:33) identified seven categories of wildlife tourism. These include nature-based tourism with a wildlife element, location with sufficient wildlife opportunities, wildlife-based artificial attractions, specialist animal viewing, habitat-oriented travel, adventure tours, and fishing or hunting-related tours. Wildlife tourism is seen as an effective way to exploit wildlife sustainably while enhancing the awareness and attitude of the general public towards the natural world (Pirota & Lusseau, 2015:729). Wildlife tourism involves all types of wildlife, including insects, reptiles, birds, mammals, fish, and invertebrates (Newsome *et al.* 2005:4). The impacts of wildlife tourism on the economy, environment and community (Triple bottom

line) of a destination can be both positive and negative. Figure 2.2 illustrates these impacts set against each other.

On the one hand, wildlife tourism can increase the respect, appreciation, actions and attitudes of the tourists and the community towards the variety of ecosystems (Ballantyne & Packer, 2009:157; Ballantyne, Packer, Hughes & Dierking, 2007:367; Higginbottom & Tribe, 2004:117; Lee & Moscardo, 2005:546; Tisdell & Wilson, 2005:291; Zeppel & Muloin, 2007:19). On the other hand, wildlife tourism results in stress, injury or death to the animals, and habituation of animals to humans (Ballantyne *et al.* 2007:371; Ballantyne, Packer & Hughes, 2009:658; Green & Giese, 2004:86; Newsome *et al.* 2005:16).

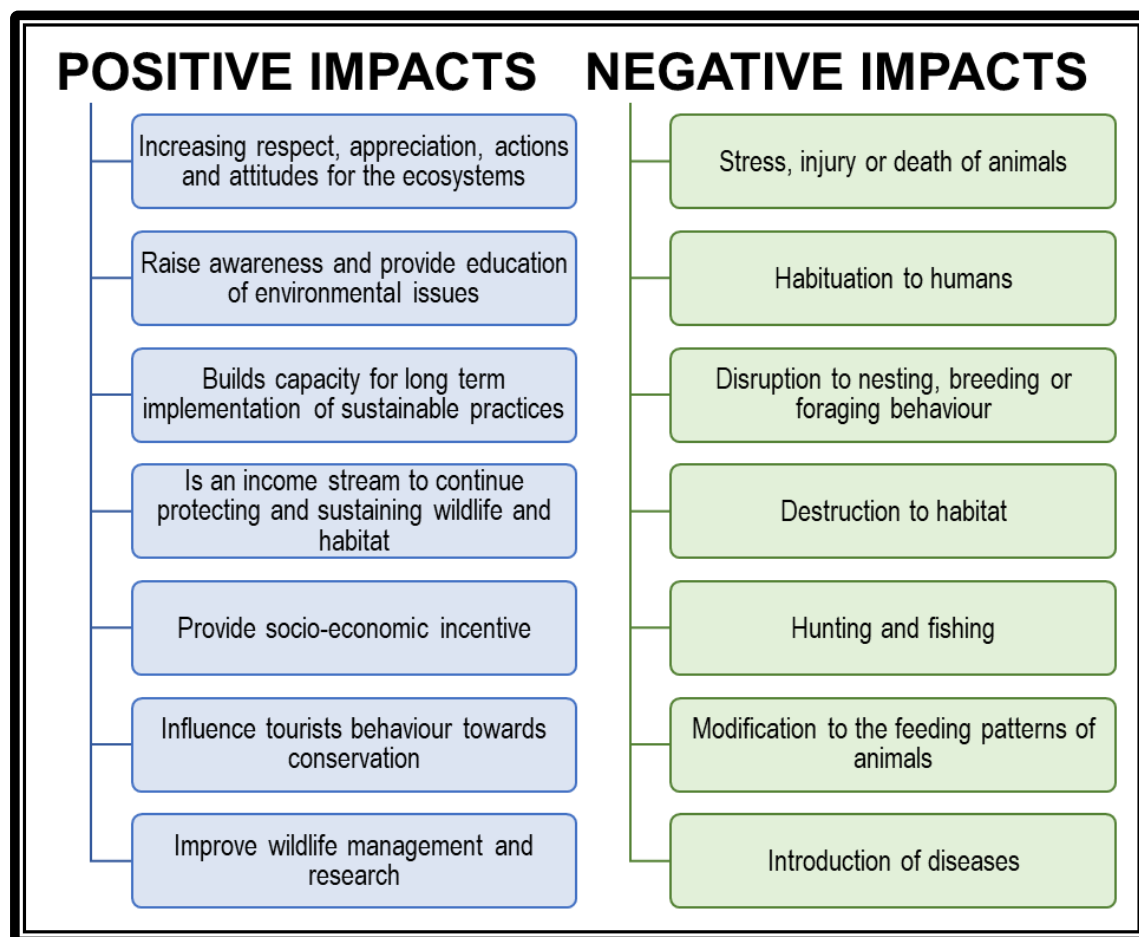


Figure 2.2: Positive versus negative impacts of wildlife tourism

Source: Author's compilation

Wildlife tourism can provide education and raise awareness for these types of environmental issues (Ballantyne & Packer, 2009:157; Ballantyne *et al.* 2007:367;

Higginbottom & Tribe, 2004:117; Lee & Moscardo, 2005:546; Tisdell & Wilson, 2005:291; Zeppel & Muloin, 2007:19). This allows local governments and management bodies to build capacity for long-term implementation of sustainable practices (Ballantyne & Packer, 2009:157; Ballantyne *et al.* 2007:367; Lee & Moscardo, 2005:546; Tisdell & Wilson, 2005:291; Zeppel & Muloin, 2007:19). If wildlife tourism is not managed sustainably, it could destroy habitats for wildlife (Ballantyne *et al.* 2009:658; Ballantyne *et al.* 2007:371; Green & Giese, 2004:86; Trave *et al.* 2017:213). For example, it could lead to disruptions to nesting, breeding and foraging behaviours of animals (Ballantyne *et al.* 2007:371; Ballantyne *et al.* 2009:658; Green & Giese, 2004:86; Newsome *et al.* 2005:16).

Governments and management bodies can use wildlife tourism as an income stream to enhance the protection of wild animals and their habitat (Buckley, 2002:43; Fennell, 1999:20; Goodwin, Kent, Parker & Walpole, 1998:20; Higginbottom & Tribe, 2004:117; Trave *et al.* 2017:213; Wells, 1997:1; Wilson & Tisdell, 2001:279; Zeppel & Muloin, 2007:19). This could result in socio-economic incentives for the community, influencing the behaviour of tourists towards conservation, and improve the management and research for wild animals and their habitat (Higginbottom & Tribe, 2004:117; Medio, Ormond & Pearson, 1997:91; Orams & Hill, 1998:33; Trave *et al.* 2017:213). Alternatively, it could lead to hunting and fishing, modification to the feeding patterns of wild animals, and introduction of diseases to animals and humans (Ballantyne *et al.* 2007:371; Ballantyne *et al.* 2009:658; Green & Giese, 2004:86; Newsome *et al.* 2005:16; Trave *et al.* 2017:213).

For wildlife tourism to be considered as a form of ecotourism, it needs to be managed and developed sustainably, using appropriate principles and following responsible guidelines to ensure that minimum negative impacts arise. These impacts may not only affect terrestrial ecosystems, but they could also influence marine and coastal ecosystems.

2.2.3. MARINE WILDLIFE TOURISM

According to the European Commission (2014) and Goni and Yustika (2019:141), coastal and marine tourism (MT) are seen as two separate aspects of tourism. Coastal tourism includes beach-based tourism and recreational activities where the sea is the

crucial element. There are a variety of types of coastal tourism, including coastal wildlife tourism (e.g. land-based whale watching), sand and beach sports tourism (e.g. kite-flying), coastal heritage and events tourism (e.g. local seafood and cultural tourism), sightseeing tourism (e.g. lighthouse tours), educational and scientific tourism (e.g. aquarium tours), and pure recreational tourism (e.g. shopping) (Bob *et al.* 2018:204; European Commission, 2014).

MT involves water-based activities that are connected and dependent on the sea and the marine environment. According to Collings (2007:112), MT encompasses tourism activities associated with ocean waters, including fauna (wildlife) and flora (plants). It is based on marine resources and includes aspects of education and interpretation of the community culture and environment (Murtini, Sumarmi, Utomo & Astina, 2019:2). There are a variety of types of MT, including MWT (e.g. viewing or interacting with marine fauna), recreational fishing tourism (e.g. boat-based fishing), scuba diving tourism (e.g. shark diving), water sports tourism (e.g. big wave surfing), and events tourism (e.g. marine competitions), among others (Bob *et al.* 2018:204; Cater, 2003:157; Higham & Lück, 2007:1).

MWT, which is a form of MT, is the observation of marine species and habitats and, in some instances, direct interaction between humans and marine fauna (Trave *et al.* 2017:212). MWT has been growing rapidly in volume and value. This results in an income stream that could have a positive influence on conservation awareness (Brunnschweiler, 2010:30). According to Trave *et al.* (2017:212), MWT can be consumptive or non-consumptive. Fascinating megafauna (large wildlife species), such as whales, sharks, manta rays, white sharks and dolphins are usually the primary focus of MWT (Apps *et al.* 2018:108). Trave *et al.* (2017:212) found that the most popular form of MWT is cetacean-watching, followed by shark-watching, provisioning (which involves attracting the marine animals with food or visual attractants), scuba diving, snorkelling, marine birdwatching, and observing pinniped and sea turtles on land and in water. According to Oliver, Lehrter and Fisher (2011:293), coral reefs are productive and diverse ecosystems with immense biodiversity (e.g. nudibranchs, sea sponges and coral reef fishes) and are one of the main attractions for tourists to participate in MWT. When managed correctly and respecting ecosystems and species,

MWT can be socio-economically successful and ecologically sustainable (Trave *et al.* 2017:212).

The coast, sea and ocean have been preferred areas for nature-based recreation throughout history (Borch, 2009:33). According to Walton and Smith (1995:35), coastal tourism and MT started in Europe in the late 1700s and early 1800s. This could be due to the increasing interest in viewing and hunting wild animals in the 18th century in Europe (Adler, 1989:7). The first public aquarium was opened in 1853 by the London Zoological Society, and the second public aquarium was opened shortly after, attracting people interested in observing marine wild animals (Lück, 2007:130). Before World War II (1939), the majority of the recreational activities associated with the ocean were land-based and, after World War II, in the 1950s and 1960s, technology transformation allowed the sea to be more accessible for marine-related activities such as surfing (National Research Council, 2001:147; Orams, 1999:14). In the 1950s scuba diving originated and, since then, it has enhanced the MT industry (Orams, 1999:38). Scuba stands for Self-Contained Underwater Breathing Apparatus, and it allows humans to breathe underwater (Orams, 1999:14).

The first official whale watching trip was recorded in 1955 in California, USA. This led to the development of whale watching lookout sites for the public (Forestell, 2007:273; New *et al.* 2015:10). Before 1960, whale watching was not a popular activity, and it was a low-key local activity that only took place in the USA (Forestell, 2007:273). Since 1960, the public perception of whales and dolphins (cetaceans) started to transform rapidly (Forestell, 2007:273), and wildlife tourism was introduced in major dictionaries in the USA (Hunter, 1990:20). From the late 1960s, more people started owning boats, which increased marine wildlife recreational activities, such as fishing, water-skiing, sightseeing and scuba diving (Orams, 1999:16). The surfing culture started in the 1960s and windsurfing developed in the 1970s (Orams, 1999:18). In the late 1970s, cage diving with white sharks started to become a popular tourist attraction (Dearden, Topelko & Ziegler, 2007:66; Rizzari, Semmens, Fox & Huveneeers, 2017:981).

During the 1970s, scuba diving started to revolve around key marine species such as sharks and, in the 1980s, responsible tourism and ecotourism were introduced (Isaac, 2014:87; Robin *et al.* 2010:112; Sharpley, 2006:7). High-speed catamarans were

developed in the 1980s, which allowed tourists to visit offshore locations as a day trip (Orams, 1999:16). From 1985 to 1992, scuba divers started to feed, photograph and swim with sharks, and shark-based diving became very popular (Dearden *et al.* 2007:66). Sustainable tourism only emerged afterwards in the 1990s (Weaver, 2014:131). In 1992, Agenda 21 was developed (Mowforth & Munt, 1998:23). From 1990 to 1999 whale watching saw a 12.1% global growth rate (Cater, 2003:157). In the late 1900s, cruise ships began to take wealthy tourists on ocean cruises between North America and Europe, as well as in the Mediterranean and the Caribbean (Honey & Krants, 2007:29). During the late 1990s, the MT industry in South Africa expanded rapidly, including activities such as boat-based whale and dolphin watching, and shark cage diving (Blamey & Bolton, 2017:172). In 1998, 87 nations around the world offered commercial tourist activities that targeted wild cetaceans, with more than nine million people participating (Bejder & Samuels, 2003:229).

Since 2000, whale watching grew and started to include dolphins, becoming the fastest-growing wildlife-based activity in the world (Forestell, 2007:273). Due to the 9/11 terrorist attack in 2001, few people wanted to travel by plane and more people started using cruise ships and beach resorts for holiday purposes. This placed a demand on MT (Honey & Krants, 2007:29). The Sustainable Tourism - Eliminating Poverty Programme and the Cape Town Declaration on Responsible Tourism were published in 2002. The Kerala Declaration of Responsible Tourism was published in 2008 (Manente *et al.* 2012:76). The selling of “sun, sea and surf experience”, the establishment of protected areas and the protection of species increased the demand for MWT in the 21st century (Gormley *et al.* 2012:474). This demand has resulted in positive and negative impacts on the community, economy and environment, especially on the protected areas and species.

The impacts that arise from MWT on the community and economy are similar to the impacts of general tourism, such as a source of government revenue; creating employment opportunities; multiplier effect; improving economic structure and infrastructure; encouraging civic involvement and pride within the community; increasing social mobility; providing cultural exchange and improving tourism and community relationship (Chakravarty, 2003:192; Warburton, Parsons & Goodwin, 2002:18; Wiener, Needham & Wilkinson, 2009:490; Zeppel & Muloin, 2008:283). The

negative impacts are, for example, the commodification of culture, religion and art; conflict of outside lifestyles; languages and attitudes; seasonality and tourism dependency; exploitation of public services and infrastructures; and inflation (Chakravarty, 2003:192; Warburton *et al.* 2002:18; Wiener *et al.* 2009:490). Importantly, MWT can be more beneficial or more detrimental to the marine environment of a destination. Figure 2.3 illustrates the positive environmental impacts and Figure 2.4 illustrates the negative environmental impacts of MWT.

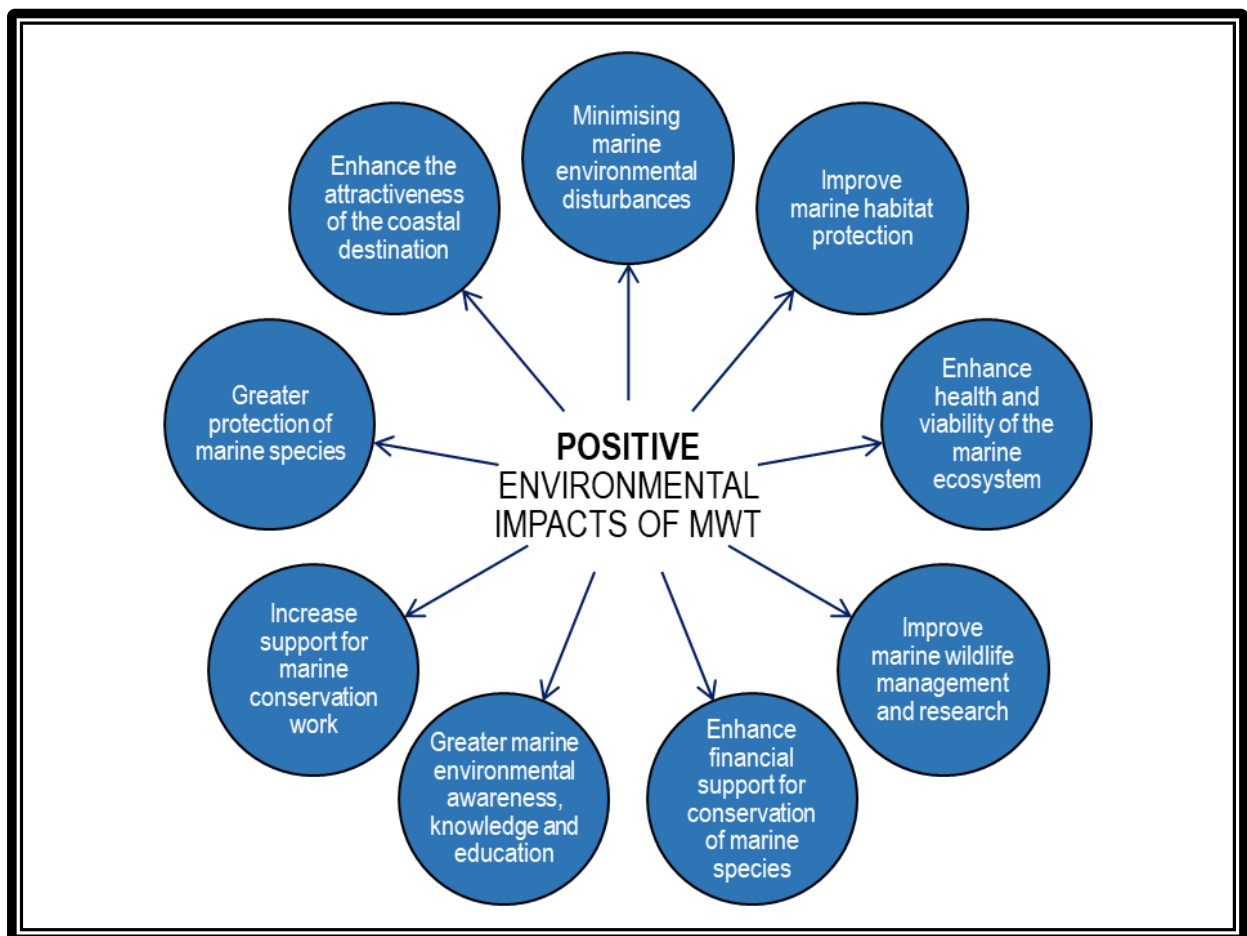


Figure 2.3: Positive environmental impacts of MWT

Source: Author's compilation

On the positive side (Figure 2.3) MWT can increase the local community and tourists' awareness, knowledge and education of marine-related issues (Apps *et al.* 2018:108; Bob *et al.* 2018:202; Trave *et al.* 2017:213; Wiener *et al.* 2009:490; Zeppel & Muloin, 2008:283; Zeppel, 2008:9). This can lead to financial support for the conservation of marine species, especially vulnerable and endangered species (Trave *et al.* 2017:213; Zeppel & Muloin, 2008:289; Zeppel, 2008:9). With increased financial support, further

marine species and marine habitats can be protected, and the support for marine conservation work can increase. This will result in improved marine wildlife management and research (Dearden *et al.* 2007:66; Trave *et al.* 2017:213; Wiener *et al.* 2009:490; Zeppel & Muloin, 2008:289; Zeppel, 2008:9).

Marine protected areas (MPAs) were announced in the early 1900s and have an essential role in the management of the marine environment and protecting marine species and habitats, which also attracts tourism (Berrow, 2003:68). The first Marine World Heritage site was declared in 1981 and is known as the Great Barrier Reef Marine Park in Australia (De Santos, 2013:145). This park enhanced tourism and assisted with the protection of the breeding habitats for loggerhead turtles, which were categorised as vulnerable species in 1982 (Casale & Tucker, 2017; Schofield *et al.* 2015:518). According to Ziegler *et al.* (2018:268), MWT can assist in protecting vulnerable and endangered animals by providing economic incentives for their protection. However, MWT revolving around vulnerable species ought to be managed in such a manner as to avoid compromising the status of these species through negative impacts, such as disturbance.

The protection of vulnerable and endangered marine species would enhance the long term health and viability of the marine ecosystem and minimise marine environmental disturbances. This would, in turn, enhance the attractiveness of coastal destinations (Chakravarty, 2003:192; Trave *et al.* 2017:213; Warburton *et al.* 2002:18; Zeppel & Muloin, 2008:289; Zeppel, 2008:9). Ultimately, the satisfaction of the tourists would increase, resulting in the tourists staying longer at the specific destination, leading to economic and cultural advantages (Warburton *et al.* 2002:18; Zeppel & Muloin, 2008:283). Too much tourism, however, can result in a variety of disadvantages to the environment and marine species in MPAs (Gormley *et al.* 2012:474).

MWT can have negative environmental impacts on a coastal destination and ecosystems and species (Figure 2.4). Firstly, MWT leads to an increase in boat traffic, and human density; the hull and anchors of boats can cause damage to marine life and habitat, and scuba divers and marine tourists have contact with the bottom of the ocean and damage coral reefs (Garrod & Gössling, 2008:15; Gedik & Mugan-Ertugral, 2019:864; Lindgren, Palmlund, Wate & Gössling, 2008:117; Trave *et al.* 2017:213;

Wiener *et al.* 2009:490). Secondly, human presence in proximity of coastal habitats can disturb the daily activities of marine life; habituation can lead to provisioning which influences the behaviour of marine life and human activity can cause stress and negatively influence marine life (Burgin & Hardiman, 2015:212; Dearden *et al.* 2007:84; Garrod & Gössling, 2008:15; Lindgren, *et al.* 2008:117; Trave *et al.* 2017:213). Lastly, MWT can increase pollution, which would spoil the natural marine environment of a destination and result in increased species endangerment (Chakravarty, 2003:192; Garrod & Gössling, 2008:15; Gedik & Mugan-Ertugral, 2019:864; Trave *et al.* 2017:213; Wiener *et al.* 2009:490).

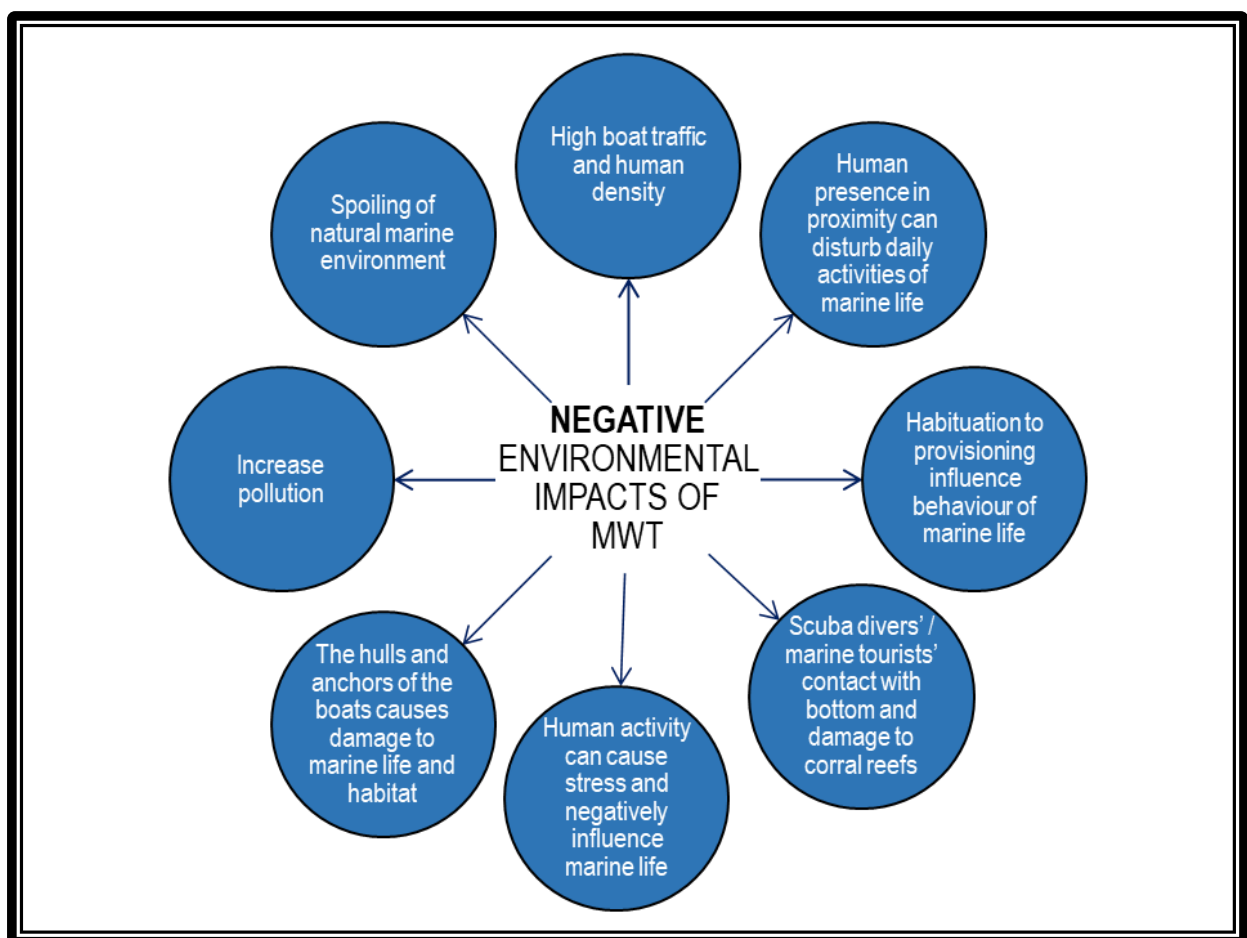


Figure 2.4: Negative environmental impacts of MWT

Source: Author's compilation

MWT is one of the sectors of tourism that is growing rapidly but is also contentious, due to conservation goals, animal protection, tourist satisfaction, motivation, and economic benefits and interests (Rizzari *et al.* 2017:981). The marine environment is severely threatened by human activities, such as bycatch, pollution and fishing, which

is one of the main reasons for the endangerment of marine species (IUCN, 2021). Tourism is one of the contributors that impacts and threatens marine wildlife since endangered and rare species are usually a tourism focus (Larm *et al.* 2017:257). New forms of tourism are emerging that try to embrace sustainability principles while addressing human impacts on wildlife species, given the threat that tourism poses to the environment and animals (Eadington & Smith, 1999:6). Examples include MWT that does not include any physical interaction with wildlife. Sanctuaries are being developed to protect species like sharks and promote shark-based ecotourism rather than shark fishing (Huveneers *et al.* 2017:666; Vianna *et al.* 2012:273). Sanctuaries like these focus on educating the community, tourists and local government to ensure that species are conserved for future generations.

Codes of conduct and best practices are being developed to ensure that ethical MWT takes place in a manner that is respectful towards species (Richards *et al.* 2015:200). Many marine wildlife species are data-deficient, and there are forms of tourism that are developing to assist with the collection of data to understand and better protect species (Bargnesi, Lucrezi & Ferretti, 2020:20). Examples of such types of tourism include scientific tourism and VT which, in some cases, merge to form hybrids of MVT. This hybridisation will be better analysed in Chapter 3.

2.2.4. MARINE WILDLIFE TOURISM IN SOUTHERN AFRICA

According to van der Schyff, Meyer and Ferreira (2019:169), tourism is one of the fastest-growing sectors and is the third-largest foreign revenue-generating export sector in the world. Tourism is an essential driver for the economy of South Africa, Mozambique and Madagascar (Oosthuizen & Ferreira, 2019:1). According to Constantino, Teixeira and Fernandes (2015:2), tourism contributed 2.9% of the gross domestic product in Mozambique in 2014. Stats SA (2018) reported that 2.9% of the gross domestic product of South Africa was contributed by the tourism sector in 2016. In November 2019, 3 504 412 tourists, of whom 2 594 534 were foreign tourists, passed through South Africa's borders. Of the 2 594 534 foreign tourists, 247 136 were from non-African countries; 66.6% from Europe, 13.5% from North America, 9.9% from Asia, 4.1% from Australia, 4.0% from Central and South America, and 1.8% from the Middle East (Stats SA, 2020). The majority of these tourists (97.2%) travelled for leisure purposes, which could be categorised under responsible, sustainable,

ecotourism, wildlife and MWT, to name a few. There was no statistical information found for Madagascar at the time of the study.

MWT is one of the largest tourism sectors in South Africa, Mozambique and Madagascar, due to the extensive coastline and unique activities offered, such as shark cage diving, whale watching, surfing, snorkelling and scuba diving (Geldenhuys, Van der Merwe & Saayman, 2019:2). MWT has been identified as contributing to the Blue economy in South Africa, which is the exploitation and preservation of the marine environment (Eagleton & Du Plessis, 2019:209). The local economies in Mozambique are built around MWT and marine-related activities (Fordyce, 2016:4). Even though MWT is an essential tourism sector in South Africa, Mozambique and Madagascar, the sector offers a variety of advantages as well as disadvantages to the economy, society and natural environment of South Africa and bordering countries (Uriely *et al.* 2003:57).

2.3. CONTEXT OF VOLUNTOURISM

To scrutinise MVT in Chapter 3, it is essential to understand the context of VT. VT has become a popular alternative to mass tourism (Keese, 2011:257). VT is growing rapidly in terms of both demand and supply for the tourists and industry managers that are seeking a sustainable, interactive and productive experience (Bargeman, Richards & Grovers, 2018:1486). According to Bernstein and Woosnam (2019:427), tourism is expected to grow with VT becoming a popular form of sustainable tourism. This section focuses on two elements that are essential factors characterising VT. These are alternative tourism, including some of the various forms of alternative tourism, and CS (Figure 2.5). From the discussion of these elements, VT will be analysed.

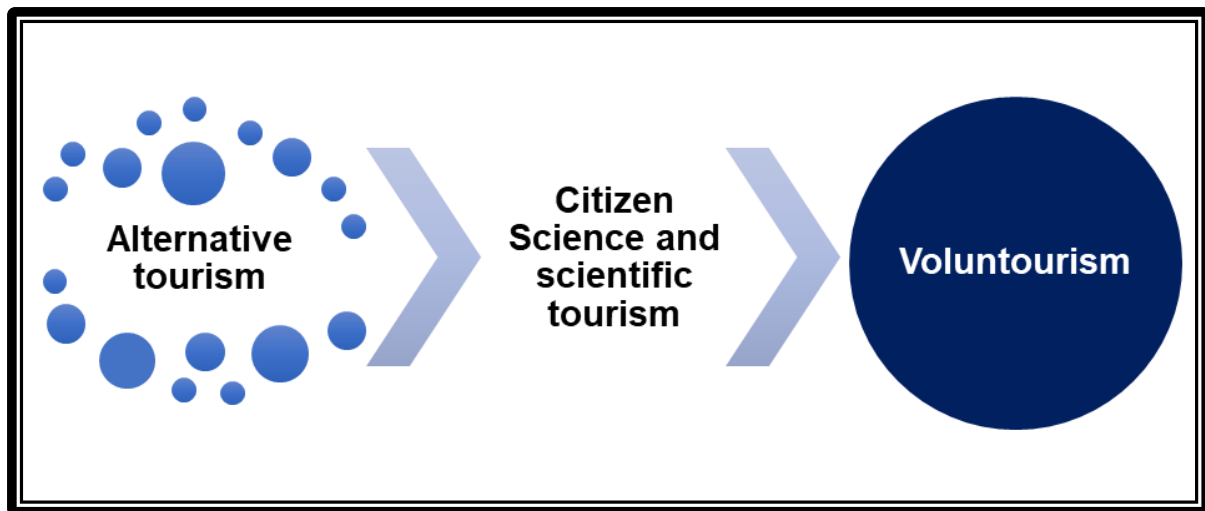


Figure 2.5: The context of VT

Source: Author's compilation

2.3.1. ALTERNATIVE TOURISM

Alternative tourism emerged as a topic of inquiry in international development and economics at the end of the 1970s. By the 1990s, some local communities grew weary of the masses of tourists in their areas, became considerate towards the environment, and wanted to experience something different and innovative (Eadington & Smith, 1999:6). Alternative tourism was developed to describe the different forms of travelling that have occurred compared to commercial tourism and have been seen as a substitute for mass tourism (Aviv, 2011:34; Weaver & Lawton, 2002:20). A variety of types of tourism have been labelled under alternative tourism and are summarised in Table 2.2. Responsible tourism, sustainable tourism, ecotourism, new tourism, special interest tourism, justice tourism, and VT are labelled under alternative tourism (Douglas, Douglas & Derret, 2001:20; Eadington & Smith, 1999:6; Mowforth & Munt, 2003:5; Poon, 1993:20; Sharpley, 2000:1; Wearing & Neil, 1999:20; Wheeler, 1991:91; Wheeler, 1993:121).

Table 2.2: Definition of the types of tourism under alternative tourism

Author(s)	Tourism	Definition
Eadington and Smith (1999:3)	Alternative tourism	Consistent with the community and its societal and natural morals, that result in positive interaction and shared experiences for both the tourist and local community.
DEAT (1996:4)	Responsible tourism	Any tourism that promotes environmental responsibility, including the natural, social and economic environment.
Butler (1991:209)	Sustainable tourism	Remains viable and does not damage the society, economy and natural environment in which it exists while ensuring the successful development of other activities and processes for future generations.
Hetzer (1965:1)	Ecotourism	Focuses on natural and archaeological resources.
Stănciulescu, Molnar and Bunghez (2011:245)	New tourism	Focuses on the social, economic and cultural changes and diversification of tourism.
Hall and Weiler (1992:5)	Special interest tourism	Distinctive interest regarding an activity or destination influences tourists' motivation and decision making.
Scheyvens (2002:104)	Justice tourism	Is ethical and equitable, based on the idea that tourists can be part of the process of liberation.

According to Eadington and Smith (1999:3), alternative tourism is consistent with the community and its societal and natural morals, which result in positive interaction and shared experiences for both the tourist and local community. Alternative tourism may be a pathway to enhance one-sided social and political views in a community (Isaac, 2009:248). It is characterised by small and locally owned operations that offer shared experiences (Prince & Ioannides, 2017:349). Examples include travelling to places other than the usual mass tourism destinations and participating in activities, such as scenic nature hikes and wine tasting, that would ensure that the local entrepreneurs obtain a source of income.

Even though responsible, sustainable and ecotourism are discussed in 2.2.2, a definition of these types of tourism is included here for ease of reference. Responsible tourism (e.g. homestay) is any tourism that promotes environmental responsibility, including the natural, social and economic environment (DEAT, 1996:4). Sustainable tourism (e.g. using environmentally friendly accommodation) is a form of tourism that

is developed and maintained to ensure that it remains viable and does not damage the society, economy and natural environment in which it exists. It does so while ensuring the successful development of other activities and processes for future generations (Butler, 1991:209). Ecotourism (e.g. conservation activities) is tourism that focuses on natural and archaeological resources (Hetzer, 1965:1).

New tourism focuses on the social, economic and cultural changes and diversification of tourism. According to Poon (1993:20) and Stănciulescu *et al.* (2011:245), the development of modern technology has resulted in new tourism and new independent tourists who experience new prevailing circumstances. This is where tourists travel to experience physical, psychological or spiritual well-being and local attractions, and insist on value for money experiences while respecting the environment and local cultures.

According to Hall and Weiler (1992:5), special interest tourism occurs when a distinctive interest regarding an activity or destination influences tourists' motivation and decision making. Special interest tourism can be defined as providing customised experiences to tourists that focus on their definite interests which can be perused at a certain destination (Soleimani, Bruwer, Gross & Lee, 2019:2300). Such as birdwatching, photographic, and diving trips.

According to Scheyvens (2002:104), justice tourism is defined as tourism that is ethical and equitable based on the idea that tourists can be part of the process of liberation. Justice tourism assists in fighting poverty in a community and provides increased economic, social and cultural benefits to a destination (Kassis, 2006:5). It focuses on reversing the damages caused by mass tourism and outlines a path to global order (Isaac, 2017:141). Justice tourism involves tourists travelling and learning about poverty issues and participating in conservation and development work that would assist in the uplifting of the community.

From these definitions, it can be seen that alternative tourism and its different forms focus on a narrow objective, to travel for the well-being of a destination's community and economy, and ensure that underprivileged communities benefit from tourism.

Besides the typical advantages and disadvantages of tourism, alternative tourism provides advantages to a destination, which are listed in Table 2.3.

Table 2.3: Advantages of alternative tourism

Advantages	Author(s)
Emphasises the values, lifestyles and economic well-being of the local community.	Khan (1997:988); Munt (1994:101)
Encourages the use of ethnic knowledge, local employment, expertise and material.	
Results in direct economic benefits to the community.	
Encourages local pride, self-accomplishment and identity.	
Reduces foreign investment.	
Supports small-scale tourism.	Scheyvens (2002:5)
Reduces environmental and cultural intrusions.	
Prioritises a community's needs.	

From Table 2.3, it can be seen that alternative tourism provides a variety of advantages to the local community. It emphasises the values, lifestyles and economic well-being of the community; encourages the use of ethnic knowledge, local employment, expertise and material; results in economic benefits to the community; encourages local pride, self-accomplishment and identity; reduces foreign investment; supports small-scale tourism; reduces environmental and cultural intrusions; and prioritises a community's needs (Khan, 1997:988; Munt, 1994:101; Scheyvens, 2002:5).

Alternative tourism can reduce the negative impacts and enhance the benefits of tourism to a destination and a community (Scheyvens, 2002:5). Ernawati (2015:2) states that alternative tourism could have a larger negative impact compared to mass tourism, due to it being directly involved with the life of the local community and its natural environment. In contrast, alternative tourism in the form of VT can play an important role at a destination and for the local community, through providing free labour in activities that would normally demand a monetary reward (Tomazos & Butler, 2012:177). Additionally, VT has been identified as providing important contributions to scientific research and discovery through the voluntary collection or provision of data

and information during organised scientific expeditions (Mostafanezhad, 2013:150; Wearing & McGehee, 2013:123). These benefits will be further developed in 3.3.

2.3.2. CITIZEN SCIENCE AND SCIENTIFIC TOURISM

CS can be defined as non-professionals participating in true scientific research through collecting and analysing data relating to the natural world (Dickinson *et al.* 2012:291). It permits people with no formal scientific credentials or positions, to participate with professional scientists in scientific research related to their interests (Rotman *et al.* 2012:217). According to Irwin, (1995:2), CS aims to bring the public and science closer together, enhance the opportunities for scientific citizenship, and involve the local community in decision making regarding risks and environmental threats. The majority of citizen scientists are amateurs that collaborate with professionals on projects for educational benefits (Silvertown, 2009:467). According to Tulloch *et al.* (2013:129), citizens participate in science to contribute to conservation decisions and scientific understanding. This provides scientists with the opportunity to obtain data that would normally be impossible for them to collect due to limitations, such as time and resources constraints (Bear, 2016:56). It is seen as a discipline and an essential step towards enhancing the relationship between science and society (Bear, 2016:56). This is done through the communication, engagement and participation of citizens in the scientific process (Martin, 2017:142).

According to Miller-Rushing, Primack and Bonney (2012:285), in the 17th century, citizens with no experience were recruited to contribute to natural history observations. In the late 1800s, before the professionalisation of science, almost all the scientific research was done by people who were not professional scientists (Vetter, 2011:127). According to Morzy (2015:1148), non-professionals have been employed in history to assist scientists in the fields of biology and ecology during significant research. The first successful CS project took place in 1874 in England and aimed at measuring the transit of planet Venus (Ratcliff, 2008:5). The longest-running CS project started in 1900 in the USA and is known as the National Audubon Society's Christmas Bird count, with over 110 years of data collected (Tulloch *et al.* 2013:129). CS is supported globally by governments and scientific organisations due to the benefit that it provides (Lucrezi *et al.* 2018:2). The positive and negative impacts of CS are illustrated in Figures 2.6 and 2.7.

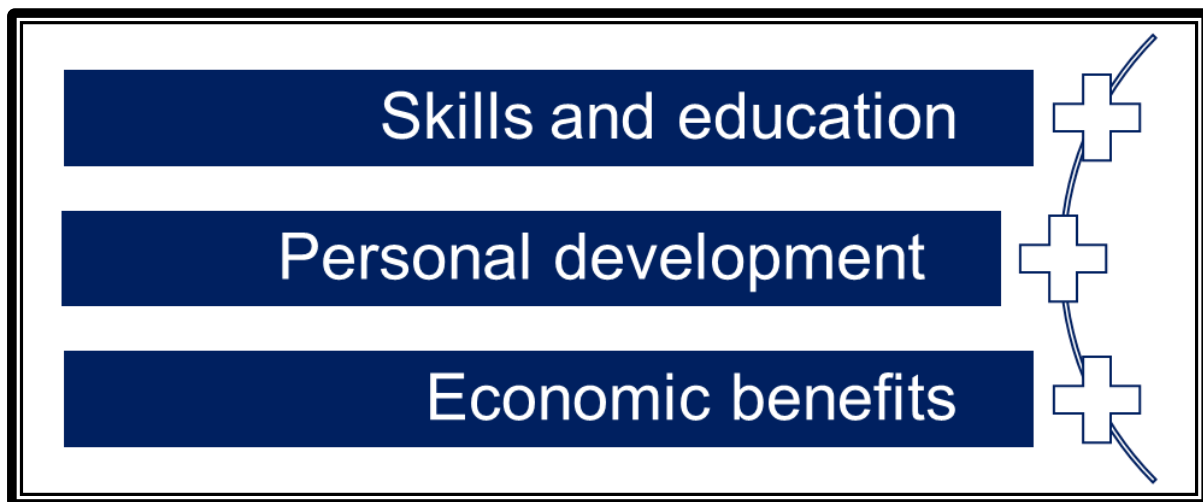


Figure 2.6: The positive impacts of CS

Source: Author's compilation

CS enhances the skills and education of the local community, encourages personal development and positively impacts the economy. CS also provides education and facilitates the scientific process through data collection that is done by local citizens (Bonney *et al.* 2009:977; Dickinson *et al.* 2012:291; Goffredo *et al.* 2010:2170). It complements the traditional data collection systems with the knowledge and skills of local people (Loerzel, Goedeke, Dillard & Brown, 2017:79; Thiel *et al.* 2014:257). It allows citizens to develop scientific knowledge and literacy and expand their social learning and scientific thinking abilities (Goffredo *et al.* 2010:2170; Martin *et al.* 2016:495; Vann-Sander, Clifton & Harvey, 2016:82). This provides the citizens with the ability to address decisions and problems through data generation (Loerzel *et al.* 2017:79; Malpica-Cruz, Chaves & Côté, 2016:158).

Personal development occurs through personal growth, changing the attitude of local people towards science, and improving the local people's ability to solve daily problems through science (Goffredo *et al.* 2010:2170; Martin *et al.* 2016:495; Vann-Sander *et al.* 2016:82). CS positively impacts the economy of a community by assisting in spreading awareness of a variety of issues, assisting in policymaking and policy processes, and developing a partnership between citizens, scientists and decision-makers (Brightsmith *et al.* 2008:2832; Dickinson *et al.* 2012:291; Goffredo *et*

al. 2010:2170; Hyder *et al.* 2015:112; Martin *et al.* 2016:495; Vann-Sander *et al.* 2016:82).

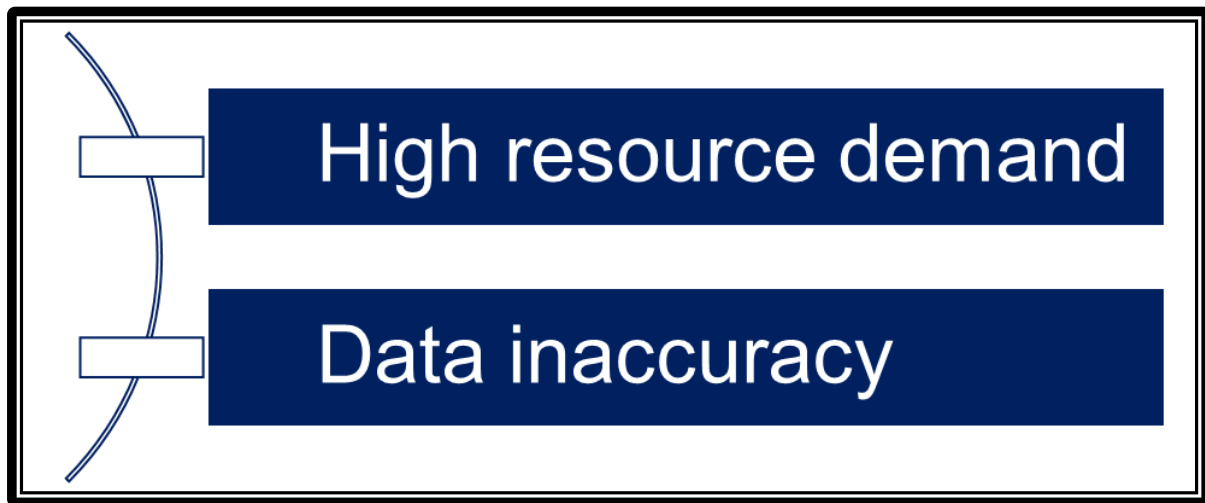


Figure 2.7: The negative impacts of CS

Source: Author's compilation

On the negative side, CS has a high demand for resources and could have data inaccuracy. It requires essential resources, such as time and money, and it experiences challenges when training potential participants (Bonney *et al.* 2009:977; Brouwer & Maas, 2019:13). Citizens tend to be biased and over or under-report certain species and factors. This leads to a contrast in the quality of data and inconsistent effort (Bonney *et al.* 2009:977; Brouwer & Maas, 2019:13; Tulloch *et al.* 2013:128).

According to Sandiford (2017:2), CS is usually a factor that is part of VT through involving the tourists in scientific research projects. Gray *et al.* (2017:201) state that CS and VT have essential similarities, such as supporting knowledge, providing social outcomes for communities, and obtaining benefits for participation, but are different in terms of cost and location. The main difference is that CS does not necessarily involve tourism and tourists, and VT does not necessarily involve the participation of volunteers (tourists) in scientific research (Gray *et al.* 2017:201). The two can, however, meet when VT espouses CS, and when CS projects require people to travel to a destination to participate in scientific research. The number of voluntourists who are engaging in CS projects and research trips (scientific tourism) is increasing, which

is benefiting communities and economies around the globe (Brosnan, Filep & Rock, 2015:97).

Scientific tourism started as a developmental strategy and a form of alternative tourism that could assist local economic growth and conservation (Bourlon & Torres, 2016:3). It emerged in literature from 1980 and involved tropical science and tourism (Kupatadze, Begadze & Gverdtseteli, 2014:27). It is now considered as one of the fast-paced developing types of tourism and is attracting tourists to undiscovered destinations around the globe (Filippova *et al.* 2018:6). Laarman and Perdue (1989:205) define scientific tourism as work that is done by tourists at a destination without essential technical equipment. West (2008:597) states that scientific tourism involves tourists who carry out scientific research at a tourism destination. Kask, Kline and Lamoureux (2011:1388) define scientific tourism as tourists travelling specifically to conduct explicit research or observation. It provides tourists with the opportunity to confront, test and evaluate their research and identify new research problems (Cynarski & Ďuriček, 2014:41). The main objective of scientific tourism is not the travelling itself; it is the interest in science, the need for research, or the professional activity (Kosiewicz, 2011:80; Cynarski, 2014:191).

Scientific tourism is seen as a form of alternative tourism, ecotourism, responsible tourism, sustainable tourism, and VT (Laarman & Perdue, 1989:205; Mieczkowski, 1995:20; West, 2008:597; Hall & Saarinen, 2010:5). It provides a scientific basis for the management of a natural environment and the funds are absorbed directly into the community. It motivates tourists to travel responsibly to eco-systems with qualified scientists, attracts culturally sensitive tourists, and encourages environmental protection (Hall & Saarinen, 2010:5; Laarman & Perdue, 1989:205; Mieczkowski, 1995:20; West, 2008:597). Scientific tourism can be seen as a synthesis between CS and VT, and involves tourists travelling to a destination for scientific reasons, either to carry out a study (e.g. collecting data at a scientific landmark) or to present the results of the study (e.g. conference attendance) (Kosiewicz, 2011:80). It is believed that the growth of scientific tourism will complete the transformation process of tourism that focuses on cultural and scientific development (Sardak, Dzhyndzhoian & Samoilenko, 2016:46).

2.3.3. VOLUNTOURISM

VT is defined by Wearing (2001:1) as getting involved in organised volunteer activities, at a destination while on holiday. According to McGehee and Santos (2005:760), VT is a non-compulsory activity, where tourists use their time and money to help others in need. VT involves tourists who travel to local communities to participate in volunteer work as part of a unique travel opportunity (Sin, 2009:480). Some authors believe that VT occurs in different forms, such as travelling for an international gap year (Lyons, Hanley, Wearing & Neil, 2012:361) or an internship (Billig & Root, 2006:45; Bringle & Hatcher, 2011:3; Simons & Cleary, 2005:164). A gap year involves a minor period where a person delays further education or employment to travel (Millington, 2005:1). According to Lyons and Wearing (2008:3) and Soderman and Snead (2008:118), participating in VT during a gap year is growing fast and the majority of the gap year websites mention volunteer placements. Internship, on the other hand, is defined as work experience that leverages educational theory through practical experience, can be paid or unpaid, and count for university credits (Gault, Redington & Schlager, 2000:45).

Activities involved in VT include (Alexander, 2012b:119; Cousins, 2008:1025; Earthwatch.org; Goabroad.com; Gooverseas.com; Lee *et al.* 2014:37; Projects-abroad.org; Volunteerworld.com; Voluntourism.org; Wearing, 2001:1):

- Assisting poverty (childcare, construction and orphanage) and education (English teaching, primary school and special needs) in a rural community;
- Restoring the environment (climate change, agriculture, conservation work, and energy and water) and working directly with animals (marine, wildlife and street animals);
- Assisting with healthcare (medical training and nutrition and food) or providing support to NGOs (business development, marketing and Information Technology, and NGO management);
- Contributing to research in society and environments

VT can be traced back to the 1800s with roots related to colonial missionaries, development workers, and religious pilgrimage (Callanan & Thomas, 2005:185). The non-profit International Red Cross was founded in 1861 by Henry Dunant to bring

voluntary assistance without discrimination to the wounded on the battlefield (Tomazos & Cooper, 2012:411). Tomazos and Cooper (2012:411) further state that the origins of VT were a result of World War I (1914-1918) when peace was an important factor among the people. During this time, working together to repair the damage caused by the war and helping the wounded became the phenomenon of VT.

Mass tourism emerged in the 1950s (Sezgin & Yolal, 2012:75); the Australian Volunteers Abroad was founded by Herb Feith in 1951 to partner with organisations in the Indo-Pacific region to assist them in reaching their own goals. The British Volunteer Service Overseas was founded in 1958 in the United Kingdom by Alec Dickson to fight poverty and marginalisation (Butcher & Smith, 2010:32). Shortly after, in 1961, the Peace Corps, which is one of the largest volunteer programmes in the world, began in the USA under President J.F. Kennedy. They sent volunteers from the USA across the globe to undeveloped and developing countries to provide voluntary assistance (Tomazos & Cooper, 2012:411). The Southern African Foundation for the Conservation of Coastal Birds was founded in 1968 by Althea Louise Burman Westphal to rescue and rehabilitate seabirds (Kane *et al.* 2010:415). In the late 1900s, the growth of tourism changed greatly as a social phenomenon (Callanan & Thomas, 2005:185). Alternative tourism emerged in 1970, followed by responsible and ecotourism in 1980, and sustainable tourism in the 1990s (Eadington & Smith, 1999:6; Uriely *et al.* 2003:57). During this time, global charity work was packaged for the first time as an all-inclusive service and sold to conscious tourists (Guttentag, 2009:538). This resulted in more people travelling to volunteer and assist others, due to an increasing concern for the environment and social responsibility (Uriely *et al.* 2003:57). VT has a variety of impacts, illustrated in Figure 2.8.

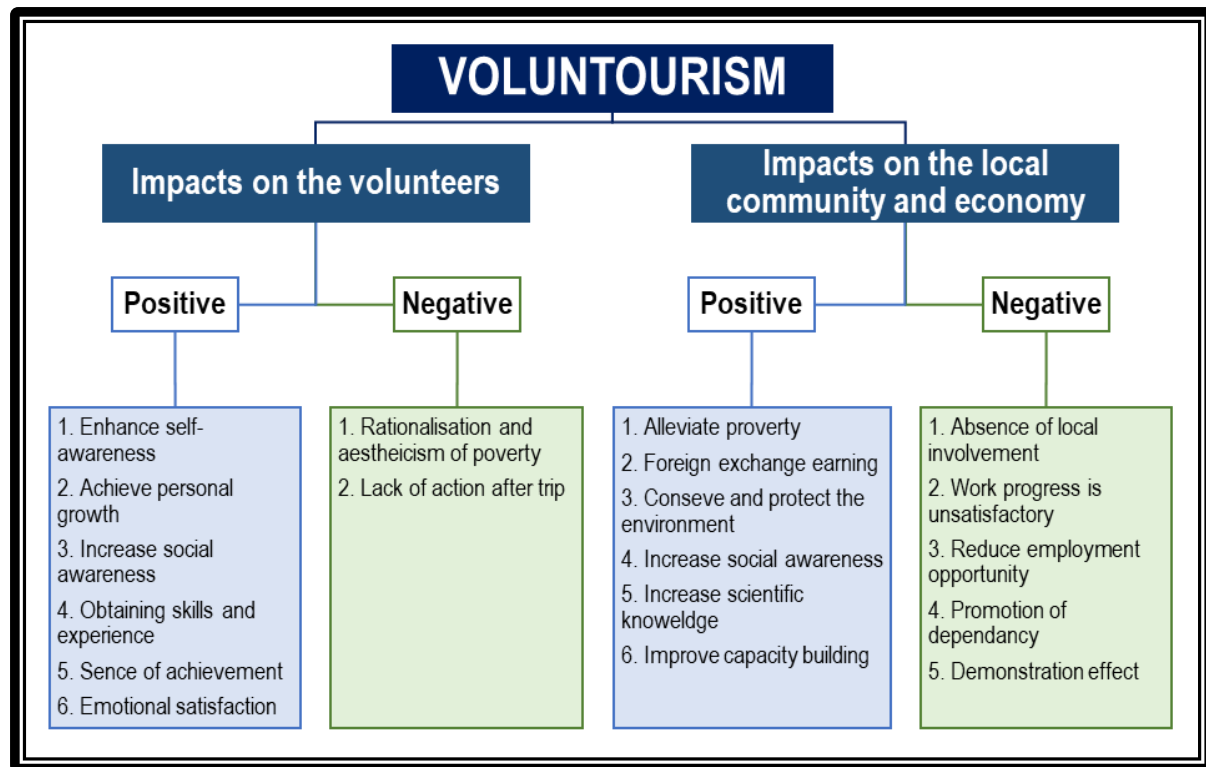


Figure 2.8: The positive and negative impacts of VT

Source: Author's compilation

From Figure 2.8, it is clear that VT has an impact on the volunteers and the local communities, both positively and negatively. VT can result in the volunteers enhancing their self-awareness through changing their value goals (Alexander, 2012b:119; Wearing 2003:3; Wickens, 2011:42; Zahra & McIntosh, 2007:115). Volunteers achieve personal growth which changes the way they view the world (Broad & Jenkins, 2009:72). VT can increase social awareness through the volunteers acquiring a more positive behaviour towards various issues, such as conservation (Brown & Morrison, 2003:73; Mcgehee & Santos, 2005:760; Mcgehee, 2002:124; Mcgehee, 2012:101; Mostafanezhad, 2013:150). The volunteers obtain skills and experience that allow them to develop a new perspective on their life (Hindle *et al.* 2010:9; Lepp, 2008:86). This results in the volunteers experiencing a sense of achievement and emotional satisfaction, reduced anxiety, depression and vulnerability, and an increase in trust, interests and activity level (Alexander, 2012b:119; Coghlan & Gooch, 2011:713).

VT can alleviate poverty by enhancing the living conditions of the local community (Knollenberg *et al.* 2014:922; Sin, 2009:480; Stoddart & Rogerson, 2004:311; Wearing, 2001:5). VT can increase foreign exchange earnings, through the sales of

local products (Barbieri *et al.* 2012:509; Clifton & Benson, 2006:238; Gray & Campbell, 2007:463). It can also conserve and protect the environment (Coghlan & Gooch, 2011:713). VT can lead to increased social awareness amongst different cultures, societies and people (Raymond & Hall, 2008:530; Wearing & Deane, 2003:4; Wearing & Neil 2001:233), increase scientific knowledge (Coghlan & Gooch, 2011:713) and improve capacity building through education and skill development (Wearing, 2001:5).

The negative impacts of VT on the volunteers include rationalisation and aestheticism of poverty, where the volunteers see poverty in certain areas as natural, for which the local community should be happy, and not as a problem (Guttentag, 2009:537; Mostafanezhad, 2013:150; Raymond & Hall 2008:530; Simpson 2004b:681; Wearing 2001:5). Once the volunteers return home, they may lack action (e.g. recycling and volunteering in their local town) despite promises made during the trip (Coghlan, 2008:183; Sin, 2009:480). The local community's involvement in VT activities may become absent, and the volunteers' work progress may be unsatisfactory because they lack the required skills (Guttentag, 2009:537). Employment opportunities for the local community may be reduced due to the volunteers conducting the work that could have been done by the local community (Clifton & Benson, 2006:238; Daldeniz & Hampton, 2011:30; Guttentag, 2009:537; Simpson, 2004b:681). VT may lead to the promotion of dependency of the local community on the volunteers and encourage cultural changes caused by the demonstration effect, leading to actions such as begging, and the loss of traditions (Clifton & Benson, 2006:238; Daldeniz & Hampton, 2011:30; Guttentag, 2009:537; Simpson, 2004b:681).

It may be argued that the positive impacts of VT outweigh the negative ones and can assist in reducing the possibility of the negative impacts arising. Due to the key attributes of MWT, including the ability to contribute to education, awareness-raising, conservation, science, livelihoods and economies, VT can stimulate the growth in MVT (Dobson, 2007:66) which will be discussed in Chapter 3 and is introductorily illustrated in Figure 2.9.

From Figure 2.9, tourism can be divided into three major sections; 1) mass tourism; 2) responsible sustainable and ecotourism; and 3) alternative tourism (Dirhamsyah, 2019:78; Fennell, 2012:188; Leslie, 2012:5; Lorant, 2011:210; Saarinen, 2014:1;

Sharples, 2013:382; Spenceley, 2008:5; Weeden, 2013:5). Wildlife tourism and MWT would belong to the second category - assuming that they are properly managed (Tyrrell *et al.* 2012:283). CS, scientific tourism and VT form part of the third category (Bourlon & Torres, 2016:3; Wearing & Neil, 1999:233).

MWT can have a variety of negative impacts on a destination, such as species' endangerment, disturbance of marine life, habituation and damage to the coral reefs (Gedik & Mugan-Ertugral, 2019:864; Trave *et al.* 2017:213). To overcome the negative impacts of MWT, destinations could focus on selling sustainable marine activities, including VT. It is essential for a coastal destination to preserve marine resources and encourage conservation through the promotion of alternative forms of tourism that could include MVT. MVT is still a growing sector around the globe. It can be argued that the appropriate management of MVT will have a variety of positive impacts on a destination, such as environmental conservation, poverty alleviation, social awareness and community development (Coghlan & Gooch, 2011:713; Knollenberg *et al.* 2014:922; Raymond & Hall, 2008:530), although the potential negative impacts of MVT will also be discussed in Chapter 3.

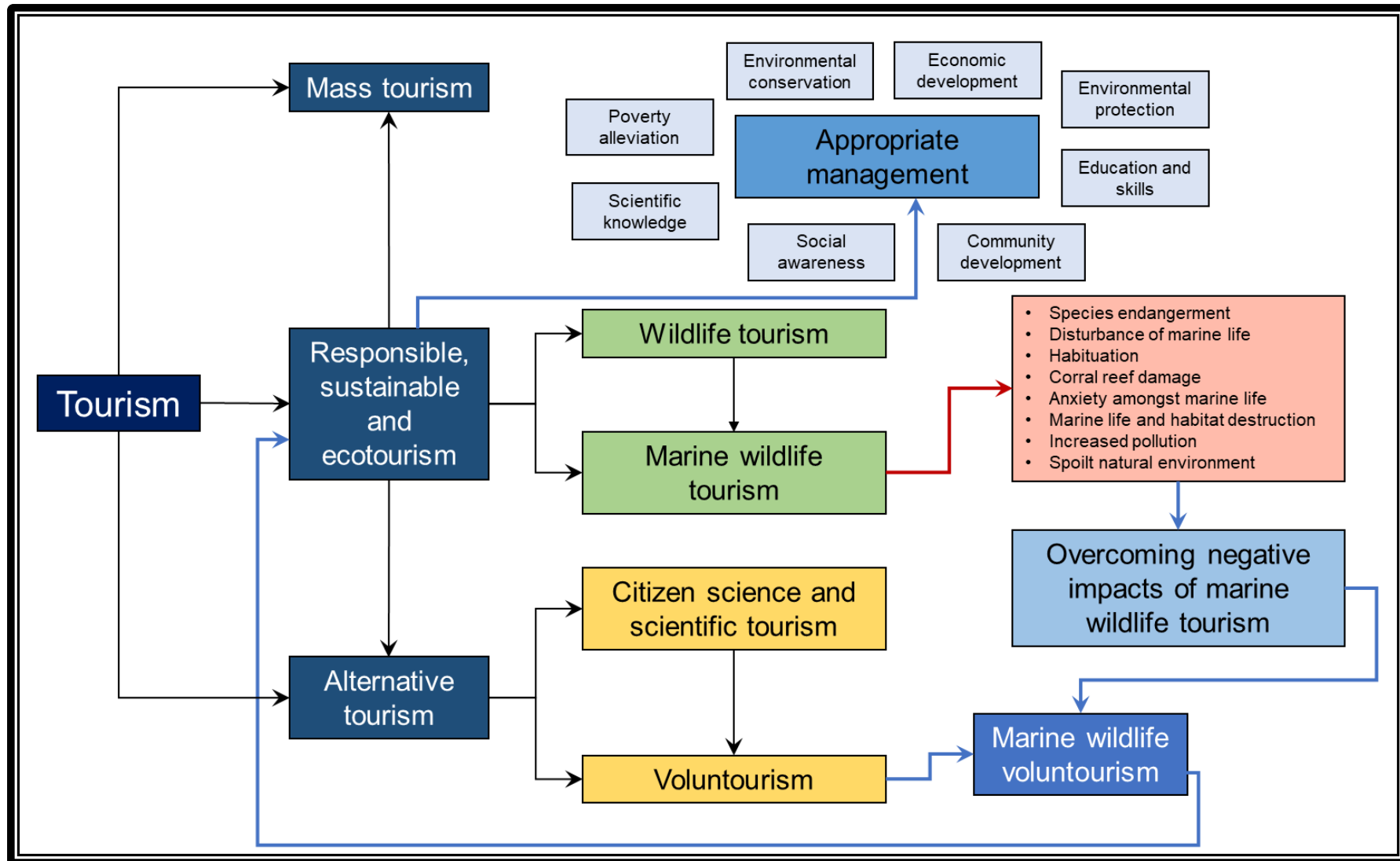


Figure 2.9: A conceptual diagram of MVT

Source: Author's compilation

2.3.4. VOLUNTOURISM IN SOUTHERN AFRICA

Countries of Southern Africa, including South Africa, Mozambique and Madagascar, are popular for alternative forms of tourism, such as ecotourism and VT. According to Hulbert, Turner and Scott (2019:1), several CS projects have been and are currently and successfully undertaken in South Africa alone. CS projects have also been undertaken in Mozambique, focusing on endangered species (Araujo *et al.* 2020:1; Lucrezi *et al.* 2018:2).

South Africa is a popular VT destination across the globe and is the second most popular destination for VT worldwide (Inversini, Rega & van Zyl, 2020:5). According to Chevallier (2018:9), Mozambique offers a variety of opportunities for VT, including community-based, terrestrial-based and marine-based VT. For MWT to be more responsible and offer increased advantages to South Africa, Mozambique and Madagascar's economies, communities and environments, a new sector, MVT has been developing over recent years. MVT can assist in developing both the economy and local communities, embrace sustainability principles and address human impacts on the marine environment and animals (Eadington & Smith, 1999:6). MVT and its context in the countries under investigation (South Africa, Mozambique and Madagascar) will be discussed in detail in Chapter 3.

2.4. CONCLUSION

The purpose of this chapter was to achieve Objective 1, by providing a preliminary background of MVT through analysing MWT and VT. A conceptual diagram of MVT is illustrated in Figure 2.9 and indicates how VT can influence MWT to be a more responsible and sustainable form of tourism, MVT, which is the primary focus of this study and will be analysed in Chapter 3.

In conclusion, tourism is an essential sector of a country's economy. It offers a variety of advantages to the economy, environment and community, such as generating employment opportunities, promoting conservation and increasing the local community's education and skills. It also has negative effects, such as inflation, pollution and the demonstration effect. Having said this, tourism comes in different forms, such as mass tourism, responsible tourism, sustainable tourism, and alternative tourism. The impact of mass tourism on a destination and the local community has

resulted in a serious concern for many people. New forms of tourism are developing that focus on embracing responsible and sustainable principles that will address the impacts of tourists on the natural environment and wildlife. These new forms of responsible and sustainable tourism can be seen as alternative tourism and, unfortunately, if not managed properly, can also be a part of mass tourism.

Wildlife tourism, especially MWT is a primary sector of responsible and sustainable tourism. It attracts a large number of tourists and offers a variety of unique activities. These activities result in increased support for conservation, greater awareness and education, and larger financial support for marine conservation. On the other hand, MWT results in species endangerment, habituation, and damage to coral reefs. For South Africa, Mozambique and Madagascar to overcome the negative impacts of MWT and enhance the advantages of marine activities and the extensive coastline that Southern Africa has to offer, the focus should be placed on an alternative form of tourism, namely, MVT. VT is a non-compulsory activity that allows the tourist to assist with poverty alleviation, educating the local people, restoring the community, and contributing to research in society and environments. MVT can enhance the responsible and sustainable sector of tourism and, if managed appropriately, can result in a variety of benefits for a country, such as environmental protection, community and economic development.

CHAPTER 3: MARINE WILDLIFE VOLUNTOURISM

"We know that when we protect our oceans, we're protecting our future"

~ Bill Clinton

3.1. INTRODUCTION

Marine wildlife voluntourism(MVT) involves organised volunteer activities that focus on marine species at a coastal destination while on holiday, where voluntourists use their time and money to assist in marine conservation (Adapted from McGehee & Santos, 2005:760; Wearing, 2001:1). MVT encompasses voluntourists supporting and caring for marine ecosystems through monitoring of marine species and the environment, and collecting scientific data related to the marine ecosystem (Bianchi & Stephenson, 2014:1; Gray *et al.* 2017:200).

MVT organisations that offer MVT programmes are growing globally, resulting in more opportunities and destinations where MVT can take place (Gray & Campbell, 2007:463; Kumaran & Pappas, 2011:E2). MVT consists of a variety of offerings, with activities of different duration and prices (Volunteerworld.com, © 2021). The majority of the MVT programmes focus on charismatic fauna, such as turtles, sharks, whales, dolphins and coral reefs (Boretti & Fairer-Wessels, 2014:1; Higham & Lück, 2007:5; Zeppel & Muloin, 2007:20). Anderson *et al.* (2017:589) state that MVT has increased greatly, and more voluntourists are contributing to marine conservation issues.

MVT can have both positive and negative impacts. If managed successfully, it could result in enormous benefits to vulnerable marine ecosystems, to the voluntourists themselves, to the local community, economy and the environment as well as to science and decision making (Barbieri *et al.* 2012:509; Dickinson *et al.* 2012:291; Hidalgo-Ruz & Thiel, 2013:12; Kitney *et al.* 2018:1091; Knollenberg *et al.* 2014:922; Ong, Lockstone-Binney, King & Smith, 2014:680; Roques *et al.* 2018:385).

This chapter aims to achieve Objectives 1 and 2 by analysing MVT, with all its characteristics, through an in-depth literature review and a content analysis of web-based information. An in-depth review is provided on the following aspects of MVT: 1) onset of MVT; 2) structure of MVT; 3) documented impacts of MVT. This investigation provides an overall background of MVT and identifies important gaps in the literature.

Where possible, the focus is given to Southern Africa and documented aspects of MVT in Southern African countries which are the focus of this research.

3.2. THE ONSET OF MARINE WILDLIFE VOLUNTOURISM

MVT was born as a way to promote tourism that would revolve mainly around participating in marine conservation and science while also enjoying a coastal destination and its attractions (Rahman & Ali, 2019:78). According to Allison, Lubchenco and Carr (1998:79), marine conservation and advocacy have increased due to the great impact of people on marine ecosystems. This is due to threats faced by marine ecosystems around the globe, including pollution, habitat degradation, climate change, invasive species, and exploitation (Leslie, 2005:1702) This section focuses on how tourism activities in natural environments, including marine environments, have led tourists to want to do more for marine conservation and assist with overcoming the challenges faced by marine ecosystems. From these efforts, MVT has emerged. Figure 3.1 illustrates the “evolution” of MVT.

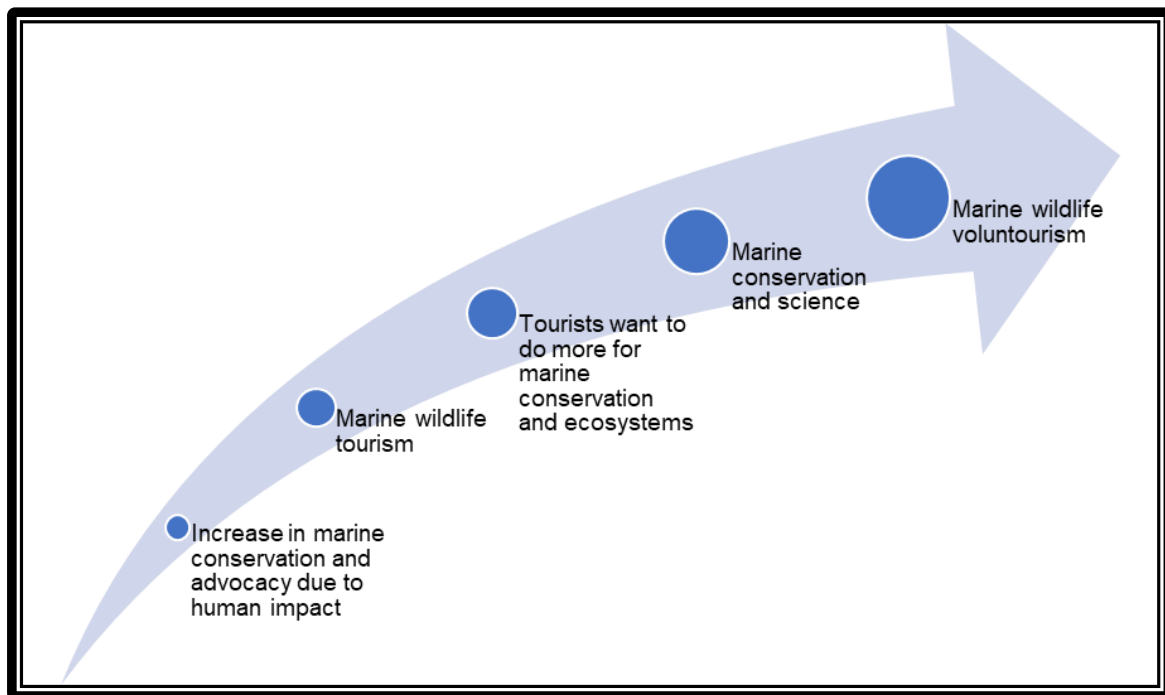


Figure 3.1: “Evolution” of MVT

Source: Author’s compilation

3.2.1. INCREASE IN MARINE CONSERVATION AND ADVOCACY DUE TO HUMAN IMPACT

Marine ecosystems are essential for supporting biodiversity and human societies (Hull, Rivera & Wong, 2019:1). The ocean covers 70% of the earth's surface and plays an essential role in oxygen production, climate regulation, recreation, food production, and transport (Hull *et al.* 2019:1). The increased human activities affect the ocean greatly, resulting in the potential extinction of species and habitat degradation (Hyrenbach, Forney & Dayton, 2000:438). Certain sharks and rays (*Chondrichthyans*) are the most threatened species in the ocean, with numbers declining annually (MacKeracher, Diedrich & Simpfendorfer, 2018:255). This results in uncertainty for the future of these species and other marine species. This highlights the urgent need for conservation strategies (MacKeracher *et al.* 2018:255). Coral reefs are also declining globally and, according to Bruno, Côté and Toth (2019:308), the average cover of living coral on tropical reefs has reduced by up to 75% around the globe over the last 40 years. Coral reefs are essential as they protect the coastal communities from large waves, provide habitat for a variety of species, and assist with carbon and nitrogen-fixing, among other functions and ecosystem services (Bruno *et al.* 2019:308).

The susceptible state of the marine ecosystems and the necessity to monitor, manage and assess species and habitats are increasingly recognised (Vercammen *et al.* 2019:1565). Conservation interventions are being used by governments, private citizens, and corporations to meet sustainable and biodiversity development goals and to reduce the negative human impact (Gill *et al.* 2019:348). Such interventions include the development of sustainable fisheries, the creation of marine reserves, restoring the population of endangered species and the development of policies (Jones *et al.* 2020:189). As part of these efforts, marine protected areas (MPAs) have been established to protect the marine environment and to assist with the conservation of marine life (Bennett & Dearden, 2014:96; Vercammen *et al.* 2019:1565). According to Gill *et al.* (2019:348), 15% of the world's land and 7.3% of the ocean surface are protected areas. These conservation efforts have opened doors for potentially sustainable tourism activities in natural environments.

3.2.2. MARINE WILDLIFE TOURISM

Marine tourism (MT), specifically marine wildlife tourism (MWT), is seen as a key strategy to overcome the financial challenge faced by MPAs (Atmodjo, Lamers & Mol, 2017:181). If managed appropriately, it becomes essential for the economy of coastal areas and the financial support to MPAs (Hammerton *et al.* 2012:77). MWT activities primarily focus on coral reefs (or similar ecosystems such as coralligenous formations) and charismatic species from cryptic ones (e.g. seahorses, nudibranchs) to megafauna (e.g. dolphins, whales, sharks and turtles) and seabirds; some of these species are threatened or are famous flagship species (Apps *et al.* 2018:109; Biggs, Amar, Valdebenito & Gelcich, 2016:1). According to Haywood (1995:20), flagship species attract people to support and donate funds towards conservation actions. The World Wide Fund for Nature (WWF, 2021) adds that these species are deployed as symbolic ambassadors for a specific environmental cause.

Scuba diving tourism has grown to become a multi-billion dollar industry that attracts millions of tourists to explore the ocean and its wildlife species and has become emblematic of MWT (De Groot & Bush, 2010:1051; Wongthong & Harvey, 2014:138). On the one hand, diving tourism can have negative impacts on underwater environments, which has raised conservation concerns for coral reefs and other wildlife (Giglio, Luiz, Chadwick & Ferreira, 2017:2; Lucrezi, Milanese, Cerrano & Palma, 2019:10; Lucrezi *et al.* 2017:386; Naidoo, Ramseook-Munhurren & Li, 2018:44). On the other hand, diving tourism makes substantial economic contributions to MPAs (Giddy & Rogerson, 2018:50; Hampton, Jeyacheya & Lee, 2017:107; Saayman & Saayman, 2018:26). Additionally, many divers are becoming responsible and attentive towards conservation issues (Hammerton *et al.* 2012:77). For example, divers are increasingly interested in actively contributing to conservation through participation in research, also called citizen science (CS) (Bear, 2016:56; Cerrano, Milanese & Ponti, 2017:303; Panebianco *et al.* 2017:1) or by donating money for research and conservation activities (Giglio *et al.* 2017:2; Grafeld *et al.* 2016:202; Nelson, Partelow & Schlüter, 2019:34).

3.2.3. TOURISTS WANT TO DO MORE FOR MARINE CONSERVATION AND ECOSYSTEMS

Ellis (2003b:45) states that the increased demand for educational learning, environmental activities and wildlife tourism has contributed to the increased demand for volunteer tourism or voluntourism (VT). Based on the conservation-related education and information received during an MWT activity, marine wildlife tourists tend to support the protection of marine areas and marine life (Zeppel & Muloin, 2013:115). Tourists who want to do more for marine conservation and marine ecosystems also expect an environmental and conservation education component in their trip (Lück, 2016:131). Researchers found that, after an MWT activity, some tourists change their attitude and behaviour towards conservation in five main ways (Apps *et al.* 2018:108; Goldberg *et al.* 2018:240):

- Showing greater awareness of marine life and marine issues and wanting to pass the acquired knowledge on to others (Apps *et al.* 2018:108; Goldberg *et al.* 2018:248; Zeppel & Muloin, 2013:115), for example, educating their friends and family;
- Having a strong willingness to assist with conservation programmes (Apps *et al.* 2018:108; Finkler & Higham, 2004:103), such as getting involved in conservation-oriented volunteer programmes;
- Feeling that they could make a difference even with fundraising (Zeppel & Muloin, 2013:115), for example, donating money towards a cause;
- Being more environmentally aware and trying to reduce the impact on the marine environment (Birtles *et al.* 2002:20; Goldberg *et al.* 2018:240; Zeppel & Muloin, 2013:115), for example, avoiding single-use plastic;
- Participating actively in CS projects (Gray *et al.* 2017:199).

3.2.4. MARINE CONSERVATION AND SCIENCE

The number of people who volunteer to contribute to marine conservation issues and assist with data collection is increasing greatly (Anderson *et al.* 2017:589). Marine citizen science (MCS), for example, involves people with a passion for the ocean and marine life and is a cost-effective method of collecting the information needed to increase conservation and assist with scientific discovery efforts (Wolfe & Pattengill-Semmens, 2013:1). According to Egi *et al.* (2018:2), recreational scuba divers are one

of the essential contributors to MCS, by uploading vital data and information to a central database (e.g. water depth and temperature from their dive computer or pictures of marine life sightings). Other contributors to MCS from a tourism perspective include free divers, recreational fishers, and people participating in marine wildlife viewing (Currie, Stack & Kaufman, 2018:65; Earp & Liconti, 2020:5; Giovos *et al.* 2019:3708). The participation of marine tourists in MCS activities has been accompanied by the creation of tourism offerings including volunteering for marine wildlife conservation or the monitoring of marine ecosystems (Gray *et al.* 2017:199). These offerings include MVT.

3.2.5. MARINE WILDLIFE VOLUNTOURISM

According to Stainton (2016:256), VT is a macro-niche industry, which is a large-scale specialised industry. VT activities include a wide range, such as volunteering in orphanages (Rogerson & Slater, 2014:483), on farms (Yamamoto & Engelsted, 2014:964), and supporting wildlife conservation (Lorimer, 2009:352). MVT falls under “supporting wildlife conservation”. In literature, different terms are used to address VT that focuses on “supporting wildlife conservation”. These terms are used in terrestrial and marine settings.

Figure 3.2 illustrates the different terms used in literature to address VT that focuses on “supporting wildlife conservation” which include: 1) VT (Caissie & Halpenny, 2003:38; Campbell & Smith, 2006:84; Coghlan, 2007:267; Wearing, 2003:4); 2) active conservation holidays (Cousins, 2008:1020); 3) extreme ecotourism (Weiler & Richins, 1995:29); 4) hard core ecotourism (Lindberg, 1991:1); 5) research ecotourism (Clifton & Benson, 2006:238); 6) volunteer ecotourism (Gray & Campbell, 2007:463); 7) conservation VT (Brondo, 2015:1405; Coghlan, 2007:267); 8) volunteer conservation tourism (Lorimer, 2009:352); 9) conservation tourism (Cousins, Evans & Sadler, 2009a:1); 10) PERT - participatory environmental research tourism (Ellis, 2003a:75; 2003b:45); 11) research tourism (Benson, 2005:133); 12) scientific tourism (Llyina & Mieczkowski, 1992:327); 13) scientific study tourism (Morse, 1997:257); 14) scientific ecotourism (Whatmore, 2008); and 15) CS (Silvertown, 2009:467).

All of these terms are used to describe people who want to contribute to conservation issues (Anderson *et al.* 2017:589), support the protection of different wildlife and

ecosystems (Zeppel & Muloin, 2013:115), increase their education (Lück, 2016:131), and participate in scientific activities revolving around conservation (Anderson *et al.* 2017:589).



Figure 3.2: Different terms for VT that focuses on “supporting wildlife conservation”

Source: Author’s compilation

PERT = participatory environmental research tourism

According to Gray *et al.* (2017:200), VT organisations, politicians and educators promote VT as a way of developing global citizenship. Global citizenship refers to concern for the well-being of humankind (Lyons *et al.* 2012:361). MVT is aligned with global marine environmental citizenship, whereby the voluntourists demonstrate care for the global marine environment (Bianchi & Stephenson, 2014:1). Besides supporting and caring for the marine environment, voluntourists are also involved in marine environmental monitoring and collection of scientific data related to the marine environment (Gray *et al.* 2017:200).

3.2.5.1. Marine wildlife voluntourism *versus* marine citizen science

Once voluntourists participate in collecting scientific data relating to the marine environment, these voluntourists are considered to be marine citizen scientists (Gray *et al.* 2017:200). As explained in Chapter 2, CS can be defined as non-professionals participating in true scientific research through the collection and analysis of data relating to the natural world (Dickinson *et al.* 2012:291). MCS, which is contextualised in marine ecosystems and marine environments, could be considered a form of MVT (see Figure 3.2). Indeed, MVT and MCS share three essential similarities (Gray *et al.* 2017:200):

- Both MVT and MCS can support knowledge production by providing non-professionals with an opportunity to participate in the collection of scientific data (Dickinson *et al.* 2012:291);
- MVT and MCS projects can provide social benefits to the community (Bonney *et al.* 2014:1436);
- The voluntourists and citizen scientists receive a variety of benefits for participating. These include increased marine environmental consciousness (Weaver, 2015:683); personal growth (Alexander, 2012a:779; Barbieri *et al.* 2012:509; Coghlan & Gooch, 2011:713); increase in confidence; and improved knowledge, skills, and scientific literacy (Donnelly *et al.* 2014:1237; Johnson *et al.* 2014:235).

MCS and MVT have key differences, mainly in the location and cost of activities (Gray *et al.* 2017:200). Citizen scientists can collect data in various settings, such as on holiday, in their residential areas, or in dedicated spaces where they are required to travel for data collection and other scientific activities (Cigliano *et al.* 2015:77; Gray *et al.* 2017:201). Voluntourists usually want to experience charismatic species and exotic ecosystems at different locations (Lorimer, 2009:352). CS is usually free and open to all citizens, whereas voluntourists pay to participate in conservation projects (Lorimer, 2009:352; Stevens *et al.* 2014:20). Thus, while CS tends to be for free and takes place at home, VT takes place at a different location for a price. This difference highlights the tourism component of MVT as opposed to MCS.

3.2.5.2. Overview of marine wildlife voluntourism

According to Brightsmith *et al.* (2008:2832), the number of VT projects and voluntourists have increased over recent years, encompassing also marine environments. Participation in MVT is underpinned by various motivations. These usually include wanting to make a difference, wanting to explore new places and gaining research experience by participating in volunteer projects (Goffredo *et al.* 2010:2170; Keese, 2011:257). Brondo (2015:1414) and Gray *et al.* (2017:200) found that the two most common motivations to participate in MVT are altruism (to support conservation efforts), and self-development (to gain experience and practical skills). Campbell and Smith (2005:183) found that the motivations of voluntourists to participate in turtle conservation VT programmes were to contribute to turtle conservation, to give back to a meaningful cause (altruism), to gain fieldwork and research experience (self-development) and to travel and learn about new cultures (escapism and discovery).

MVT has measurable impacts, which will be discussed in detail later in this chapter together with motivations to participate in MVT. Brightsmith *et al.* (2008:2832) and Brondo (2015:1405) argued that MVT can lead to long-term funding for conservation, such as creating MPAs to protect marine species and their habitat. MVT can meet conservation needs (Brown & Lehto, 2005:479; Keese, 2011:257; Ong *et al.* 2014:680), for example, through protecting coral reefs and studying the impact of climate change and coral bleaching. MVT can contribute to global marine environmental citizenship (Brown & Morrison, 2003:73; Wearing, 2001:1), where voluntourists contribute towards conservation while giving back to the local community. Roques *et al.* (2018:386) found that the greatest impact of MVT includes increased education and awareness of voluntourists and the local community as well as greater research and planning around conservation decisions. MVT has been demonstrated to increase environmental concern or continued participation in conservation-oriented activities (Schneller & Coburn, 2018:1). Increased volunteer satisfaction can lead to greater sustainability of the marine environment (Brown & Lehto, 2005:479; Roques *et al.* 2018:389). It can also result in enhanced self-awareness (Alexander, 2012b:119; Wearing, 2003:3; Wickens, 2011:42; Zahra & McIntosh, 2007:115) and personal growth of the voluntourists (Broad & Jenkins, 2009:72).

The motivations and satisfaction of marine wildlife voluntourists and the impact of MVT depend greatly on the structure of an MVT organisation (Roques *et al.* 2018:389), which is thus essential to understand.

3.3. STRUCTURE OF MARINE WILDLIFE VOLUNTOURISM

Analysing the organisational structure of MVT will provide a better understanding of the profile of MVT suppliers, their offerings (which can be more or less attractive or satisfactory to the potential marine voluntourist), the challenges that they face, and their attitude towards certain aspects, such as conservation, research, education, and community engagement. This section discusses the supply structure and activities of MVT organisations, including the current offerings, business models, the challenges and opportunities, perceived ethical conduct, market structure, and motivations to participate in MVT, based on material collected through an in-depth literature review and content analysis of web-based information.

3.3.1. CURRENT OFFERINGS IN MARINE WILDLIFE VOLUNTOURISM

The number of organisations that offer MVT programmes is increasing greatly (Kumaran & Pappas, 2011:E.2), resulting in a growth of the MVT industry and offerings (Gray & Campbell, 2007:463). This could be due to the increase in youth tourism and the willingness to volunteer for services abroad (Govender & Rogerson, 2010:3). There are a variety of online platforms where one can choose a specific volunteer programme in which to participate. Some of the platforms offer volunteer programmes around the globe, such as Volunteerworld, Responsible Travel, Go Overseas, Global Volunteers, Frontier, Global Vision International, EarthWatch, GoEco, Biosphere Expeditions, Matador Network, and Volunteer Forever. Other platforms are destination-specific. For example, Work Travel South Africa Volunteering, and Kwantu Volunteer offer volunteer programmes in South Africa only, and African Impact offers volunteer programmes in Africa. Each of these platforms is unique and offers a variety of VT programmes, according to the different project focuses (e.g. environment and conservation, community services and humanitarian aid), destinations and, in the case of wildlife VT, species (e.g. terrestrial or marine).

For illustrative purposes, the offerings of only one global platform are represented in Figures 3.3 and 3.4, which identify the countries where tourists can volunteer in programmes that focus specifically on marine conservation and marine life. Volunteer World is one of the leading platforms that offer volunteer programmes around the globe (Volunteerworld.com, © 2021). It is essential to note that Volunteerworld divides the marine-focused VT programmes into two categories: Marine Conservation, and Marine Life. Figure 3.3 illustrates 50 VT programmes that focus on Marine Conservation around the globe: 11 in North and South America, five in Europe, 16 in Africa, and 18 in Asia and the Oceania region. From this figure, it is evident that offerings concentrate on the global south.



Figure 3.3: Map of marine conservation VT hotspots around the globe

Source: Volunteerworld.com (© 2021)

Figure 3.4 shows 78 VT programmes that focus on Marine Life: 39 in North and South America, seven in Europe, eight in Africa, 11 in Asia, and 13 in the Oceania region. Even from this figure, it is evident that offerings concentrate on the global south.



Figure 3.4: Map of marine life VT hotspots around the globe

Source: Volunteerworld.com (© 2021)

The programmes that are illustrated in Figures 3.3 and 3.4 focus on environmental, conservation, scientific and educational activities such as community development; monitoring of sea pollution; litter removal; invasive species removal; eradication of introduced harmful species; beach patrol; collecting, entering, and recording data; learning to dive; increasing and improving skills and education; and educating the local communities on marine life and conservation (Brightsmith *et al.* 2008:2833; Wearing & McGehee, 2013:124).

Activities specifically revolving around wildlife include protection from illegal trade and poaching; endemic species care; coral farming; turtle eggs rescue; marine animals observation; assisting sick and injured marine animals; and marine animals cleaning, feeding, rehabilitation and release. Species of interest normally include charismatic fauna such as turtles, whale sharks, great white sharks, whales, dolphins, penguins, rays, and coral (Boretti & Fairer-Wessels, 2014:1; Higham & Lück, 2007:5; Zeppel & Muloin, 2007:20).

The cost for these programmes depends greatly on the number of weeks that the voluntourists would spend with the volunteer programme. The periods range from 1 week to 50 weeks. The programmes mostly include accommodation and meals. Visas, flights, airport transfer, travel insurance, vaccinations, and other expenditures are

usually not included in the programme fees. Some programmes include dive courses (e.g. PADI Open Water Diver Course, Advanced Open Water Diver Course, Rescue Diver Course or speciality courses) and internet access. These programmes are open either the whole year round or only during certain seasons. The programmes cater for a variety of preferences, including single, couple, group, older, family and disabled travellers. The accommodation is different for each project, from sharing units (dorm and hostel) to family units, single units or camping options.

The cheapest programme listed is \$236.00 per week, for a minimum of one week and a maximum of 35 weeks. This programme focuses on turtle conservation in Costa Rica. Coral reef restoration in Indonesia costs \$72.00 per week, for a minimum of eight weeks and a maximum of 20 weeks. The total cost for the minimum stay would be \$576.00. The cost to participate in dolphin conservation in Australia is \$1,524.00 for six weeks. This programme costs \$254.00 per week, for a minimum of six weeks and a maximum of 12 weeks. Great white shark conservation in South Africa is \$1,582.00 for two weeks. This programme costs \$491.00 per week, for a minimum of two weeks and a maximum of 12 weeks. The starting cost for a programme that focuses on whale shark research in the Philippines is \$173.00 per week, for a minimum of 12 weeks and a maximum of 24 weeks. The total cost for the minimum stay would be \$2,076.00.

Bath-Rosenfeld (2014:9) found that a two-week conservation-focused volunteer programme can cost \$150.00 to \$5,195.00 depending on the accommodation, location and research situation. Gray *et al.* (2017:203) found that the cost of a six-week turtle volunteer programme in Belize (excluding flights) was between €2,600 and €2,900 (\$3,049.84 – \$3,401.75). Researchers have found that voluntourists who participate in conservation VT in South Africa could stay between two and ten weeks with an average cost of \$1,965.51 - \$5,068.71 (Alexander, 2012b:121; Van Tonder, Hoogendoorn & Block, 2017:10). In Honduras, voluntourists could stay between four to eight weeks (Brondo, 2015:1412). In Thailand, they could stay for four months (Broad, 2003:66).

According to Wearing (2001:20), a VT trip can be more expensive compared to a normal tourism holiday at the same destination. Bath-Rosenfeld (2014:4) stated that accommodation and food make up a substantial part of the funds that the voluntourists

pay. Previous research found that VT organisations target Western or young travellers from wealthy backgrounds (Heath, 2007:89; Scheyvens, 2002:108). According to Govender and Rogerson (2010:3), voluntourists spend more money and stay longer compared to general tourists. Many voluntourists feel comfortable organising a volunteer trip through a reputable and licensed organisation, even when the costs are high (Grimm & Needham, 2011:17). Voluntourists have a positive attitude towards paying for a conservation cause, and voluntourists with more experience are willing to spend more on VT (Bath-Rosenfeld, 2014:9; Heath, 2007:89; Popova, 2017:75). VT organisations depend greatly on the funds from the voluntourists to ensure that the VT organisation and projects continue to grow (Bath-Rosenfeld, 2014:9). According to Bath-Rosenfeld (2014:9), some volunteer organisations indicate where the voluntourists' funds are allocated. Other organisations do not share the information, which can negatively influence the voluntourists. Some voluntourists want to know what the organisation does with their funds and, in certain cases, why the funds are so high (Coren & Gray, 2012:222). Coghlan (2006:225) and Govender and Rogerson (2010:3) stated that volunteer organisations want to attract voluntourists who have the capital and time to support conservation projects, which would result in potential profit and financial benefit (e.g. long-term support and donations).

From the maps in Figures 3.3 and 3.4, three main observations can be made and will be considered later: 1) there is a diversity of MVT organisations, where each organisation offers unique programmes; 2) programmes revolve around various marine species, with a focus on charismatic fauna; 3) MVT is accessible at different destinations across the globe at different costs, with a focus on the global south including exotic destinations in developing regions like Africa and Central America which host biodiversity of marine life species.

3.3.2. BUSINESS MODELS IN MARINE WILDLIFE VOLUNTOURISM

According to Rusu (2016:168), the business model is essential to an organisation; its design and implementation determine the success of the organisation. Kohler, Stribl and Stieger (2016:439) added that the business model explains the procedure of how the organisation produces value and how it captures the value as profit. The business model can best be described with nine elements that cover four main areas of a business: infrastructure, offer, customer, and financial viability (Osterwalder &

Pigneur, 2009:44). These elements are key partners, key activities, key resources, value proposition, customer relationships, customer segments, channels, cost structure, and revenue streams (Osterwalder & Pigneur, 2009:44).

Cirjevskis (2019:2) states that business models in the tourism industry are seldom discussed in the literature. Benson and Henderson (2011:406) found that there is a gap in the information that has been published on the business and organisational activities that drive VT projects, more specifically MVT programmes. Table 3.1 illustrates a business model canvas of MVT based on literature and the analysis of 16 MVT offerings from the internet. Afterwards, the business model is discussed, highlighting the general challenges and opportunities of MVT.

For the literature search, all the papers including the key phrases “business model”, “business model canvas”, “management structure”, “business plan”, “voluntourism”, “conservation”, “marine”, and “conservation voluntourism” were sourced. From these papers, additional key phrases were considered, including the four main areas of a business and the nine elements of the business model canvas. For the content analysis of web-based information, a random sample of 16 MVT offerings around the globe (North and South America, Europe, Africa, Asia, and Oceania region) were searched through popular VT search engines including Volunteerworld.com, Facebook and Google. These 16 MVT offerings were randomly chosen and focus on a variety of marine life, including sharks (e.g. whale sharks and great white sharks), marine mammals (e.g. dolphins and whales), reptiles (e.g. leatherback and hawksbill turtles), and coral reefs. The website and Facebook pages for these offerings were analysed to source information.

Table 3.1: Business model canvas of MVT based on literature and content analysis of web-based information of 16 MVT offerings

Key Partners (Infrastructure)	Key Activities (Infrastructure)	Value Propositions (Offer)	Customer Relationships (Customer)	Customer Segments (Customer)
- Travel company - NGOs - For-profit organisations - Tourism support services - Education institutions - Special equipment suppliers - Government, including MPA governance authorities - Research centres, including CS project coordinators	- Community engagement - Conservation of marine ecosystems & species - Diving / snorkelling - Operations related - Research projects	- Protecting - Raising awareness - Educating - Research - Conservation - Sustaining livelihoods	- Social media - Newsletter - Company blog	- Someone interested with a passion for ocean conservation & marine fauna & flora - General divers - Inexperienced divers - Students & gap year takers - Those interested in marine mammal research - Ecotourists
	Key Resources (Infrastructure) - Local destination & community - Infrastructure - Staff - Equipment - Ocean, coastal zone & marine life - Voluntourists - External collaborators - Donors	- Alleviating poverty - Decision making	Channels (Customer) - Social media - Newsletter	
Cost Structure (Financial Viability)			Revenue Stream (Financial Viability)	
- Employee salaries - Services & requirements for voluntourists - Donations towards charities - Educational materials - Membership fees	- Rent - Training of staff - IT & Equipment - Fuel - Insurance	- Advertising - Maintenance - Repair - Governance tax	- Volunteer fees - Donations - Sponsors - Membership fees	- Sales - Grants - Research funds

The infrastructure of an MVT organisation involves several key partners, activities and resources. The key partners include 1) travel companies offering volunteer and study abroad projects, such as Volunteerworld.com and Responsible Travel; 2) NGOs that focus on environmental conservation, as well as community engagement (Wearing, 2001:12; Wingit, Maulina, Rizal & Purnomo, 2017:52); 3) a variety of for-profit organisations (Wearing, 2001:12; Wingit *et al.* 2017:52) such as retail stores, insurance providers and event planners; 4) tourism support services (Wingit *et al.* 2017:52) such as accommodation, resorts and airlines; 5) education institutions (Wearing, 2001:12; Wingit *et al.* 2017:52), including basic and higher education institutions in both the private and public sector; 6) special equipment suppliers such as boat equipment and scuba diving equipment suppliers; 7) government (Wearing, 2001:12; Wingit *et al.* 2017:52) such as municipalities, government departments and authorities of MPAs and other natural areas; and 8) research centres / organisations, including those coordinating CS projects (Clemmons, 2013). According to Wearing (2001:12), the successful operation of VT organisations is dependent on key partners. Ellis (2003a:75) added that the volunteer programme should meet the goals and needs of the key stakeholders to remain successful in the future.

Benson and Henderson (2011:410) found that VT organisations offering a wider range of key activities are more likely to be successful. Wood and Zeppel (2008:347) stated that marine wildlife voluntourists are interested in marine exploration, marine discovery, learning from experienced researchers, social interaction, fun and skills training. These interests ought to be met through the activities offered by the organisation. VT organisations and voluntourists want to contribute to marine conservation through science, educating the local community, friends and family, and being more environmentally aware (Anderson *et al.* 2017:589; Brightsmith *et al.* 2008:2833; Wearing & McGehee, 2013:124; Zeppel & Muloin, 2013:115). Activities planned as part of MVT could involve raising environmental awareness and promoting positive environmental behaviours and attitudes (Birtles *et al.* 2002:20; Goldberg *et al.* 2018:240; Zeppel & Muloin, 2013:115). Table 3.2 includes the key activities listed in Table 3.1 but with a focus on some wildlife examples, which are turtles, sharks, cetaceans and coral. These activities involve (Rocha *et al.* 2020:3; Roques *et al.* 2018:384): 1) community engagement (e.g. educating locals, creating awareness, and assisting with building projects); 2) conservation of marine ecosystem (e.g. turtle eggs

rescue, shark tagging, turtle rehabilitation, and reef restoration); 3) diving and snorkelling (e.g. whale shark monitoring, coral reef surveys, and invasive lionfish hunting); 4) operations-related (e.g. basic seamanship and boat activities, selling of products, and acting as a guide and interacting with the tourists); and 5) research projects (e.g. data collection, data analyses and data entering).

Table 3.2: Key activities of MVT

Key activities	Turtles	Sharks	Cetaceans	Coral reefs
Community engagement	• Educating locals and public • Creating awareness • Assisting with building projects • Tree planting • Beach clean-ups (including monitoring of sea pollution and litter removal) • Community development			
Conservation of marine ecosystem	• Turtle eggs rescue • Rehabilitation and release of sick and injured turtles • Beach patrol • Cleaning turtles' shells. • Assisting with injured turtles • Nest exhumations	• Shark tagging • Shark observation	• Whale and dolphin watch	• Dissecting lionfish and studying their stomach contents • Reef restoration
Diving / snorkelling	• Turtle swims and snorkelling for observation and identification	• Whale shark swims for observation and identification • Cage diving for recording observations	• In-water dolphin data and image capturing	• Coral reef surveys • Reef monitoring • Invasive lionfish hunting • Lobster and Queen Conch surveys • Eradication of introduced harmful species • Coral farming
Business-related	• Basic seamanship and boat activities • Selling of products • Acting as a guide and interacting with the tourists			
Research projects	• Data analyses • Data recording and entering • Preparing reports			

The key resources that MVT organisations consider as essential include: 1) the local destination and community (Benson & Henderson, 2011:410; Gray & Campbell, 2007:467; Kohler *et al.* 2016:439; Wingit *et al.* 2017:52), such as island destinations, field stations, and local people and cultures; 2) infrastructure, including accommodation and laboratories; 3) staff who are employed at the MVT organisation (Benson & Henderson, 2011:410; Gray & Campbell, 2007:467; Kohler *et al.* 2016:439; Wingit *et al.* 2017:52), with and without special knowledge and skills, who can be local paid employees and voluntary employees; 4) the variety of equipment used to operate different projects (Wingit *et al.* 2017:52) such as boats used to go out to sea, scuba diving equipment, data collection and analysis equipment; 5) the ocean, the coastal zone and marine life that the volunteers work with (Benson & Henderson, 2011:410; Gray & Campbell, 2007:467; Wingit *et al.* 2017:52), such as sharks, marine mammals, reptiles and coral reefs; 6) the voluntourists themselves, without whom there would be no activities and who can share positive experiences that can be used for marketing strategies to attract future voluntourists; 7) external collaborators, such as visiting researchers and scientists; and 8) donors, such as organisations and companies donating money for the support of the MVT projects or with an interest in the outcomes of the projects. Hammersley (2014:858) indicated that it is essential for staff and voluntourists to receive training to ensure an increase in their learning values. Without these key resources, the MVT organisations would not be able to operate successfully and offer unique opportunities to tourists (Debarliev & Mitrovska, 2016:100). The organisation, the activities offered, and the people involved are crucial to ensure repeat voluntourists (Forster, 2001:1).

MVT organisations try to employ local staff to work for their establishments (Barbieri *et al.* 2012:509; Clifton & Benson, 2006:238; Gray & Campbell, 2007:463) to ensure that money does not leak out of the economy (Wearing, 2001:5). In certain cases, the MVT organisations employ international people, resulting in economic leakage (Clifton & Benson, 2006:238; Daldeniz & Hampton, 2011:30; Guttentag, 2009:537; Simpson, 2004b:681; Wearing, 2001:146). This could be due to the local people not having the necessary skills and qualifications to manage and run the organisation and activities (Wearing, 2001:146). The staff at an MVT establishment are usually older, educated, experienced and have worked in the industry for some time (Benson & Henderson,

2011:410; Bhandari & Heshmati, 2010:620; Gray & Campbell, 2007:467; Kohler *et al.* 2016:439; Lester, Ruff, Mayall & McHenry, 2017:237; Wingit *et al.* 2017:52).

The opportunities offered to tourists by MVT organisations (value propositions) can assist with addressing marine ecosystem degradation and saving flagship species from extinction. These should be unique and memorable experiences (Wingit *et al.* 2017:52). The opportunities include: 1) protecting the different marine species; 2) raising awareness of marine-related issues; 3) educating the general public; 4) researching different marine species and the challenges that they face; 5) conserving the marine environment and resources; 6) sustaining livelihoods and alleviating the poverty of the local people and community; and 7) contributing to decision making and the management of local resources for the benefit of ecosystems and wildlife. Wearing (2001:12) stated that the value proposition of VT appears to be an alternative direction, where the altruistic desire to travel for social responsibility is primary when compared to the desire to create a profit. Gray and Campbell (2007:467) added that the value proposition of MVT organisations should be to protect and preserve marine ecosystems and species. Value propositions are linked to the overall experience of the voluntourists, their satisfaction, possible attitudinal and behavioural changes and willingness to continue to contribute to marine conservation in the future (Apps *et al.* 2018:108; Goldberg *et al.* 2018:240).

According to Coghlan (2006:228), students that study tourism, biology or environmental science at undergraduate and postgraduate levels are considered potential marine wildlife voluntourists. The target market of an MVT organisation usually includes young voluntourists, such as university students, or gap year takers (Gray & Campbell, 2007:467). Tourists who are interested in and have a passion for ocean conservation and marine fauna and flora are the general customer segment for MVT organisations. These can include (Clifton & Benson, 2006:238; Coghlan, 2006:228; Ellis, 2003b:45; Galley & Clifton, 2004:69; Gray & Campbell, 2007:467; Lorimer, 2009:352; Wood, 2010:170): 1) anyone who is interested in, and has a passion for, ocean conservation and marine fauna and flora (e.g. wildlife tourist, marine tourist and marine wildlife tourist); 2) the general diver (e.g. advanced or dive master); 3) inexperienced diver (e.g. not yet certified or open water); 4) students (e.g. marine biology or environmental conservation students) as well as gap-year takers; 5)

those interested in marine mammal research (e.g. academics and researchers); and 6) ecotourists (e.g. those tourists who travel responsibly to natural areas). According to Wearing, Stevenson and Young (2010:20), the customer segment for VT is different when compared to mass tourism. VT organisations need to create a meaningful market segment, which would result in more effective targeting, recruitment and retention strategies.

According to Benson and Henderson (2011:411), VT organisations use a variety of marketing channels to advertise their projects to the potential voluntourists and to interact with them before and after participation in VT. The channels through which marine wildlife voluntourists are reached include social media (e.g. Facebook, Twitter, YouTube and Instagram); and company newsletters (e.g. email subscriptions and quarterly online reports; Roques *et al.* 2018:388). A relationship is maintained with these tourists through the same channels (social media and company newsletters), and also company blogs where information is shared and discussed online. According to Suhud (2015b:349), social media is an essential platform for non-profit and for-profit organisations to communicate to stakeholders (e.g. marketing and public relations activities). Social media is a primary platform through which people learn about VT (Lee, 2020:453). According to Kohler *et al.* (2016:439), a relationship is maintained with voluntourists through involving them as active community members who assist with shaping projects and sharing their reviews with others. Organisations endorse this with the hope that a long-term relationship would be built and maintained with the tourists, and also as a positive marketing mechanism (Del Rio Olivares *et al.* 2018:115). Lynch (2000:1) indicated that repeat voluntourists are essential in managing volunteer programmes.

According to Benson and Henderson (2011:406), Gray and Campbell (2007:467), and Wearing (2001:13), the financial viability of an MVT organisation involves a variety of income and expenses. The cost structure includes: 1) employee salaries (Benson & Henderson, 2011:410; Gray & Campbell, 2007:467; Wingit *et al.* 2017:52); 2) service and requirements for voluntourists (Benson & Henderson, 2011:410; Gray & Campbell, 2007:467; Wingit *et al.* 2017:52) such as accommodation, food and scuba diving; 3) donations towards local charities; 4) educational materials for voluntourists; 5) membership fees; 6) renting of property and / or equipment; 7) training of staff; 8)

information technology (IT) equipment (Benson & Henderson, 2011:410; Gray & Campbell, 2007:467); 9) fuel for vehicles; 10) insurance for staff and property; 11) advertising (Wingit *et al.* 2017:52); 12) maintenance and repair of equipment and property; and 13) taxes to be paid to various authorities, including MPAs and regular tax (Benson & Henderson, 2011:410; Gray & Campbell, 2007:467; Wingit *et al.* 2017:52).

The revenue stream to cover these expenses includes 1) volunteer fees (Benson & Henderson, 2011:410; Gray & Campbell, 2007:467; Wingit *et al.* 2017:52); 2) donations from people around the globe; 3) sponsorship from private and public sector (Benson & Henderson, 2011:410; Gray & Campbell, 2007:467); 4) membership fees; 5) product sales (e.g. clothing, bags, and key rings); 6) grants; and 7) research funds (Gray & Campbell, 2007:467).

Financial success is achieved by offering a quality experience and charging higher prices (Buzzell & Gale, 1987:20). It is essential for a VT organisation to be financially viable, even if it is a non-profit organisation (NPO) (Benson & Henderson, 2011:411). On the other hand, VT can be seen as an elitist activity that involves the movement of people from the global north to communities in the global south (Lyons *et al.* 2012:361). Judge (2017:164) stated that VT revolves around privileged citizens of western countries who are free to travel, consume and display knowledge. Previous research indicated that VT can be seen as 1) an exclusive activity where the voluntourists are superior to the people in the community, and 2) where the voluntourists want to distinguish themselves by accumulating cultural capital resulting in bankrupting the value of global citizenship and an uneven global community (Snee, 2013:142; Lyons *et al.* 2012:361). This is one of the challenges faced by VT organisations around the globe. The challenges and opportunities of MVT are discussed next.

3.3.3. CHALLENGES AND OPPORTUNITIES OF MARINE WILDLIFE VOLUNTOURISM

MVT organisations face some challenges and opportunities which can be deduced from the literature as well as the content analysis of web-based information.

3.3.3.1. Challenges of marine wildlife tourism

The challenges can be related to: 1) recruitment (e.g. finding staff and voluntourists who are trained and have a passion to donate their time towards conservation); 2) funding (e.g. obtaining funds and sponsors, and distributing funds effectively); 3) finding responsible voluntourists (e.g. those who travel for a purpose and are not holiday- or vacation-minded); 4) time spent on training voluntourists and preparing them for the key activities (e.g. training a four-week volunteer for two weeks to be a good scuba diver with scientific capabilities and for the remaining two weeks, the volunteer spends some of his / her time planting mangroves or teaching in a local school. This can result in producing ambassadors of the underwater world, but may not be resource-efficient for the MVT organisation); and 5) academic criticism and obtaining sufficient data for research (e.g. ensuring that the voluntourists collect quality data and capture the data correctly for science and decision making). These weaknesses can be overcome if the organisation takes advantage of their organisational strengths (Gürel & Tat, 2017:998). MVT is also often criticised for two main aspects including:

1) Greenwashing, which is where a company illustrates positive sustainability information but omits the negative information to create a positive image (Lyons & Maxwell, 2004:561). According to Smith and Font (2014:948), some VT organisations are culpable of greenwashing, as they indicate the positive difference that they make to attract a wide range of voluntourists but fail to represent the real situation. Griesse, Werner and Hogg (2017:2) found that misrepresentative marketing of a VT organisation with regards to the sustainability quality of their products leads to direct and indirect negative word of mouth. Greenwashing negatively influences a voluntourist's attitude and behaviour (Gratti, Seele & Rademacher, 2019:1), resulting in the quality of the product decreasing (Rahman, Park & Geng-Qing Chi, 2015:1054), and reducing the possibility of repeat and new voluntourists (Rahman *et al.* 2015:1054; Xingqiang, 2015:547). This may lead to voluntourists becoming increasingly sceptical regarding the authenticity of the VT organisation (Lyons & Montgomery, 2013:747). Polansky, Grau and Garma (2010:40) indicated that greenwashing threatens the credibility of all VT organisations.

2) Commodification of nature and conservation (Duffy, 2008:327; Gray & Campbell, 2007:463; King & Stewart, 1996:293). Commodification is the action of transforming a product or service into a commodity (Godfrey & Wearing, 2012:181). According to Cousins *et al.* (2009a:3), private tour operators and NGOs may sell conservation experiences (MVT) as a form of a commodity (product or services), thus “marketising” the activity of nature conservation. Commodification is related to the ideas of authenticity (Cohen, 1988:371; Shepherd, 2002:183). Godfrey and Wearing (2012:181), stated that commodification refers to something becoming more commercialised, resulting in it being more commodified, and becoming almost certainly less authentic. Commercialisation leads to the commodification of altruism which results in VT catering to a mass market. This impacts the quality of the VT programme for the voluntourist and host communities (people and environment) (Godfrey & Wearing, 2012:181). According to Godfrey and Wearing (2012:181), commodification turns VT into a commercial product, whereby it loses its original values.

3.3.3.2. Opportunities of marine wildlife tourism

MVT is still recognised as offering various opportunities. These are: 1) funding and labour received from voluntourists; 2) the ability to train people to become specialists (e.g. scientific scuba divers); 3) employing local people to do daily activities (e.g. beach clean-ups and plat mangroves); 4) providing access to unique marine environments and marine species that the MVT organisation works with; 5) local community involvement and acceptance; 6) conserving and protecting marine species; 7) contributing to scientific research and discovery; and 8) offering data and information to authorities for decision-making purposes.

According to Roques *et al.* (2018:388), such opportunities can be actualised and maximised when MVT organisations implement the nine key elements (Table 3.3) of the Governor’s Commission on Service and Volunteerism (GCSV:2007) for a successful VT programme. These elements include: 1) planning and organisation; 2) policies and procedures; 3) voluntourists recruitment; 4) screening, interviewing and placement; 5) orientation and training; 6) supervision, guidance and support; 7) volunteer performance evaluation; 8) retention and recognition; and 9) measuring volunteer programme effectiveness. The implementation of these elements can assist

an MVT organisation to become successful and to obtain increased benefits from sustaining ecosystem services (Roques *et al.* 2018:388). According to Ellis (2003a:75), it is also essential for the volunteer programme to be managed and designed carefully to ensure that 1) the voluntourists receive constant training and supervision; 2) the relevance of the programme is proven; 3) enthusiasm is maintained; 4) constant feedback is received; and 5) a sense of ownership of the programme is instilled.

Table 3.3: Elements of a successful VT programme

Elements	Description
1. Planning and Organisation	Identify the purpose of the programme, the role of voluntourists, the programme's contribution mission and how the volunteer programme fits into the organisation's structure.
2. Policies and procedures	Policies tell people what to do and procedures are steps that direct people to do what they must do.
3. Voluntourist recruitment	Attracting and inviting potential voluntourists to consider involvement with your organisation.
4. Screening, interviewing and placement	An important part of your programme's success is matching potential voluntourists to volunteer positions.
5. Orientation and training	Voluntourists require orientation and training to perform their duties efficiently and effectively.
6. Supervision, guidance and support	The supervisor provides the materials, training, and direction to enable the volunteer to perform assigned tasks.
7. Volunteer performance evaluation	One way to quantify the voluntourists' contributions toward achieving the mission of the organisation is to evaluate their performance.
8. Retention and recognition	It is essential to understand the motivations of the voluntourists and to remain sensitive to their needs
9. Measuring volunteer programme effectiveness	Critical decisions should be made by agency and programme leaders regarding the distribution, use, and management of resources.

Source: Governor's Commission on Service and Volunteerism (GCSV:2007)

To this end, it can be noted that the structure of MVT organisations and the way they operate influence their ability to obtain and maintain a relationship with their key partners and their voluntourists and to effectively position themselves as responsible and legitimate tourism organisations. The species and environments on which MVT

organisations focus and how effectively the organisations contribute to sustainability are vital factors. Another factor that is essential for MVT organisations is the type of voluntourists that they attract, which can influence the success of MVT projects, especially in terms of skills and passion that the voluntourists have for the conservation of marine species.

What is important is that well-structured MVT organisations can make for meaningful tourist experiences that can translate not only into tourism satisfaction but into something more. Examples are meaningful contributions to conservation, science and decision making; capacity building when local communities are involved; and changes in the knowledge, attitude and behaviour of tourists concerning marine life, conservation and the environment in general. These meaningful tourist experiences should be done ethically and follow codes of conduct, which would enhance the voluntourism experience and satisfaction. The following section discusses the perceived ethical conduct of MVT organisations.

3.3.4. PERCEIVED ETHICAL CONDUCT OF MARINE WILDLIFE VOLUNTOURISM ORGANISATIONS

Some authors have criticised VT for being an unethical form of tourism and have indicated that VT organisations may be profit-driven, overpromising benefits, harming the destinations and creating voluntourist dissatisfaction (Benson & Henderson, 2011:405; Crossley, 2012:235; Gaitree & Ian, 2015:70; Simpson, 2004b:681; Smith & Font, 2014:942; Tomazos & Cooper, 2012:405). Other authors have indicated that, if done ethically, VT could alleviate poverty, assist with the restoration of the environment and result in quality science when revolving around scientific activities (Goodwin, 2011:20; Wearing, 2001:34). Therefore, codes of conduct are essential for any MVT organisation, they assist towards the planning, implementation, and management of marine environments through MVT (Jansujwicz, Calhoun & Lilieholm, 2013:1369; Roques *et al.* 2018:387), and ensure that ethical MVT takes place (Richards *et al.* 2015:200).

Codes of conduct ensure that voluntourists acknowledge the impact that they have on the environment, increase education, enhance responsible behaviour, raise awareness, and manage voluntourists' expectations towards a destination (Budeanu,

2007:499; Cole, 2007:443; Fermani *et al.* 2020:9). Ethical roundness could be achieved if the VT organisation takes responsibility for managing its products and operations and encourages voluntourists to take the necessary steps for it to become sustainable (Goodwin, 2011:20). VT organisations need to have and market their voluntary codes of practice and regulations, which would echo their ethical approach (Mdee & Emmott, 2008:191; Ong, Pearlman, Lockstone-Binney & King, 2013:72). This would impact the market structure of VT, including the potential future VT and the return of voluntourists (Smith & Font, 2014:942). The following section delves into the market structure of MVT.

3.3.5. MARKET STRUCTURE OF MARINE WILDLIFE VOLUNTOURISM

The market segmentation of MVT organisations (as indicated in 3.3.2) generally includes eco- and responsible tourists with a passion for the ocean and the conservation of marine species and ecosystems (Ely, Henaulu & Umanailo, 2020:2564; Kohler *et al.* 2016:439; Wingit *et al.* 2017:52). Gap year travellers and backpackers are also potential marine wildlife voluntourists (Simpson, 2004a:481). According to Butcher and Smith (2010:27) and Pantea (2012:564), the VT market is increasing with international voluntourists from western countries. Previous literature found that voluntourists tend to originate from North America and Europe (Christie & Crompton, 2003:25; Olivier, Davies & Joubert, 2015:91; Roques *et al.* 2018:384; Ziegler *et al.* 2021:31). Voluntourists are usually younger tourists, and tend to be below the age of 35 years of age (Coghlan, 2006:228; Gray & Campbell, 2007:467; Lepp, 2008:86; Olivier *et al.* 2015:91; Roques *et al.* 2018:384; Sin, 2009:480; Zahra, 2011:90), but VT can also attract older age groups (Campbell & Smith, 2006:88; Bradford & Israel, 2004:1).

Previous research indicated that voluntourists are usually females (Collins & Tisdell, 2002:133; Olivier *et al.* 2015:91; Roques *et al.* 2018:386; Taylor, Hurst, Stinson & Grimwood, 2019:113). Females are more motivated to travel abroad for leisure activities, join organised VT programmes, and are more inclined to educate family and friends, raise awareness of conservation matters, speak out on social media, and start an organisation after a conservation VT trip (Collins & Tisdell, 2002:133; Olivier *et al.* 2015:91; Roques *et al.* 2018:386; Taylor *et al.* 2019:113). Adkins (2016:28) stated that VT provides women with an opportunity to participate in transformational activities.

Voluntourists sometimes have previous VT experience, are usually qualified with a special skill or have a special interest (Ely *et al.* 2020:2564; Olivier *et al.* 2015:92; Van Tonder *et al.* 2017:10; Wingit *et al.* 2017:52). Voluntourists usually have a university degree of some sort, for example, environmental or biological sciences (EBS), law or business studies (Lough, Tiessen & Lasker, 2018:8; Sandiford, 2017:4). Those with a university degree in EBS are usually more experienced compared to those who study something else (Coghlan, 2006:229). Voluntourists with a higher education level are more likely to participate in VT programmes because higher education is associated with environmental concerns (Bekkers, Konrath & Smith, 2016:553; Mendes, Martins & Mouga, 2019:11). In certain cases, the VT programme requires that voluntourists have a university degree or a professional skillset (Lough & Tiessen, 2018:108). Silvertown, Buesching, Jacobson and Rebelo (2013:133), stated that voluntourists sometimes participate in a VT programme to learn new skills relevant to their field of study.

Voluntourists are usually introduced to VT through their teacher / school, friends, family and websites (Brewis, Russell & Holdsworth, 2010:5; Coren & Gray, 2012:224; Gage & Thapa, 2012:414; Terry, 2014:96). This is because social norms significantly impact one's behavioural intention to participate in CS (Martin *et al.* 2016:500). Social pressure usually comes from an important person in one's life, such as friends and family (Martin *et al.* 2016:500). Social norms could thus influence one's intention to have stronger conservation behaviour and participate in similar activities, such as recycling, reducing the use of plastic and participating in VT (Abrahamse & Steg, 2013:1773).

As seen in 3.3.1, the MVT offerings range from lower to higher cost, and the wide cost range attracts voluntourists from different economic situations to participate, ensuring that a portion of the funds goes towards conservation causes (Bath-Rosenfeld, 2014:9). Bradford and Israel (2004:3) and Campbell and Smith (2005:188), found that the rewards for volunteering with marine animals outweigh the associated cost. Measham and Barnett (2007:537), however, indicated that income and education are essential factors of volunteer activities. For example, higher income and better education can positively influence the decision to volunteer. According to Kwaitkowski,

Hjalager, Liburd and Simonsen (2020:978), there is no clear-cut association between socio-demographic characteristics and VT, and volunteer activities (e.g. data collection, scuba diving and community services) can attract different types of voluntourists (e.g. students, ecotourists and responsible tourists).

Literature on MVT tends to focus on tropical destinations in both north and south locations. The northern locations include destinations such as Cambodia (Kitney *et al.* 2018:1091), Malaysia (Chan, 2011:72), Costa Rica (Campbell & Smith, 2005:188; Campbell & Smith, 2006:84; Gray & Campbell, 2007:467; Schneller & Coburn, 2018:1), and Florida (Bradford & Israel, 2004:1). The southern locations include destinations such as Indonesia (Atmodjo *et al.* 2017:181; Clifton & Benson, 2006:238; Galley & Clifton, 2004:69), Australia (Hammerton *et al.* 2012:77; Wood & Coghlan, 2008:14); Belize (Anderson *et al.* 2017:589; Gray *et al.* 2017:200), and Mozambique (Lucrezi *et al.* 2017:386; Roques *et al.* 2018:382). Some studies have also focused on less tropical destinations including Scotland (Foster-Smith & Evans, 2003:199), the Mediterranean Sea (Cerrano *et al.* 2017:316), East Falkland (Otley & Ingham, 2003:1534). According to Govender and Rogerson (2010:12), Southern Africa - including subtropical areas to higher latitude areas in the south - is an essential and growing area for MVT activities (marine research and conservation) for young voluntourists, albeit poorly studied.

Cousins (2008:1027) found that conservation voluntourists tend to choose tropical destinations with large charismatic mammals (e.g. dolphins and whales) and hands-on experience with these species. Tomazos and Butler (2008:2) argued that choice of location could be a significant motivation for voluntourists, which could indicate that a “holiday” element may be an essential part of the experience. It must be noted, however, that important species such as great white sharks would attract voluntourists to colder water destinations. Figures 3.3 and 3.4 illustrate that MVT offerings concentrate on the global south. From the literature, it can be seen that less research on MVT was found in temperate and cold-water locations. This could indicate that temperate and cold-water locations are less favoured, which could create fragmentation in conservation efforts driven by volunteering and CS. However, it can also indicate that some research effort on MVT activities in colder locations is lacking.

To this end, voluntourists can be categorised as millennials and older or mature voluntourists. Millennials are voluntourists 1) with strong pro-environmental attitudes and ethical behaviours (Bucic, Harris & Arli, 2012:113; McKay, 2010:12; Smith & Miller, 2011:492; Vermillion & Peart, 2010:68); 2) who are adventurous and hold strong potential to participate in conservation tourism and VT (Malone, McCabe & Smith, 2014:241); 3) who seek enlightening experiences, travel for extended periods, and visit remote locations (Malone *et al.* 2014:241); 4) with previous travelling experiences, focus on avoiding mass tourism, and seeking an authentic tourism experience where they could be physically and mentally involved (Benckendorff, Moscardo & Murphy, 2012:44; Leask, Fyall & Barron, 2014:462); and 5) who are technology-driven and focus on establishing relationships with their peers through social media (Bowen, 2015:221; Leask *et al.* 2014:462). Due to population size and characteristics, millennials are considered one of the important segments in the tourism industry (Veiga, Santos, Águas & Santos, 2017:612).

Older or mature voluntourists 1) tend to have shorter trips with high travel expenses (Fleischer & Pizam, 2002:106; Kazeminia, Del Chiappa & Jafari, 2015:80; Lough & Xiang, 2016:1090; Nyaupane, McMabe & Andereck, 2008:341); 2) have financial resources to offer (Chen, Liu & Chang, 2013:122); 3) usually feel better about themselves when enjoying leisure activities (LaForge, 1984:14; Wei & Milman, 2002:175); 4) see VT as a way to fulfil their altruistic and ecocentric needs (Erikson, Erikson & Kivnick, 1986:20; Son & Wilson, 2011:644); 5) are usually more committed to addressing problems using the experience that they have while volunteering (Erikson *et al.* 1986:20; Son & Wilson, 2011:644); and 6) are more prone to participate in VT vacations (Onyx, Leonard, Hayward-Brown & Maher, 2010:20).

From this, it can be seen that VT attracts two different types of voluntourists. Both groups are different in age, experience, and have different motivations to participate in MVT. The following section discusses the motivations of marine wildlife voluntourists.

3.3.6. MOTIVATIONS TO PARTICIPATE IN MARINE WILDLIFE VOLUNTOURISM

According to Dann (1981:205), tourism motivation is a significant attitude that encourages people to travel and is understood by people as a valid reason for a

decision. Demographic variables (e.g. income, age and gender), destination, specific species and activities could influence the motivation of tourists (Bear, 2016:56; Garcia-Soto *et al.* 2017:20; Kantabutra, Saiprasert, Chernbumroong & Kowsuvon, 2019:87; Leonard & Onyx, 2009:329; Maciejewski & Kerley, 2014:7). Grimm and Needham (2012:488) stated that VT motivation includes external or internal reasons to visit a destination and participate in a volunteer activity. According to Brondo (2015:1405), the motivations of voluntourists are categorised into two main groups, self-development / self-interest and, altruistic / egoistic. Self-development (self-interest) focuses on gaining practical skills and experience, while altruistic (egoistic) motivation involves the tourist giving back towards a worthy cause (Brondo, 2015:1414; Campbell & Smith, 2005:183; Gray *et al.* 2017:200).

Brown and Morrison (2003:73) found that voluntourists can be categorised into those who are more “vacation minded” and those who are more “volunteer minded”. Vacation-minded voluntourists are less concerned about volunteering, give a small portion of their time to volunteering, and show more individualism (Brown & Letho, 2005:479; Brown & Morrison, 2003:73; Han, Lee & Hyun, 2020:3; Mustonen, 2007:97). Volunteer-minded voluntourists are more self-motivated, place more emphasis on volunteering, and spend a great deal of their time participating in volunteering activities (Brown & Letho, 2005:479; Brown & Morrison, 2003:73; Han *et al.* 2020:3; Mustonen, 2007:97).

Callanan and Thomas (2005:183) stated that voluntourists can be “shallow”, “intermediate” or “deep”. Shallow voluntourists focus more on the leisure aspect of VT; intermediate voluntourists focus similarly on both the leisure aspect and volunteering; and deep voluntourists are more focused on volunteering than the leisure aspect (Callanan & Thomas, 2005:183; Rahman & Ali, 2019:78).

VT motivation, according to Chen and Chen (2011:435) and Lo and Lee (2011:326), can be classified into three groups: 1) personal (e.g. travel, interest, experience and challenges); 2) interpersonal (e.g. willingness to help others, collaborating with different cultures, and broadening relationships); and 3) others (e.g. organisational goals and financial motivations). Clary *et al.* (1998:1517) found six motivational functions of VT: 1) values (expressing values related to altruistic and humanitarian

concerns for others and the environment); 2) understanding (new learning experience, skills, knowledge and abilities); 3) social (strengthening and gaining social relationships); 4) career (obtaining and improving career experiences and prospects); 5) protective (protecting the ego from negative feelings and features of self); and 6) enhancement (ego-boosting, developing psychologically and personal growth). Other motivation factors identified in the VT literature include social and professional development, values and self-esteem, empathy, protective, understanding, social, and recognition (Carvache-Franco *et al.* 2019:721).

VT has a variety of characteristics and options to choose from (e.g. destination, activities, animals etc.), which is a reason why so many motivations to participate have been identified. Table 3.4 summarises the motivations discussed by different researchers in the context of conservation-oriented VT, including MVT.

Table 3.4: Motivations to participate in conservation-oriented VT, including MVT

Reference(s)	Motivation
Bradford and Israel (2004:3); Brondo (2015:1414); Caissie and Halpenny (2003:38); Campbell and Smith (2005:183); Campbell and Smith (2006:93); Cerrano <i>et al.</i> (2017:316); Gray <i>et al.</i> (2017:200); Kitney <i>et al.</i> (2018:1094); Lucrezi <i>et al.</i> (2018:1); Roques <i>et al.</i> (2018:388); Tomazos and Cooper (2012:405); Van Tonder <i>et al.</i> (2017:8); Weaver (2015:683); Weiler and Richins (1995:29)	To support conservation efforts
Bradford and Israel (2004:3); Brondo (2015:1414); Caissie and Halpenny (2003:38); Campbell and Smith (2005:183); Goffredo <i>et al.</i> (2010:2170); Gray <i>et al.</i> (2017:200); Jarvis and Blank (2011:129); Keese (2011:257); Kitney <i>et al.</i> (2018:1094); Lucrezi <i>et al.</i> (2018:1); Roques <i>et al.</i> (2018:388); Tomazos and Cooper (2012:405); Van Tonder <i>et al.</i> (2017:8); Wearing (2001:1)	To gain knowledge, experience and practical skills
Goffredo <i>et al.</i> (2010:2170); Keese, (2011:257); Weaver (2015:683)	To make a difference
Bradford and Israel (2004:3); Caissie and Halpenny (2003:38); Cerrano <i>et al.</i> (2017:316); Dillette, Douglas, Martin and O'Neil (2017:1229); Lucrezi <i>et al.</i> (2018:1); Roques <i>et al.</i> (2018:388); Van Tonder <i>et al.</i> (2017:8); Weaver (2015:683)	To spend quality time with friends and family
Bradford and Israel (2004:3); Broad and Jenkins (2009:72); Brondo (2015:1414); Caissie and Halpenny (2003:38); Campbell	To participate in a specific project, due to personal

and Smith (2005:183); Campbell and Smith (2006:93); Cerrano <i>et al.</i> (2017:316); Gray <i>et al.</i> (2017:200); Kitney <i>et al.</i> (2018:1094); Lorimer (2009:352); Lucrezi <i>et al.</i> (2018:1); Roques <i>et al.</i> (2018:388); Tomazos and Cooper (2012:405); Van Tonder <i>et al.</i> (2017:8); Wearing (2001:1); Weaver (2015:683); Weiler and Richins (1995:29)	fondness / interest for certain species / activities
Cerrano <i>et al.</i> (2017:316); Grimm and Needham (2011:17; 2012:488); Van Tonder <i>et al.</i> (2017:8); Wearing (2001:1)	The ideal location of the project
Roques <i>et al.</i> (2018:388); Wearing (2001:1)	To develop personal capacity / personal growth
Bradford and Israel (2004:3); Dillette <i>et al.</i> (2017:1229); Lucrezi <i>et al.</i> (2018:1); Roques <i>et al.</i> (2018:388); Wearing (2001:1)	To help and develop the local community and people
Cerrano <i>et al.</i> (2017:316); Lucrezi <i>et al.</i> (2018:1)	To help science
Bradford and Israel (2004:3); Caissie and Halpenny (2003:38); Cerrano <i>et al.</i> (2017:316); Dillette <i>et al.</i> (2017:1229); Dimmock (2009:279); Lucrezi <i>et al.</i> (2018:1); Prestopnik and Crowston (2011:28); Roques <i>et al.</i> (2018:388); Rotman <i>et al.</i> (2012:217); Van Tonder <i>et al.</i> (2017:8); Weaver (2015:683)	To meet people with similar interests and make new friends
Caissie and Halpenny (2003:38); Cerrano <i>et al.</i> (2017:316); Dimmock(2009:279); Prestopnik and Crowston (2011:28); Roques <i>et al.</i> (2018:388); Rotman <i>et al.</i> (2012:217); Wearing (2001:1); Weaver (2015:683)	To have fun
Bradford and Israel (2004:3); Cerrano <i>et al.</i> (2017:316); Kitney <i>et al.</i> (2018:1094); Roques <i>et al.</i> (2018:388); Wearing (2001:1); Weaver (2015:683)	To further career
Caissie and Halpenny (2003:38); Van Tonder <i>et al.</i> (2017:8); Wearing (2001:1)	To have an alternative holiday experience / escape
Bradford and Israel (2004:3); Jarvis and Blank (2011:129); Kitney <i>et al.</i> (2018:1094)	To develop a sense of understanding through new learning experiences
Jarvis and Blank (2011:129); Kitney <i>et al.</i> (2018:1094)	To express important values
Goffredo <i>et al.</i> (2010:2170); Keese, (2011:257); Kitney <i>et al.</i> (2018:1094); Lucrezi <i>et al.</i> (2018:1); Wearing (2001:1)	To make a difference in a context for which there is a specific passion
Cerrano <i>et al.</i> (2017:316); Kitney <i>et al.</i> (2018:1094)	To be able to dive at the location and be part of the programme

Caissie and Halpenny (2003:38); Dillette <i>et al.</i> (2017:1229); Weiler and Richins (1995:29)	To be challenged
Dillette <i>et al.</i> (2017:1229)	To become more involved
Dillette <i>et al.</i> (2017:1229)	To encourage others to volunteer
Bradford and Israel (2004:3); Campbell and Smith (2005:183); Dillette <i>et al.</i> (2017:1229); Goffredo <i>et al.</i> (2010:2170); Keese (2011:257); Roques <i>et al.</i> (2018:388); Van Tonder <i>et al.</i> (2017:8); Wearing (2001:1)	To explore new places and learn about new cultures
Cerrano <i>et al.</i> (2017:316); Dimmock (2009:279); Prestopnik and Crowston (2011:28); Rotman <i>et al.</i> (2012:217); Weaver (2015:683)	To feel empowered
Weaver (2015:683)	To be mentally stimulated
Weaver (2015:683)	To keep busy
Weaver (2015:683)	To keep physically fit
Cerrano <i>et al.</i> (2017:316); Weaver (2015:683)	To feel inherently good
Weaver (2015:683)	To share knowledge and experience with others
Weaver (2015:683)	To gain respect
Caissie and Halpenny (2003:38); Lucrezi <i>et al.</i> (2018:1); Wearing (2001:1); Weaver (2015:683)	To have one's work recognised
Weaver (2015:683)	For civic duty
Weaver (2015:683)	To leave a positive mark on the world
Weaver (2015:683)	To become part of a team
Weaver (2015:683)	To serve as a good example to other people
Cerrano <i>et al.</i> (2017:316); Weaver (2015:683)	Curiosity and wanting to do something different
Lucrezi <i>et al.</i> (2018:1)	For medical and safety reasons
Bradford and Israel (2004:3); Cerrano <i>et al.</i> (2017:316); Lucrezi <i>et al.</i> (2018:1)	For personal satisfaction
Lucrezi <i>et al.</i> (2018:1)	For the rewards
Bradford and Israel (2004:3); Cerrano <i>et al.</i> (2017:316); Lucrezi <i>et al.</i> (2018:1)	For emotional satisfaction
Caissie and Halpenny (2003:38); Cerrano <i>et al.</i> (2017:316); Lucrezi <i>et al.</i> (2018:18); Wearing (2001:1)	For the sake of future generations
Lucrezi <i>et al.</i> (2018:1)	To access new technology

Lucrezi <i>et al.</i> (2018:1)	To build networks and collaborations

The table shows that highly cited motivations include supporting conservation efforts (altruistic), gaining knowledge, experience and practical skills (self-development), and participating in a specific project due to personal interest in species and activities. This confirms what Van Tonder *et al.* (2017:3) had suggested, that conservation-oriented VT (including MVT) is not only motivated by self-development and altruism, but also by an interest in species.

Moving specifically towards MVT, important motivations include: 1) concern for marine animals and marine conservation (Bradford & Israel, 2004:2; Campbell & Smith, 2005:182; Cerrano *et al.* 2017:316; Kitney *et al.* 2018:1092); 2) interest in a given field such as marine biology, ecology and conservation (Cerrano *et al.* 2017:316; Kitney *et al.* 2018:1092; Lucrezi *et al.* 2018:1); 3) wanting to gain experience and learn new skills (Campbell & Smith, 2005:182; Kitney *et al.* 2018:1092; Roques *et al.* 2018:385); 4) wanting to give back to a meaningful cause, such as animal conservation (Campbell & Smith 2005:182; Kitney *et al.* 2018:1092; Lucrezi *et al.* 2018:1); 5) concern for people who live in communities affected by marine issues (Bradford & Israel, 2004:2); 6) wanting to enjoy new places and cultures (Campbell & Smith, 2005:182; Roques *et al.* 2018:385); 7) wanting to contribute to science (Cerrano *et al.* 2017:316); and 8) stewardship and bequest values (Cerrano *et al.* 2017:316).

Minor motivations to participate in MVT tend to be: 1) career development (Bradford & Israel, 2004:2; Roques *et al.* 2018:385); 2) value for money (Cerrano *et al.* 2017:316); 3) wanting to build networks and collaborations (Lucrezi *et al.* 2018:1); and 4) wanting to receive public recognition (Lucrezi *et al.* 2018:1).

Previous literature found that motivation factors could have a positive relationship with each other, satisfaction, attitude and behaviour (Balestra *et al.* 2017:3; Beza *et al.* 2017:20; Lotfian, Ingensand & Brovelli, 2020:19; Sprinks, Morley, Bamford & Houghton, 2015:1), indicating that marine wildlife voluntourists may have different types of motivation that influence one another, and that high motivation would result

in increased satisfaction, attitude and behaviour (Beza *et al.* 2017:20; Han *et al.* 2019:552; Polus & Bidder, 2016:309).

It should be noted that certain variables have influential roles on one another. For example, different motivation factors influence voluntourists' satisfaction (Lee *et al.* 2014:45; Wu, Fu & Kang, 2017:115). Different motivation and satisfaction factors influence voluntourists' attitudes and behaviour (Huang & Hsu, 2009:29; Konu & Laukkanen, 2009:20; Lee *et al.* 2014:45; Suhud, 2015a:26; Wu *et al.* 2017:109). Attitude also influences voluntourists' motivation and behaviour (Hrubes, Ajzen & Daigle, 2001:165; Lam & Hsu, 2006:589; Ong & Musa, 2012a:1529; Shen, Schuttemeyer & Braun, 2009:722; Suhud, 2015a:26; Suhud & Willson, 2016:290; Tsai, 2010:512; Wu & Teng, 2011:7579). The ethical conduct of MVT organisations has a large impact on voluntourists' experiences, satisfaction and attitude (Newsome, 2013:210; Perera, Senevirathna & Vlosky, 2015:497; Perera, Vlosky & Wahala, 2012:451; Rathnayake & Gunawardena, 2014:23; Rathnayake, 2015:129). Although ethical conduct influences voluntourists, the voluntourists may experience an "ethical blind spot", where they want to act ethically, but also want to have a unique experience, even if it is unethical (Curtin, 2006:313; Moorhouse, D'Cruze and Macdonald, 2017:509).

Similarly, certain variables determine various outcome variables. In certain cases, motivation factors determine satisfaction (Clary *et al.* 1998:1516; Farrell, Johnston & Twynam, 1998:288; Ferreira, Proença & Proença, 2012:20; Reeser, Berg, Rhea & Willick, 2005:20), and attitude determines motivation (Bear, 2016:56; Cerrano *et al.* 2017:303; Hammerton *et al.* 2012:77; Panebianco *et al.* 2017:1; Wiener *et al.* 2009:492). In some cases, certain motivational factors do not determine a positive attitude (Halpenny & Caissie, 2003:25; Mustonen, 2007:110).

It is therefore important to understand the motivations to participate in MVT and differences between programmes and tourists to attract suitable voluntourists for specific programmes, provide the voluntourists with a satisfactory experience and enhance the use of voluntourists to help conserve the marine environment (Carlton & Jacobson, 2012:42; Coghlan & Fennell, 2009:377). Roques *et al.* (2018:385) stated

that it is essential to understand the motivations of marine wildlife voluntourists, as it is essential to also assess the impact of MVT and ensure future success.

3.4. DOCUMENTED IMPACTS OF MARINE WILDLIFE VOLUNTOURISM

Literature shows that participation in marine volunteering activities like CS or initiatives like beach litter clean-up events has had a profound impact on conservation and people's attitudes and behaviour (Asah & Blahna, 2012:470; Clary *et al.* 1998:1517; Wyles, Pahl, Holland & Thompson, 2017:509). MVT potentially has similar impacts (Hidalgo-Ruz & Thiel, 2013:12). MVT activities can have important effects on the voluntourists' experience (Koss & Kingsley, 2010:447) and the future success of the MVT organisation (Roques *et al.* 2018:385). VT programmes that focus on conservation and CS can positively impact the local economy (Barbieri *et al.* 2012:509), community (Knollenberg *et al.* 2014:922) and the environment of a destination (Brown & Lehto, 2005:479; Keese, 2011:257; Ong *et al.* 2014:680). VT activities also contribute towards science, decision making and developing policies (Dickinson *et al.* 2012:291). This section provides an overview of the research available on the impacts of MVT; and of the impacts of MVT, based on an assessment of voluntourists' reviews extracted from the internet pages and Facebook pages of MVT companies, as well as TripAdvisor. This section will also highlight research gaps on the impacts of MVT.

MVT can have an impact on conservation, voluntourists, local environments, communities and economies, and science and decision making or policy. In turn, each of these impacts encompasses various other aspects. The variety of potential impacts of MVT is summarised in Figure 3.5, and a detailed description of each impact is provided.

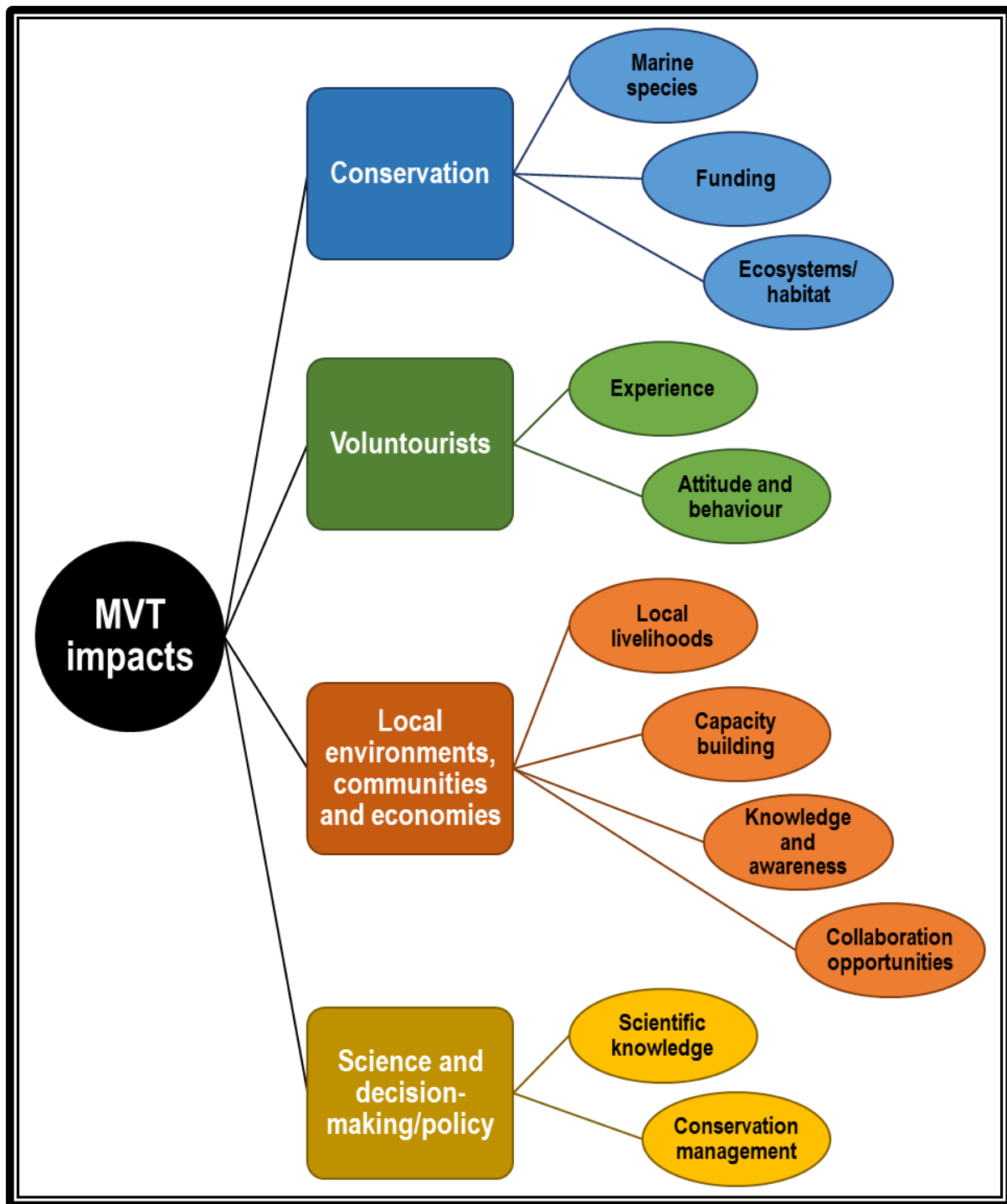


Figure 3.5: Impact of MVT

Source: Author's compilation

For the literature search, papers were sourced including the key phrases “volunteer”, “tourism”, “impact”, “conservation”, “marine”, “funding”, “ecosystems”, “habitat”, “voluntourists”, “experience”, “satisfaction”, “self-fulfilment”, “personal growth”, “knowledge”, “skills”, “awareness”, “attitude”, “behaviour”, “local”, “environment”,

“community”, “economy”, “livelihood”, “capacity building”, “collaboration”, “science”, “citizen science”, “decision making”, “policy”, “research”, and “management”.

The assessment of the reviews from the voluntourists was done using the same 16 MVT offerings considered in 3.3. Out of the 16 MVT offerings, only 11 had reviews and were used for the assessment. The other five MVT offerings were excluded, as they did not have reviews on the Facebook page, website blog or TripAdvisor. Not all the MVT offerings had reviews on their blog, only three of the 11 had reviews on TripAdvisor, and the Facebook reviews were more current, which was the reason why the Facebook reviews were used. From the 11 MVT offerings, the most recent five Facebook reviews were assessed. This resulted in a total of 55 reviews being assessed. The reviews extracted from the Facebook pages were largely positive. It is reasonable to assume that any possible negative opinions would have not been expressed by the voluntourists. This may cause bias, but also a lack of information, detail, and knowledge in the representation of positive versus negative reviews. At any rate, the positive reviews were still used to get a better understanding of the positive impacts of MVT activities and are reported here. These reviews were categorised under the four different impacts identified in the literature (conservation, voluntourists, local environments, communities and economies, and also science and decision making or policy).

3.4.1. IMPACT ON CONSERVATION

MVT can have important implications for conservation. There are three key spheres in which conservation can be affected by MVT, described as follows:

3.4.1.1. Managing vulnerable and threatened marine species

This involves actions that positively affect the marine species (Roques *et al.* 2018:387), such as anti-poaching and coral reef protection. A review from a voluntourist indicated that “*we must really conserve our coral reefs for our future*”. Another voluntourist stated that “*the coral reefs were beautiful, even though some types are experiencing bleaching from the water temperature*”. The majority of the voluntourists indicated that the MVT organisations were making an outstanding effort to take care of the ocean and were making a difference. From these reviews, it can be suggested that the voluntourists and the MVT organisations care about the

conservation of the ocean and marine species; and the volunteers feel that more efforts are needed to conserve and manage the ocean and marine species.

Lo and Lee (2011:326) indicated that the assistance offered by voluntourists to the protection of endangered marine species is seen as a global benefit. However, voluntourists who lack certain skills could negatively influence the MVT programme and harm marine species (Anderson *et al.* 2017:589). For example, experienced scuba divers participating in an MVT programme could have better buoyancy control, which would allow them to monitor reefs or fish more sustainably, compared to less experienced scuba divers. With that said, attracting only the experienced voluntourists could also reduce the number of voluntourists that participate in the programme, affecting the financial sustainability of the MVT programme or its outreach goals (Bird *et al.* 2014:144).

3.4.1.2. Funding

MVT can lead to long-term funding for conservation, labour and to assist the projects (Brightsmith *et al.* 2008:2832; Brondo, 2015:1405), such as supporting and enhancing MPAs to protect marine species and their habitat. From the reviews, it was observed that, due to the work that the MVT organisations were doing, some voluntourists were supporting and would continue to support the organisations. One voluntourist stated that *“I have been following and supporting this organisation for a few years now and love what they do”*. Another voluntourist indicated that *“I really love this organisation and I have been proud to support them for several years now. Their awareness is tremendous, and they help to keep us in the loop so that we can help out when needed”*. This implies that the voluntourists would either return to the same MVT programme, recommend the MVT programme, donate funds or become a member of the MVT organisations.

Goffredo, Piccenetti and Zaccanti (2004:1492) indicated that marine wildlife voluntourists provide essential value to MVT organisations and reduce the operation cost of the MVT programmes. MVT organisations believe that conservation is a social and economic matter that requires funding (Grimm, 2013:274). MVT can indirectly subsidise research activities that governance authorities such as MPAs have to pay for (Edwards & Thompson, 2010:51). Smith and Font (2014:942) stated that some

MVT organisations are profit-driven and epitomise an unsustainable commodification of nature. This, depends on the MVT organisation, the way it manages its products and services, and whether it has a real positive impact on voluntourists and conservation (e.g. on their environmental and conservation behaviour) (Goodwin, 2011:20).

3.4.1.3. Managing marine and coastal ecosystems and habitats

MVT involves actions revolving around management, protection and conservation of a specific site or destination (Dearden *et al.* 2007:66; Roques *et al.* 2018:387; Trave *et al.* 2017:213; Wiener *et al.* 2009:490; Zeppel & Muloin, 2007:19), such as beach clean-ups and pollution control, restoration activities, or environmental monitoring. These actions are reflected in positive reviews of voluntourists who indicated that the MVT organisations had an essential impact on ecosystems and sustaining a better environment for the future, for example through beach clean-ups and building artificial reefs. One voluntourist stated that *“it [the MVT programme] does great things for the ecosystem”*, and another added that *“it truly was a privilege getting to learn more about the work that the [MVT programme] is doing in taking care of the ocean, but to be a part of it was really quite an honour”*.

However, MVT could also cause more damage than good. For example, the voluntourists may not be able to follow the rules and procedures of the MVT programme properly, leading to ecological harm (Liu, 2019:9). Potentially harmful activities can include, taking photos of the marine species with a flash, picking up turtle eggs, or damaging the coral reef while scuba diving.

3.4.2. IMPACT ON VOLUNTOURISTS

MVT can have important impacts on voluntourists. There are two key spheres in which voluntourists are affected by MVT, described as follows:

3.4.2.1. Experience

MVT can create significant personal experiences for those who participate. The voluntourists may experience a sense of achievement and emotional satisfaction, an increase in interest and activity level, and reduced anxiety, depression and vulnerability, especially during and after participation (Alexander, 2012b:119; Coghlan

& Gooch, 2011:713). Voluntourists can experience self-fulfilment and personal growth when participating in an MVT programme (Grimm & Needham, 2011:17). All 55 reviews indicated that the voluntourists had a great experience with the MVT programmes. One review indicated that it was *“such a great way to learn and experience these wonderful creatures”*. The majority of the voluntourists indicated that they had made great and new friends from all over the world. A review from a voluntourist stated that *“I’ve made friends with amazing people who are still a part of my life”*. Some voluntourists indicated that the time spent volunteering was the best time of their lives and that they grew as a person. One voluntourist indicated that *“it was some of the best weeks of my life”*. Personal growth can include identifying own strengths and weaknesses, self-development, and skill development (Broad & Jenkins, 2009:72; Lepp, 2008:86; Schott, 2011:53; Sin, 2009:480; Zahra, 2011:90).

The voluntourists often enhance their knowledge and skills through volunteering at an MVT programme (Donnelly *et al.* 2014:1237; Johnson *et al.* 2014:235). This includes their practical skills (Brondo, 2015:1405; Campbell & Smith, 2005:182; Galley & Clifton, 2004:69) and scientific abilities (Cousins *et al.* 2009a:1) which they obtain through various activities and interacting with host communities, other volunteers and marine life (Callanan & Thomas, 2005:183). The reviews from the voluntourists indicated that they improved their skills and knowledge greatly through participation in activities such as culling the invasive lionfish, turtle hatchery, shark tagging, cetacean monitoring and building of artificial reef structures. Many volunteers also stated that they had either acquired or strengthened diving skills. One voluntourist indicated that *“at home it would have taken me three times longer to learn”*. According to Jones (2011:1), the skills and experience that the voluntourists obtain during an MVT programme may prepare them for the global labour market and can influence their global awareness.

Participating in MVT activities can influence voluntourists’ awareness, knowledge and understanding about marine conservation issues (Ballantyne *et al.* 2007:367; Strzelecka, Nisbett & Woosnam, 2017:422). The reviews from the voluntourists indicated that their awareness, knowledge and understanding about marine conservation issues had improved greatly. They listed the animals (turtles, dolphins etc.) that they experienced up close and how great their experience was with these

animals. A voluntourist stated that “*I also developed my knowledge of marine conservation*”. Another voluntourist indicated that “*I saw a whole host of animals and enjoyed learning about their characteristics and behaviours*”. Witnessing marine animal behaviour in the natural environment can strengthen the learning experience, resulting in increased satisfaction and higher expectations (Ballantyne *et al.* 2007:367; Ballantyne & Packer, 2011:201).

The satisfaction of the voluntourists can depend on the experience, orientation, level of skill training, education, hospitality, adventure, challenges, and the presence of scientists while participating in an MVT programme (Wood & Coghlan, 2008:14). Previous research has found that the satisfaction levels of voluntourists are impacted by the social interaction between hosts and guests, destination, information and education, a transformational experience, quality of the overall experience, and time dedicated to volunteer and other tourism activities (Andersen & Miller, 2006:111; Barbieri *et al.* 2012:513; Donnelly *et al.* 2014:1237; Johnson *et al.* 2014:235; McIntosh & Zahra, 2007:541; Pizam, Uriely & Reichel, 2000:395). Charismatic species, research activities and previous marine conservation volunteering experiences could also influence voluntourists’ satisfaction (Apps, Dimmock, Lloyd & Huveneers, 2016:231; Huveneers *et al.* 2016:665; Wood & Coghlan, 2008:14).

According to Polus and Bidder (2016:309), satisfaction also depends on whether the experience meets or exceeds the voluntourists’ expectations. This would enhance the voluntourists’ motivation, future commitment, and behavioural intention towards MVT and the specific MVT project (Polus & Bidder, 2016:309). Han *et al.* (2019:556) indicated that increased satisfaction tends to lead to increased satisfaction with the VT experience. Polus & Bidder (2016:309) found that younger voluntourists tend to be more satisfied after their experience compared to older voluntourists. Fornell *et al.* (1996:7) found that voluntourists’ satisfaction can be measured according to satisfaction with the VT trip, satisfaction compared to the desired experience, and satisfaction compared to the ideal experience. VT satisfaction can also be divided into intrinsic (to help others without a reward) and extrinsic satisfaction (to help others and expect a reward, such as gaining skills and experience) (Ferreira *et al.* 2012:3).

It is essential to understand the expectations of voluntourists, as this can be useful in understanding voluntourists' evaluations of their trip (Fallon, 2008:242). Previous research has found that voluntourists have different expectations, focusing on their trip attributes, creating positive change in their lives, increasing knowledge and skills, and enhancing self-awareness (Andereck *et al.* 2011:130; Bailey & Russell, 2010:352; Lepp, 2008:86; McDonald & Wilson, 2013:105; Zahra & McIntosh, 2007:115). Previous authors found that sociodemographic factors, such as age, education and experience level could impact the expectation of voluntourists (Alexander, 2012a:793; Coghlan, 2007:267; Cheung & Jim, 2013:182; Kantabutra *et al.* 2019:87). Understanding the expectations of voluntourists can be useful in understanding their evaluation of the trip and in planning improvement in future offers (Fallon, 2008:242). Voluntourists' expectations can be used to design a product that would meet and exceed their expectations and result in an increase in satisfaction (Coghlan, 2007:267; Hammersley, 2014:855).

From the voluntourists' reviews, it was noted that expectations were greatly exceeded. The majority of the voluntourists indicated that they had ample scuba diving opportunities. They also indicated that: 1) they had excellent mentors; 2) volunteered with great people (other voluntourists, staff and local people); 3) the programmes were well organised; 4) the experience was an adventure, memorable and fun; and 5) the accommodation and food were outstanding. Almost all the voluntourists stated that they would recommend the MVT programme and return in the future. A review from a voluntourist indicated that *"I could not recommend [the MVT programme] any higher!"* Another stated, *"We would 100% recommend and come back in the future!"* One more review indicated that *"I have arranged a return visit only 3 months after my first visit"*. Jaapar, Musa, Moghavvemi and Saub (2017:538) added that the motivation of voluntourists and the favourable image of the MVT programme have a direct impact on the overall satisfaction of the voluntourists, which also affects their attitude and behaviour.

3.4.2.2. Attitude and behaviour

According to Schänzel and McIntosh (2000:36), education and interpretation programmes at nature-based tourism destinations have a severe impact on the voluntourists' attitude and behaviour concerning conservation as well as other

aspects. Educational programmes in MVT can create emotional affinity towards the marine species involved, changing the attitudes of the voluntourists towards marine conservation issues (Andersen & Miller, 2006:111). MVT can improve the attitude of voluntourists towards marine science by increasing their knowledge, scientific thinking, and social learning (Donnelly *et al.* 2014:1237; Johnson *et al.* 2014:235; Vann-Sander *et al.* 2016:82). According to Hicks (2016:79) wildlife-inspired experiences influence which career people want to pursue. Volunteer activities with wildlife could launch people on a career that focuses on certain wildlife where they could express and learn special skills, knowledge and experiences (Stebbins, 1992:20).

A review of one voluntourist stated that *“two years later, I am now a scuba instructor, conservationist and have spent the majority of those two years at the same [MVT programme]”*. The confidence and self-awareness of the voluntourists can increase when they take part in MVT (Alexander, 2012b:119; Barbieri *et al.* 2012:509; Coghlan & Gooch, 2011:713; Wearing 2003:3; Wickens, 2011:42; Zahra & McIntosh, 2007:115), empowering them to participate as advocates and opinion leaders in marine conservation matters (Jansujwicz *et al.* 2013:1369; Johnson *et al.* 2014:235).

Voluntourists' satisfaction can lead to increased levels of trust and behavioural intentions (Han *et al.* 2019:549; Hwang & Lee, 2018:314; Hwang & Park, 2018:1246; Liang, Choi & Joppe, 2018:41; Meng & Han, 2018:347). A review from one voluntourist stated that *“volunteering is what means most to me”*. Another voluntourist stated that *“I look forward to working with every conservation group and helping in any way I can”*. According to Zeppel and Muloin (2007:19), the knowledge and experience that marine wildlife voluntourists obtain from the MVT programme increase their support towards marine wildlife conservation, awareness and species protection.

Voluntourists participate in MVT for personal fulfilment and psychological health and seek social relationships in the context of the MVT experience (Clary *et al.* 1998:1517; Chen & Chen, 2011:435; Lo & Lee, 2011:326). MVT can increase the voluntourists' skill development (Lyons *et al.* 2012:361; Wearing & McGehee, 2013:124), which allows them to develop a new perspective on their life and marine conservation (Hindle *et al.* 2010:9; Lepp, 2008:86). This can foster personal growth (Alexander, 2012a:779;

Barbieri *et al.* 2012:509; Coghlan & Gooch, 2011:713), which changes the way voluntourists view marine conservation (Broad & Jenkins, 2009:72). The voluntourists can become more environmentally conscious (Weaver, 2015:683), and acquire a more positive behaviour towards various marine issues when participating in an MVT programme (Brown & Morrison, 2003:73; McGehee & Santos, 2005:760; McGehee, 2012:101; Mostafanezhad, 2013:150). In a review, one voluntourist specifically indicated that “*it was a humbling and eye-opening experience, we all vowed to never use straws or Styrofoam again*”.

Han, Kim and Kiatkawsin (2017:905) indicated that young conservation tourists tend to be more concerned about the environment and prone to have positive pro-environmental behaviours. Previous research has found that, when participating in VT activities, voluntourists gain an increased concern for the human impact on the environment and a positive attitude towards natural resources, the natural environment, protection of the environment, animals in the natural environment, CS, and raising awareness (Peter, Diekötter & Kremer, 2019:10; Toomey & Domroese, 2013:54). Previous research has indicated that ecocentric marine tourists have a positive attitude towards the environment, are more willing to portray community activism behaviour, exhibit pro-environmental behaviours, and are willing to pay and spend more time towards marine conservation activities (McCawley & Teaff, 1995:63; O’Riordan, 1981:1; Ong & Musa, 2012b:344).

Numerous studies have indicated that some voluntourists are willing to pay for conservation activities and protection of wildlife (Ardoin *et al.* 2015:838; Campbell & Smith, 2006:86; Cárdenas & Lew, 2016:2; Davis & Tisdell, 1999:161; Feck & Hamann, 2013:157; La Manna *et al.* 2020:351; Lew, 2015:1). Some voluntourists felt that they were obligated to protect the marine environment, change their behaviour and pay to support marine conservation (La Manna *et al.* 2020:351). Literature indicates that older tourists may be more willing to pay money for VT compared to younger ones, possibly due to economic viability (Bhandari & Heshmati, 2010:620; Casey & Schuhmann, 2018:5). With regards to the willingness to pay more money for MVT, Bhandari and Heshmati (2010:620) stated that this is influenced by socio-economic characteristics, perception towards conservation, and visit characteristics. On the other hand, previous literature on conservation tourism found that tourists are willing to pay an increased

fee if the money is channelled towards conservation efforts (Casey & Schuhmann, 2018:5; Casey, Brown & Schuhmann, 2010:557; Lopes & Villasante, 2018:1; Murphy, Campbell & Drew, 2018:1; Roberts *et al.* 2017:1353; Thur, 2010:63).

Previous research has found that providing the tourists with a memorable experience would result in positive post-purchase behaviour (Hung, Lee & Huang, 2016:763; Zhang, Wu & Buhalis, 2018:326). This could include loyalty, repeat visits and word of mouth (Ding & Tseng, 2015:994; Kim *et al.* 2016:1213; Sharma & Sahni, 2017:1136). Positive post-purchase behaviour is crucial in managing VT programmes (Lynch, 2000:1). Re-participation intention may or may not include return visits to the same organisation (Chua, Meng, Ryu & Han, 2021:193). Return visits could result in loyalty leading to stronger scientific contributions by voluntourists. Volunteer retention, for example, is an important prerequisite of successful CS (Lucrezi *et al.* 2018:1). According to Benson and Henderson (2011:412), some VT organisations obtain loyalty by offering different projects. Other VT organisations offer different roles in the VT programme. This allows voluntourists to switch between projects and roles when they return to the VT organisation (Benson & Henderson, 2011:412). Wanting to move on to new MVT programmes may be due to the need for voluntourists to experience new locations and programmes after reflecting on previous positive MVT trips (Blackman & Benson, 2010:221). Voluntourists' decisions may be influenced by a desire to further develop their knowledge and skills, either by strengthening them at the same programme, or applying them and gaining new insight at a different programme (Blackman & Benson, 2010:221). In the end, loyal voluntourists would contribute more time and finances to VT, and recommend VT to other potential voluntourists (either at the same or different organisations) (Wisner, Stringfellow, Youngdahl & Parker, 2005:146).

Studies by Sin (2009:480) and Wood and Coghlan (2008:14) showed that the voluntourists may be committed to an MVT programme but, once they return home, they show little long-term interest in volunteering and sustainability. For example, they do not continue recycling, stop educating friends and family on marine conservation issues, and do not volunteer in their local town. These findings indicate that the voluntourists may have been more holiday or vacation-minded, compared to the other voluntourists who are volunteer-minded and committed to volunteering long-term

(Brown & Morrison, 2003:73). Thus, the effects of participation in MVT may be varied and strongly dependent on different aspects from the structure and quality of the MVT programme, to the personal characteristics of participants.

3.4.3. IMPACT ON LOCAL ENVIRONMENTS, COMMUNITIES AND ECONOMIES

MVT can have important impacts on the environments, communities and economies of a destination. There are four key spheres of impact, described as follows:

3.4.3.1. Improving local livelihoods

This aspect is related to the improvement of the well-being of the local people at the destination where MVT activities are carried out (Bonney *et al.* 2014:1436; Roques *et al.* 2018:387; Wearing & McGehee, 2013:120). MVT can enhance the living conditions of the local community, which leads to poverty alleviation (Knollenberg *et al.* 2014:922; Sin, 2009:480; Stoddart & Rogerson, 2004:311; Wearing, 2001:5). MVT can also increase the sales of locally produced products and services at the destination, which can lead to increased employment and foreign exchange earnings (Barbieri *et al.* 2012:509; Clifton & Benson, 2006:238; Gray & Campbell, 2007:463). The reviews from the voluntourists indicated that the MVT organisations did a good job at creating employment opportunities for the local people. One review indicated that “*the labour that they [the MVT programmes] make is ABSOLUTELY wonderful*”. This labour is created through the purchase of local products and food, staying at accommodation establishments owned by local people and employing local people at the MVT company. However, MVT could also result in the rationalisation of poverty, where the voluntourists see poverty in certain areas as normal (Guttentag, 2009:537; Mostafanezhad, 2013:150; Raymond & Hall, 2008:530; Simpson 2004a:481; Wearing 2001:5).

3.4.3.2. Capacity building

This aspect involves the improvement of specific skills and education of local people (Roques *et al.* 2018:387; Wearing, 2001:5), such as training the local community and staff to ensure that they can also participate in conservation (e.g. training dive guides). MVT can lead to resource mobilisation, social change, and participation in social movements (McGehee, 2012:84). MVT can also develop the destination and community involved (Benson & Wearing, 2012:242) leading to international

development, due to the voluntourists' engagement with the local community, and the shared skills, experience and knowledge taking place (Lupoli, Morse, Bailey & Schelhas, 2014:898; Wearing, 2001:1). MVT can assist local communities in hosting MVT projects, resulting in the empowerment of the local community and increased skills and education on marine environmental issues and conservation (Lyons & Wearing, 2008:7). From the voluntourists' reviews, it was noted that the MVT organisation involved the local community in marine conservation. A review from one voluntourist stated that "*they [the MVT programmes] also involve the local community*". Some voluntourists simultaneously participated in outreach projects, teaching English to the local children and adults. Increasing the skills and education of the local communities is an effective way to provide sustainable livelihoods; allow the local people to take ownership of their natural environments on which their future depends and ensure that the local people are stewards of their natural environments (Khoshkam & Marzuki, 2011:565).

On the negative side, it has been reported that MVT could negatively impact the community, by reducing or excluding its involvement in MVT activities, neglecting the locals' desires and resulting in a lack of community support (Guttentag, 2009:537). MVT could reduce employment opportunities for community members, due to the voluntourists conducting the work that could have been done by the local community (Clifton & Benson, 2006:238; Daldeniz & Hampton, 2011:30; Guttentag, 2009:537; Simpson, 2004a:481). MVT can disrupt the local economies and result in the dependency of the local community on the voluntourists, leading to actions such as begging and loss of ownership and responsibility (Clifton & Benson, 2006:238; Daldeniz & Hampton, 2011:30; Guttentag, 2009:537; Simpson, 2004a:481).

3.4.3.3. Knowledge and awareness

MVT activities could have educational effects on local people at the destination, influencing their behaviour and improving their understanding of marine wildlife and ecology (Branchini *et al.* 2015:1; Gray *et al.* 2017:201; Roques *et al.* 2018:387). MVT can assist in educating the local community and the public on marine science and also increase social awareness between different cultures, societies, and people (Raymond & Hall, 2008:530; Wearing & Deane, 2003:4; Wearing & Neil, 1997:141). The only review that indicated that the MVT organisation enhanced the knowledge

and awareness of the local community was “*there was a wonderful education initiative involving fishermen and local communities*”.

3.4.3.4. Collaboration opportunities between destination stakeholders

Marine conservation projects offer significant collaboration opportunities between destination stakeholders. For example, MVT organisations provide access to marine and coastal areas, and research scientists obtain an opportunity to collect valuable data (Hammerton *et al.* 2012:77). According to Rees *et al.* (2010:868), partnerships and collaborations between MVT organisations, MPAs, park managers and local authorities are an opportunity to support individual and collective interests, due to the high value placed on marine recreation, leisure and biodiversity. Partnerships and collaborations have the potential to create pathways between stakeholders who assist with sharing of information and provide support for effective marine resource management (Bramwell & Lane, 2000:1; Cater & Cater, 2007:1; Pattengill-Semmens & Semmens, 2003:43; Rees *et al.* 2010:868).

According to Pompurová *et al.* (2018:3), VT organisations play an essential role in the tourism industry. They are seen as an opportunity to create new and positive values and activities for the tourists and local communities (Lyons & Wearing, 2008:3). The experience at locally owned accommodation and restaurants has an impact on the satisfaction of the voluntourists (McGehee & Andereck, 2009:42; Wood & Coghlan, 2008:14). McGehee and Andereck (2009:42) indicated that VT contributes to the economy, brings money into a community and reduces leakage through voluntourists staying in locally owned and operated accommodation establishments, eating at local restaurants, and purchasing local products.

3.4.4. IMPACT ON SCIENCE, DECISION MAKING AND POLICY

MVT can have important impacts on science, decision making and policy, especially concerning the location where MVT activities are carried out. There are two key spheres of impact, described as follows:

3.4.4.1. Increased scientific knowledge

For example, the outcomes of MVT activities can lead to the completion of postgraduate studies, the publication of articles in accredited journals and the creation

of or contribution to databases on threatened marine species (Brightsmith *et al.* 2008:2832; Coghlan & Gooch, 2011:713; Roques *et al.* 2018:387). Dickinson *et al.* (2012:291) indicated that voluntourists are essential to collect comparable data and conduct environmental monitoring and conservation research. MVT organisations can protect, monitor and restore marine ecosystems through research and governance (Cater & Cater, 2007:1). A review from a voluntourist stated that “*I loved to learn about the different research projects*”. The voluntourists’ reviews indicated that they participated in a range of research activities and projects (e.g. surveys, collecting data, analysing data) which contributed towards scientific knowledge, research and planning.

Silvertown *et al.* (2013:127) argued that MVT can influence the validity and reliability of data collected, due to the voluntourists having different levels of experience and knowledge. For example, repetitive tasks could lead to the voluntourists becoming bored, leading to lower data reliability (Buesching & Slade, 2012:127; Martinich, Solarz & Lyons, 2006:1579; Mumby, Harborne, Raines & Ridley, 1995:737). Some MVT projects could be too demanding to complete (e.g. bad weather conditions) resulting in incomplete data, which can lead to the sampling methodology being violated (Basinger, 1998:A14; Buesching & Slade, 2012:127; Cook & Berrenberg, 1981:73). Some voluntourists may only want to experience rare and exhilarating activities and not common repetitive activities, resulting in data bias (Brandon *et al.* 2003:254; Buesching & Slade, 2012:127; Danielsen, Burgess & Balmford, 2005:2507; Foster *et al.* 2003:77; Genet & Sargent, 2003:703). Voluntourists with no experience, or with limited experience, could take longer to accomplish a task compared to experienced voluntourists and marine biologists (Buesching & Newman, 2005:20; Foster-Smith & Evans, 2003:199; Newman, Buesching & Macdonald, 2003:189). However, with sufficient training, novice voluntourists are capable of carrying out the activities well (Buesching & Newman, 2005:20; Darwall & Dulvey, 1996:223; Foster-Smith & Evans, 2003:199; Newman *et al.* 2003:189). It is essential that the data collected by the voluntourists are of the same quality as those collected by experienced voluntourists and professionals, to ensure that quality and reliable results are achieved (Silvertown *et al.* 2013:127).

3.4.4.2. Conservation Management

MVT can provide essential and reliable data on marine wildlife and ecology, which can result in positive conservation management outcomes (Schmeller *et al.* 2008:307). MVT can provide input to various spheres of management, from the creation of marine wildlife codes of conduct to conservation management policies and the planning, implementation, and management of MPAs (Jansujwicz *et al.* 2013:1369; Roques *et al.* 2018:387). For example, Pattengill-Semmens and Semmens (2003:43) indicated that the data collected by MVT organisations can be incorporated into existing marine monitoring programmes. Malpica-Cruz *et al.* (2016:158) added that the data can be used to inform decisions or address specific marine conservation problems.

3.4.5. RESEARCH GAPS

From the above, it is possible to identify some gaps regarding the documented impacts of MVT. These gaps are made evident by some contradicting findings between different authors, restricted reviews from the voluntourists (mainly positively biased), and limited information on some impacts of MVT, such as compliance (laws and regulations), advocacy (petitions, campaigns and membership and lobbying), career choices (voluntourists and their close relatives), and ethics (handling of staff, voluntourists and marine life, and pro-environmental practices). It is therefore needed to carry out a critical assessment of MVT in Southern Africa (research goal), to ensure that these gaps are addressed.

3.5. CONCLUSION

The purpose of this chapter was to achieve Objectives 1 and 2, through investigating MVT and providing an overall background as well as the structure and the documented impacts of MVT. Figure 3.6 is an illustration of the investigation of MVT conducted in this chapter and indicates that a greater understanding of MVT can result in enhanced benefits and success in the future.

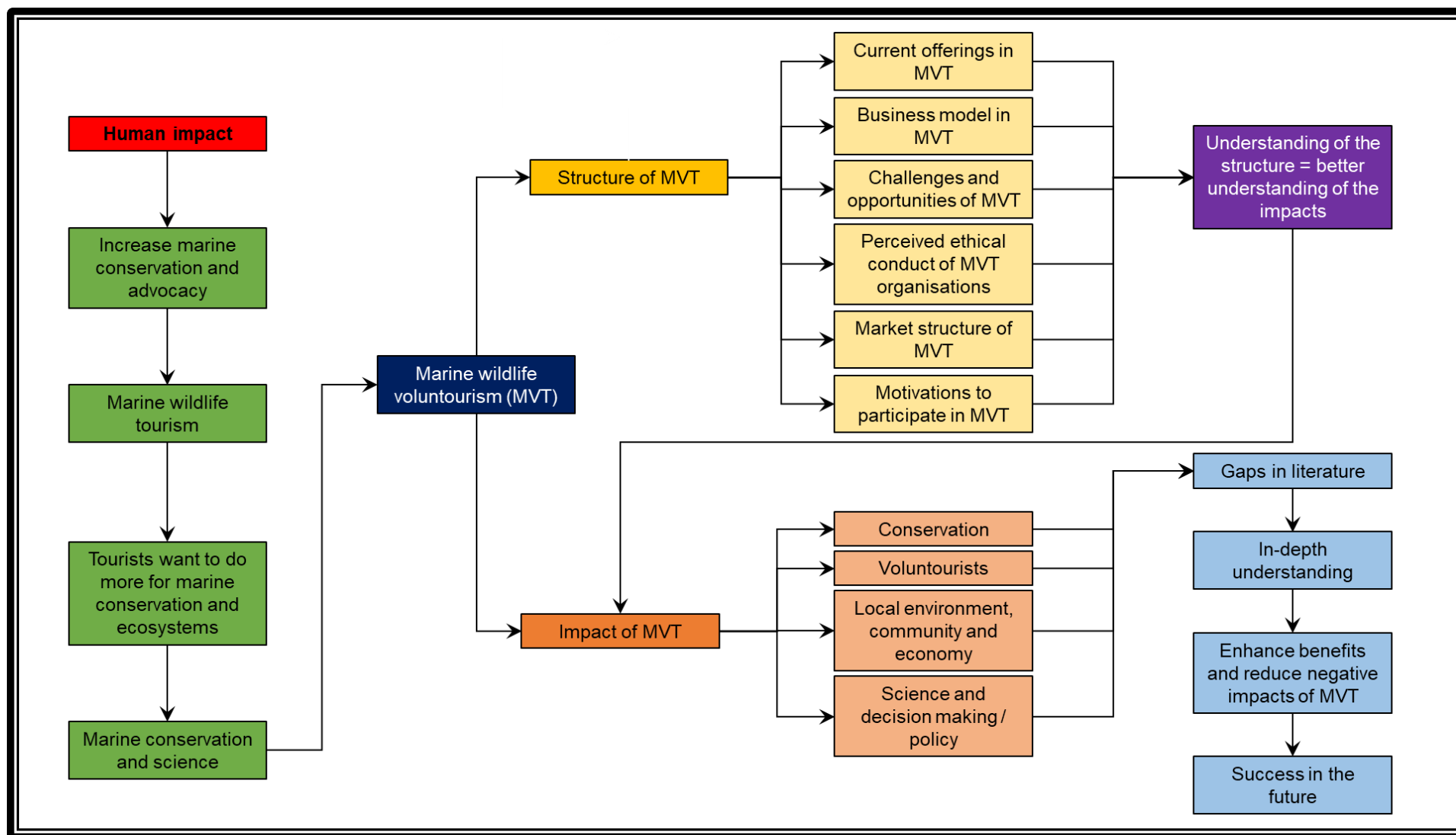


Figure 3.6: An illustration of the investigation of MVT

Source: Author's compilation

This chapter discussed how increased human activities have harmed marine species and the environment. People have increasingly noticed the need to conserve and protect marine ecosystems. This has resulted in more nature-based tourism activities associated with the conservation of marine ecosystems and, in some cases, tourists wanting to do more to conserve and protect the marine environment. This has led to the establishment and growth of MVT, with more people wanting to contribute to marine conservation and research. It was noted that MVT is popular around charismatic fauna, such as sharks, dolphins and turtles and it is evident that MVT offerings concentrate on the global south and warm locations, although charismatic species are increasingly attracting voluntourists to other, colder locations. The analysis of the organisational structure of MVT provided a better understanding of the profile of MVT suppliers, their offerings, the challenges that they face, their attitude, their perceived ethical conduct, their market structure, and the motivation of their voluntourists.

The documented impacts of MVT were also discussed, and gaps in the literature could be identified. The documented impacts are on conservation, voluntourists, local environment, community and economy, and science and decision making or policy. The gaps in the literature are identified in contradictory findings between different authors, restricted reviews from the voluntourists, and limited information on some impacts of MVT.

It is crucial to have an in-depth understanding of MVT, especially in areas requiring further investigation, to ensure that the benefits of MVT are enhanced, the negative impacts are reduced, and the success of MVT in the future is guaranteed.

CHAPTER 4: RESEARCH METHODOLOGY

"It is, surely, our responsibility to do everything within our power to create a planet that provides a home not just for us, but for all life on earth"

~ David Attenborough

4.1. INTRODUCTION

The previous two chapters presented a literature review that involved an in-depth analysis of marine wildlife tourism (MWT), volunteer tourism or voluntourism (VT), and marine wildlife voluntourism (MVT). The purpose of this chapter is to discuss the research methodology adopted in this study, which is critical for understanding the results presented in Chapter 5. Research can be defined as a systematic process of collecting, analysing and interpreting information to increase one's understanding of a known or unknown phenomenon which, in this case, is MVT (Leedy & Ormrod, 2010:2). According to Rajasekar, Philominathan and Chinnathambi (2013:5), research methodology involves the methods by which information is acquired and becomes a blueprint for research. It is essential to explain the research methodology adopted in a study (Tustin, Ligthelm, Martins & van Wyk, 2005:728).

This chapter contributed to achieving Objective 3, by discussing the scientific research process intended to assess the structure of MVT in Southern Africa. This chapter discusses the geographical gap in research in MVT, the justification of the focus of this study on Southern Africa; the selection of the case study sites; the method of research (including the research design, development of the measuring instruments, data collection and sampling efforts, and data analysis); and ethical considerations concerning this study.

4.2. SOUTHERN AFRICA: A GEOGRAPHICAL GAP IN MARINE WILDLIFE VOLUNTOURISM RESEARCH

According to Alexander (2012b:119), Southern African countries are hotspots for MVT. This is also evident from MVT search engines such as Volunteerworld.com, clearly showing how the global south, including also Southern Africa, is the area where most MVT products are offered (Appendix 1). Southern Africa has extensive coastlines spanning different latitudes and thus offers a variety of tourism opportunities in marine settings from cold-water ones to warm, tropical ones. Charismatic marine wildlife

species such as turtles, sharks and dolphins are widespread in countries of east Southern Africa such as South Africa, Mozambique and Madagascar. This has led to the establishment and development of MWT in these countries (Geldenhuys *et al.* 2019:2; Ghermandi, Obura, Knudsen & Nunes, 2019:1; Obura *et al.* 2018:75). With challenges such as high global biodiversity loss and climate change, environmental conservation needs in these countries are also increasing greatly (Brooks *et al.* 2006:1528; Ringler *et al.* 2010:20). This has resulted, at least in part, in the support of MVT as part of MWT activities, as these could serve conservation purposes and endorse the achievement of sustainable development goals (Devereux & Holmes, 2018:94).

This could be one of the essential reasons why MVT, at least before COVID-19 struck, was increasing in southern African countries, with more people wanting to make a difference and contribute to conservation (Kitney *et al.* 2018:1094; Roques *et al.* 2018:388; Weaver, 2015:683). According to Govender and Rogerson (2010:3), MVT has grown in Southern Africa, with many young voluntourists targeting the region to offer their services abroad. Southern African countries have become one of the top ten rated countries worldwide for MVT (Alexander, 2012b:119; Keese, 2011:257; Van Tonder *et al.* 2017:1). As specified in Chapter 1, this study focuses on MVT in countries of the eastern region of Southern Africa, including South Africa, Mozambique, and Madagascar. There are four reasons for choosing these three countries: 1) from Volunteerworld.com, these are the only countries in Southern Africa (with Seychelles) that host MVT projects (Volunteerworld.com, © 2021); 2) significant conservation and management efforts for marine habitat and species are required, due to the extensive coastline and diversity in marine species that are present in these countries (Greenan *et al.* 2018:1; Hatton & Couto, 1992:49; Motta *et al.* 2000:43); 3) charismatic and vulnerable marine wildlife species that move across trans-frontier boundaries between these countries are found here (Sink *et al.* 2011:5); and 4) from Appendix 2, it can be seen that there is limited understanding of the dynamics of MVT in these countries.

These three countries host a variety of MVT projects focusing on different charismatic marine wildlife. Additionally, they offer MVT settings of different climates (from tropical to temperate). Appendix 1 provides an estimate of the types of MVT programmes (33 programmes in total) offered in these countries, including the location, species of

interest, duration, price per week and work expected from the volunteers. This appendix does not consider possible MVT programme closures due to COVID-19, as it was compiled in 2019. The programmes represented were identified primarily from volunteer platforms (e.g. Volunteerworld.com), but also from a general Google search. It can be seen that South Africa hosts the majority of the programmes (20), 13 of which are in the Western Cape, five in KwaZulu-Natal and two in the Eastern Cape. There are six programmes in Mozambique, of which one is in Jangamo, one is in Zavora, one in Ponta do Ouro (bordering South Africa), and three in Praia do Tofo. Madagascar hosts seven programmes, of which three are in Ifaty, two in Nosy Be, and two in Nosy Komba. These programmes focus on charismatic, unique, vulnerable and conservation value-laden species like sharks (20 programmes), coral reefs (13 programmes), whales (12 programmes), sea turtles (11 programmes), dolphins (eight programmes), and sea birds (seven programmes). Based on this analysis, it may be assumed that MVT projects revolving around such species hold enormous potential, bringing advantages to the countries promoting these initiatives.

The average price for MVT programmes in South Africa is \$667.80 per week, with the duration of the projects ranging from 1 to 24 weeks. The projects in Mozambique range from 2 to 12 weeks and the average price is \$604.83 per week. The average price for the projects in Madagascar is \$501.70 per week, with the duration of the projects ranging from 1 to 26 weeks. During the voluntourists' stay at these programmes, they participate in a variety of environmental, conservation, scientific and educational activities, such as scuba diving, collecting data, capturing data, customer interaction, seamanship and boat activities, community work, monitoring and observing marine species, rehabilitation and releasing of marine animals, and coral farming.

Despite the potential of MVT in Southern Africa, literature focusing on MVT in the region is limited. From Appendix 2, it can be seen that out of 24 studies on VT in Southern Africa, the majority for South Africa and Mozambique have revolved around community development and wildlife conservation in terrestrial habitats. In total, nine studies focused on MVT or marine citizen science (MCS) in South Africa, Mozambique and Madagascar. Of these, only one focused on MVT in South Africa, four on MCS in South Africa, one on MCS in Mozambique, one on MVT in Mozambique, and two on MCS in Madagascar. No research could be found on MVT in Madagascar.

The main aims of the eight studies that are described in Appendix 2 focusing on MVT and MCS in South Africa, Mozambique and Madagascar were to: 1) examine available information on whale shark strandings around the coast of South Africa (Beckley, Cliff, Smole & Compagno, 1997:343); 2) develop and test an independent double-observer approach to traditional underwater visual census UVC strip transects (Bernard, Götz, Kerwath & Wilke, 2013:75); 3) discuss the applicability of easy-to-use participatory methods for gaining rapid knowledge of Madagascar's small-scale fisheries at low cost (Brenier, Ferraris & Mahafina, 2011:60); 4) report on the current status and local perceptions of the traditional turtle fishery (Humber, Godley, Ramahery & Broderick, 2011:175); 5) assess divers' interest in kelp monitoring and identify the characteristics of those wishing to contribute to kelp monitoring (Lucrezi, 2021:1); 6) understand participation (potential and active) in MCS among scuba divers (Lucrezi *et al.* 2018:1); 7) profile voluntourists at a seabird rehabilitation centre (Olivier *et al.* 2015:88); 8) assess the effectiveness of a MVT programme in Mozambique (Roques *et al.* 2018:382); and 9) address the common challenge faced by conservation planners working on coastal zones (Wheeler *et al.* 2008:475). A clear gap can be seen in the literature on MVT in Southern Africa, including the countries considered in this study. This gap concerns a comprehensive approach to assessing MVT from a demand and supply perspective and more detail on the profile of voluntourists and the potential impacts of participation in MVT.

4.3. SELECTION OF ORGANISATIONS AT THE CASE STUDY SITES

Figure 4.1 provides a flow chart of the selection process for the MVT organisations that would be assessed at the case study sites. Figure 4.2 illustrates a map of the MVT organisations originally approached and the final ones. The species of interest that are the focus of the organisations are indicated with a specific icon next to the case study sites.

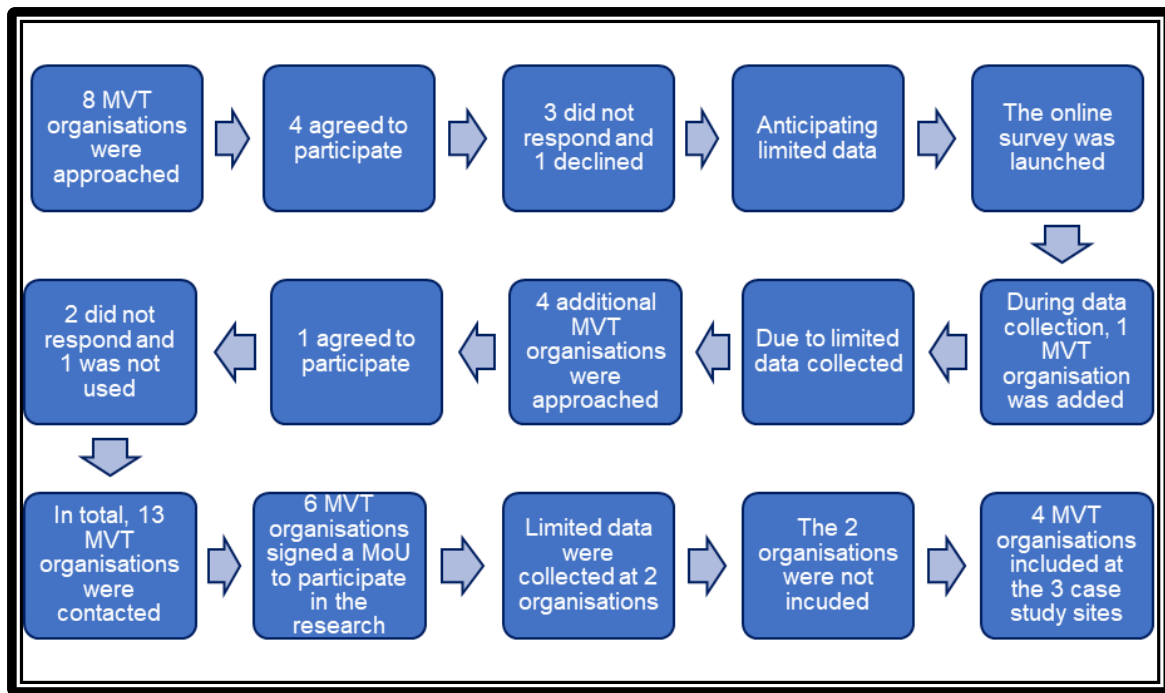


Figure 4.1: Flow chart of the selection process of the case study sites

Source: Author's compilation

The original selection of the MVT organisations was based on key charismatic species including fish, mammals, reptiles, coral, and birds. Based on programme availability in each country, South Africa was chosen for the representation of shark-based MVT (fish) and penguin-based MVT (bird). Mozambique was chosen for the representation of dolphin-based MVT (mammal), and turtle-based MVT (reptile). Madagascar was chosen for the representation of reef-based MVT (coral). It must be noted that most organisations shared interests in other key species, some of which are shown in Figure 4.2.

Originally, a quarter (eight) of the total MVT organisations from Appendix 1 (33) were randomly selected based on the key charismatic species (fish, mammals, reptiles, coral, and birds). The eight organisations were approached in February 2019 to participate in this study. From the eight organisations, five were situated in South Africa (sharks and penguins), two in Mozambique (dolphins and turtles) and one in Madagascar (coral reef).

The organisations were contacted via email with an invitation letter. The invitation letter introduced the researcher and her institution, provided a summary of the research

project (including all ethical implications), and invited the MVT organisations to participate in the study. From the eight organisations, only four responded (red circles A-C and green circle E in Figure 4.2) and advised that they were interested in participating in the study. The other three organisations (green crosses in Figure 4.2), did not respond to the email, and one organisation (purple cross in Figure 4.2) advised that it could not participate in the study. The approved research proposal for this study was sent to the four MVT organisations to provide them with more information on the research project. A memorandum of agreement (MoA) was signed with each MVT organisation, indicating that they provided written consent to participate in the research project.

Since it was anticipated that the data obtained from the current voluntourists at the organisations may be limited, and also to reach participants in MVT around the globe, an online survey was created and launched in July 2019. This online survey is discussed in more detail with the other measuring instruments (4.4.2) and the sampling efforts (4.4.3).

While collecting data in July 2019 at one organisation in Mossel Bay (red circle A in Figure 4.2), another MVT organisation was identified and invited to participate (blue circle D in Figure 4.2). The additional organisation (which could not be identified in the production of Appendix 1 and thus was not included in it) agreed to participate and signed an MoA. This organisation was similar to the neighbouring organisation in Mossel Bay, with the two collaborating. Due to their collaboration, the data for the two organisations were combined. Due to COVID-19, the MVT programme of this additional organisation in Mossel Bay closed. However, since the data were collected before the outbreak of the pandemic, they were retained for analysis and interpretation.

To make up for the four MVT organisations that did not participate in the study (green crosses and purple cross in Figure 4.2), an additional four MVT organisations were selected from Appendix 1 during data collection in 2019 and contacted by email with an invitation letter. These four organisations were not promoted as much as the original eight in VT search engines, including Volunteerworld.com. Of the four MVT

organisations, three were situated in South Africa (sharks focus). The other was situated in Mozambique (turtles focus).

No response was received from two MVT organisations, which are presented as orange stars in Figure 4.2. Of the two MVT organisations responding to the invitation, one did not collaborate due to a lack of real interest in the study (yellow star on Figure 4.2). The other one (green circle F in Figure 4.2) signed an MoA.

In total, 13 MVT organisations were originally invited to participate in this study, and six organisations agreed and signed MoAs to participate. Of the six organisations, three were the primary organisations (red circles A – C on Figure 4.2). These organisations provided formal consent to disclose their information. They are, A) Oceans Research in Mossel Bay, South Africa, B) Dolphin Encountours Research Center in Ponta do Ouro, Mozambique, and C) Reef Check Italia in Ancona, Italy (offering an MVT programme in Nosy Be, Madagascar and other tropical destinations globally; they strived to reduce the travel costs of the voluntourists). One organisation formed the secondary organisation (blue circle D in Mossel Bay, South Africa) and was kept anonymous. The secondary organisation compared to the primary organisations was smaller and did not yield as much data as the main organisations, but still yielded sufficient data that could be used for analysis. The other two organisations, green circles E-F in Mozambique (Figure 4.2) were also kept anonymous. While they happily participated in this study, their data were not sufficient (due to logistical reasons) and were ultimately excluded from the final analysis and the research. The contribution of the organisations is nonetheless acknowledged.

In conclusion, there were three case study sites. The South African case study site included red circle A and blue circle D, the Mozambique case study site included red circle B, and the Madagascar case study site included red circle C (Figure 4.2).

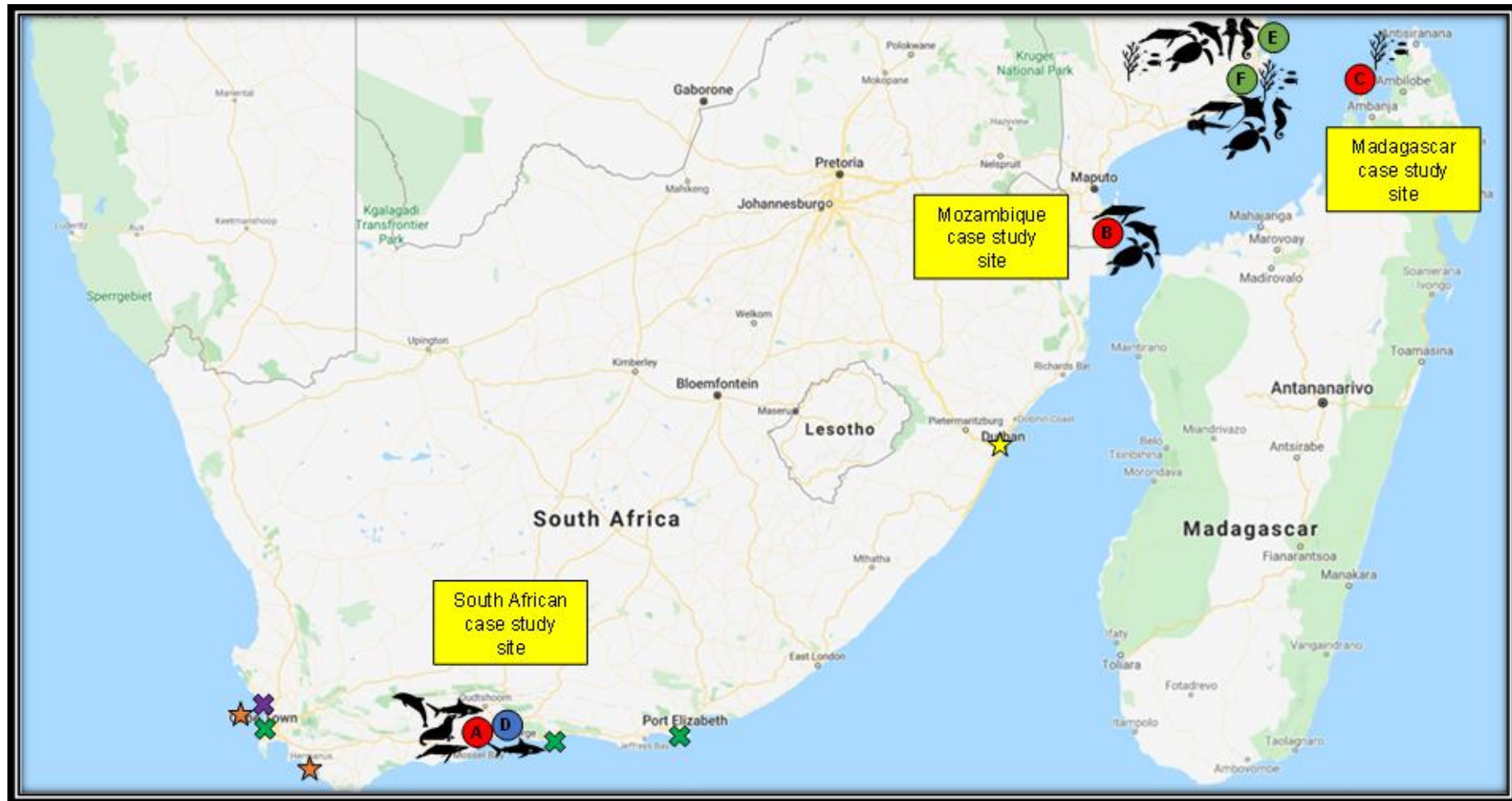


Figure 4.2: Map of case study sites

Source: Google Maps and Author's compilation

Keys: Green crosses – original organisations approached with no response; Purple cross – original organisation approached and declined; Orange stars – additional organisations approached with no response; Yellow star – additional organisation approached and not used; Red circles A-C – primary organisations; Blue circle D – secondary organisation; Green circles E-F – organisations not included; The species of interest are indicated with a specific icon next to the case study sites.

4.4. METHOD OF RESEARCH

A deductive research approach was adopted, using concurrent and complementary methods underpinned by different ontologies and epistemologies. According to Creswell (2009:203) and Ritchie (2003:24), this approach assists in creating different types of intelligence about the subject under study and expanding its understanding. A mixed-method approach, specifically, a convergent parallel design was followed in this study (Ivanova, Creswell & Clark, 2019:338). This allowed the researcher to collect both quantitative and qualitative data on parallel variables, examine the data separately, compare the results, and determine whether the results confirm or disconfirm one another (Creswell & Creswell, 2018:21; Ivanova *et al.* 2019:338). According to Ivanova *et al.* (2019:338), this approach assists in gaining a better and more valid understanding of the phenomenon of interest, in this case, MVT.

4.4.1. RESEARCH DESIGN

This research was exploratory and included quantitative and qualitative methods serving an explanatory, contextual, evaluative, and generative function (Ivanova *et al.* 2019:338). Figure 4.3 illustrates the research design of this study.

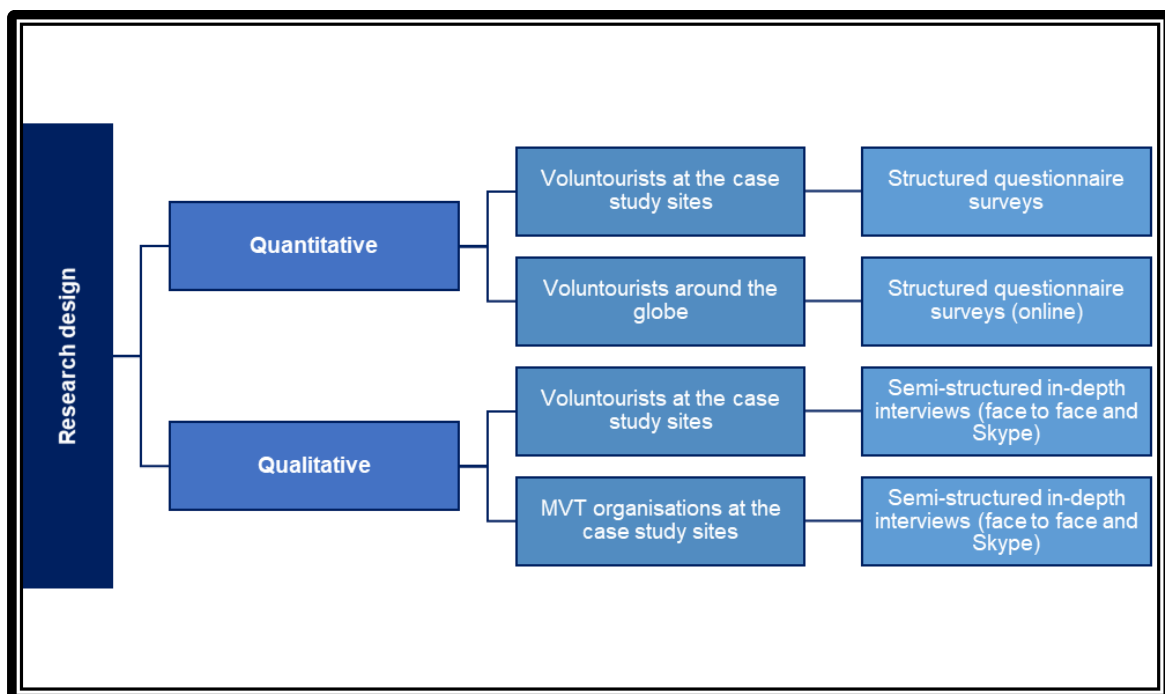


Figure 4.3: Concept diagram of the research design

Source: Author's compilation

Quantitative research methods targeted the MVT market (demand side), which included voluntourists (Maree & Pietersen, 2019c:184). A structured questionnaire survey was used as a measuring tool to collect data at the case study sites and through the internet (Du Plooy-Cilliers & Cronje, 2014:152; Maree & Pietersen, 2019b:196). This allowed the researcher to obtain data from both participants in MVT at the case study sites and around the globe.

Qualitative research methods targeted voluntourists at the case study sites (demand side), and the MVT organisations at the case study sites (supply side) including managers and staff (Nieuwenhuis, 2019b:56). Semi-structured in-depth face-to-face and Skype interviews were used to collect qualitative data (Henning *et al.* 2007:74; Nieuwenhuis, 2019c:108; Strydom & Bezuidenhout, 2014:183). The interviews were recorded on two audio devices for transcription purposes with the permission of the participants (Flick, 2014:210; Nieuwenhuis, 2019c:110). To complement data collection at the case study sites (Nieuwenhuis, 2019c:105) the researcher took part in some of the VT activities. This was done mainly to understand the operational management aspects of the MVT organisations at the case study sites and to establish a positive relationship with the voluntourists and the staff. This meant that data collection would happen in a relaxed and friendly atmosphere for the participants (Nieuwenhuis, 2019c:105). This was done without inconveniencing anyone at the case study sites, including the organisations and the voluntourists and was unlikely to have caused any bias in data collection (Nieuwenhuis, 2019c:105). The researcher could not participate in any activities for the Madagascar case study site because the researcher could not visit the case study site in person.

4.4.2. DEVELOPMENT OF MEASURING INSTRUMENTS

Information concerning the development of the measuring instruments is outlined as follows.

4.4.2.1. Demand side

Assessing the demand side of MVT focused on voluntourists. The measuring instruments for this purpose included: 1) a structured questionnaire survey targeting only the voluntourists at the organisations at the case study sites, distributed at the case study sites and also available online (Appendix 3); 2) an online structured

questionnaire survey targeting voluntourists around the globe (Appendix 3); and 3) a semi-structured interview targeting only voluntourists at the case study sites (Appendix 4), conducted face-to-face at the case study sites or via Skype (Du Plooy-Cilliers & Cronje, 2014:152; Henning *et al.* 2007:74; Maree & Pietersen, 2019b:196; Nieuwenhuis, 2019c:108; Strydom & Bezuidenhout, 2014:183). Figure 4.4 illustrates the analytical framework for the demand side of MVT, which justified the structuring of the questionnaires and interviews conducted. More detail on this framework is provided later in the chapter and Chapter 5.

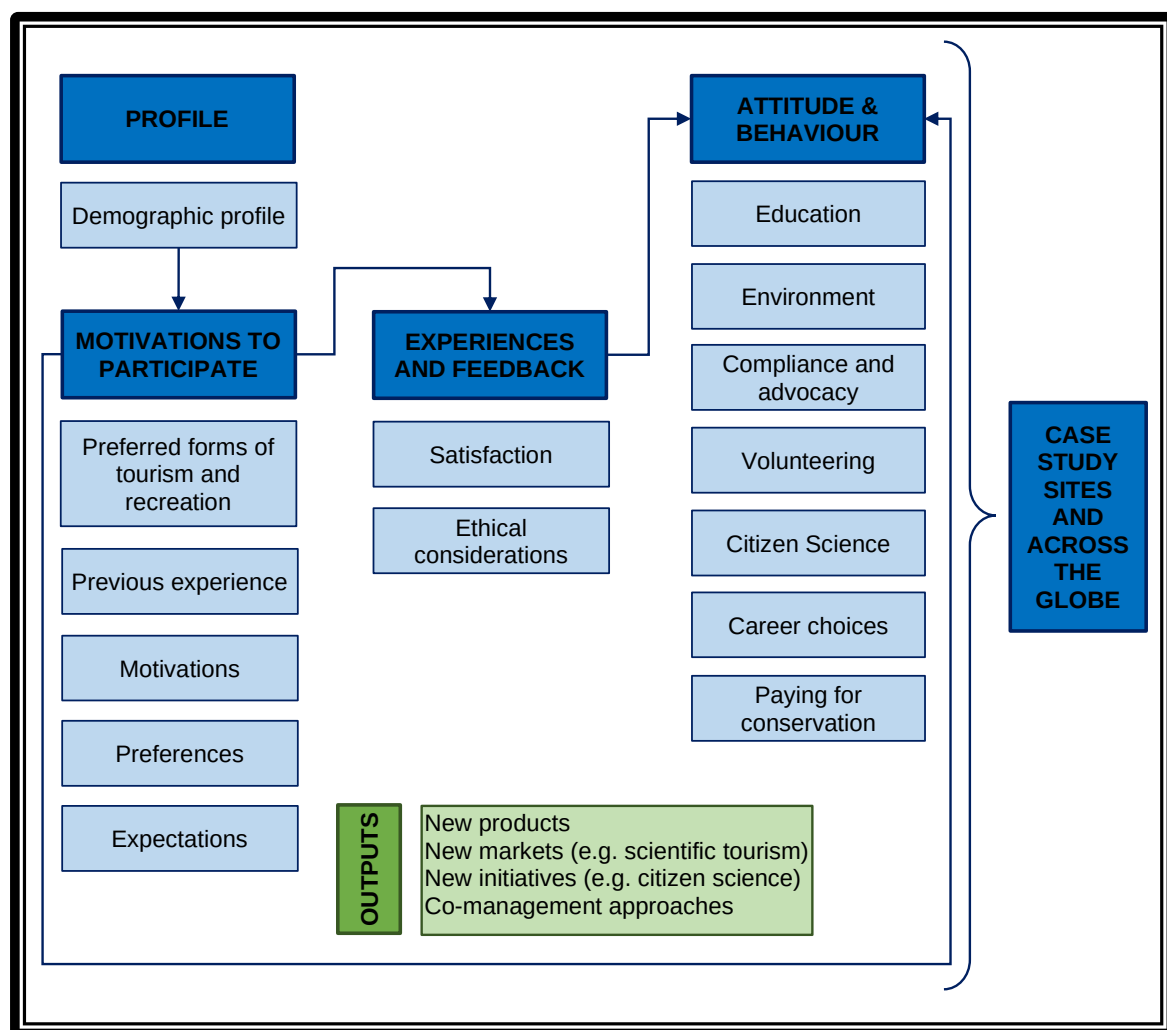


Figure 4.4: Analytical framework for the demand side of MVT

Source: Author's compilation

Both measuring instruments (questionnaire and interview) included a consent form, which provided the participants with information on the purpose of the study, study procedures, risks, benefits, confidentiality, and voluntary participation (Flick, 2014:50;

Henning *et al.* 2007:73; Maree, 2019:47). Before they could participate, the participants had to give consent that they understood the information provided and that they voluntarily agreed to take part in the study (Flick, 2014:50; Henning *et al.* 2007:73; Maree, 2019:47).

The components that were addressed in the structured questionnaire survey targeting voluntourists at the case study sites and across the globe (online) included demographic profile, motivations to participate, experiences and feedback, and environmental attitude and behaviour (Figure 4.4). The literature that justifies the inclusion of such elements in the questionnaire survey is presented in Table 4.1.

Table 4.1: Literature justifying the structure of the survey targeting current voluntourists at the case study sites and across the globe

Section	Reference(s)
Profile	Benson and Seibert (2009:303); Gage and Thapa (2012:416); Lucrezi <i>et al.</i> (2018:1); McKercher (2016:198); Polus and Bidder (2016:308); Rattan, Eagles and Mair (2012:6); Spilanis and Vayanni (2003:3)
Motivations to participate	Alexander, Kim and Kim (2015:5); Anderson, McGehee, Lee and Clemmons (2012:133); Benson and Seibert (2009:303); Berthou (2013:56); Brown (2005:486); Cerrano <i>et al.</i> (2017:316); Chen and Chen (2011:439); Downward and Ralston (2005:20); Farrell <i>et al.</i> (1998:294); Gage and Thapa (2012:420); Giannoulakis, Wang and Gray (2008:195); Grammatikopoulos, Koustelios and Tsigilis (2006:291); Grimm and Needham (2012:492); Hartman, Paris and Blache-Cohen (2014:112); Johnston, Twynam and Farrell (1999:169); Lather, Singh and Singh (2012:9); Lee <i>et al.</i> (2014:43); Lee, Alexander and Kim (2013:284); Lee and Yen (2015:365); Lockstone-Binney <i>et al.</i> (2015:468); Lucrezi <i>et al.</i> (2018:1); Lucrezi, Saayman and Van Der Merwe (2013:52); Ma and Draper (2017:50); McKercher (2016:198); Monga (2006:52); Salleh <i>et al.</i> (2012:178); Soderlund (1998:188); Spilanis and Vayanni (2003:3); Twynam, Farrel and Johnston (2002:372); Wang and Wu (2014:759); Wang and Yu (2015:348); Weaver (2015:63); Wong, Cheung and Wan (2013:179); Wymer (2011:840)
Experiences and feedback	Alexander <i>et al.</i> (2015:5); Berthou (2013:56); Farrell <i>et al.</i> (1998:294); Gage and Thapa (2012:416); Hartman <i>et al.</i> (2014:112); Johnston <i>et al.</i> (1999:169); Lucrezi <i>et al.</i> (2018:1); Salleh <i>et al.</i> (2012:178); Soderlund (1998:188); Wang and Wu (2014:759); Wang and Yu (2015:348)
Environmental attitude and behaviour	Bigne, Andreu and Gnoth (2005:839); Cohen (2001:503); Leonidou, Coudounaris, Kvasova and Christodoulides (2015:643); Lucrezi <i>et al.</i> (2018:1); Michalos, Creech, McDonald and Kahlke (2009:23); Rattan <i>et al.</i> (2012:10); Singh, Slotkin and Vamosi (2007:128); Togridou, Hovardas and Pantis (2006:314)

The questions that were asked in the semi-structured interview, targeting only voluntourists at the case study sites, were adapted from this measuring instrument. The components that were addressed in the semi-structured interview included demographic profile, motivations, experiences and feedback, and environmental attitude and behaviour.

These two instruments were developed using the analytical model (Figure 4.4) as an outline and verified with measuring instruments that were available or described in other VT research (Nieuwenhuis, 2019c:81), including MVT and marine MCS (Lee *et*

al. 2014:41; Polus & Bidder, 2016:310). The structured questionnaire survey and the questions used in the semi-structured interviews are attached as Appendices 3 and 4.

4.4.2.2. Supply side

The supply side of MVT is characterised by managers and staff at the specific case study sites involved in MVT. The measuring instrument for the supply side included a semi-structured face-to-face or Skype interview (Du Plooy-Cilliers & Cronje, 2014:152; Henning *et al.* 2007:74; Nieuwenhuis, 2019c:108; Strydom & Bezuidenhout, 2014:183). The measuring instrument also included a consent form that provided the participants with information on the purpose of the study, study procedures, risks, benefits, confidentiality, and voluntary participation (Flick, 2014:50; Henning *et al.* 2007:73; Maree, 2019:47). Before they could participate, participants had to give consent that they understood the information provided and that they voluntarily agreed to take part in the study (Flick, 2014:50; Henning *et al.* 2007:73; Maree, 2019:47).

The components that were addressed in the semi-structured interview targeting the supply side at the case study sites included the demographic profile of the participant, the profile of the MVT organisation, and the key characteristics of the organisation. These questions were adapted from the measuring instruments described in 4.4.2.1, and a standard business model canvas was used to assist the process of data collection from the supply side. Figure 4.5 illustrates the framework to analyse the supply side.

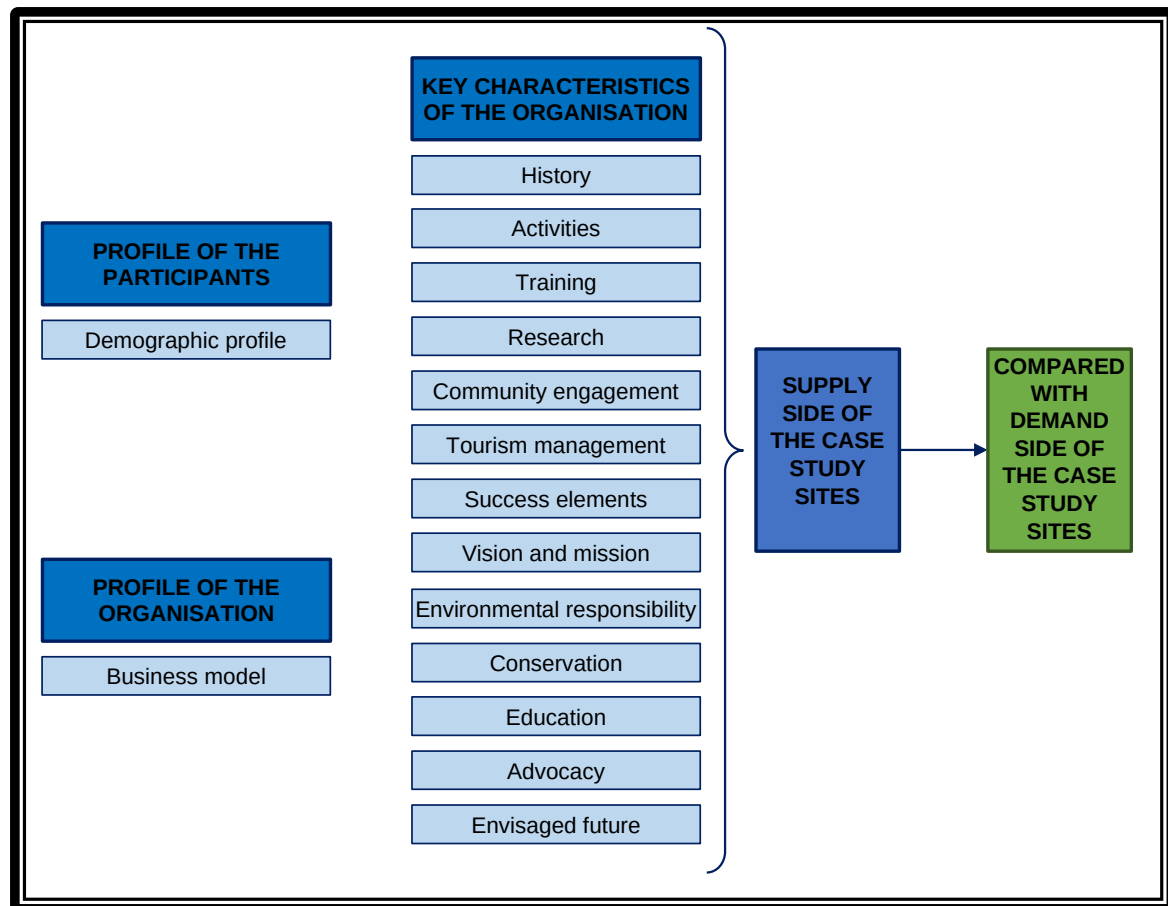


Figure 4.5: Analytical framework for the supply side

Source: Author's compilation

The list of questions used in the semi-structured interviews is attached as an appendix to the study (Appendix 5).

4.4.3. DATA COLLECTION AND SAMPLING EFFORTS

Data collection efforts are described as follows.

4.4.3.1. Defining the population

The population in this study included: 1) marine wildlife voluntourists at the organisations at the three case study sites at the time of the study (one year between 2019 and 2020); 2) marine wildlife voluntourists across the globe; and 3) managers and staff at the organisations in the three selected studies. Table 4.2 provides a representation of the estimated population size for each case study site. The population estimate for marine wildlife voluntourists at the case study sites was based

on the average number of visiting marine wildlife voluntourists per year. The information was received from MVT organisation managers at the case study sites.

Table 4.2: Population size for the selected MVT organisations at each case study site

Case study sites	Species of interest	Demand side	Supply side
South Africa	Sharks	114	19
Mozambique	Dolphins	25	6
Madagascar	Coral	45	11
Total population size		184	36

No information could be found on the population of marine wildlife voluntourists globally. Information on VT, in general, was available. Yates (2018) states that nearly 1.6 million people volunteer abroad annually. These numbers include all types of VT, such as community, medical, and conservation VT. From this estimate, it can be argued that the annual number of people who participate in MVT globally is less than one million. The population estimate for the demand side of MVT at the case study sites was 184. The population estimate for the supply side of MVT was 36 and included the managers and staff at the four organisations selected from the case study sites.

4.4.3.2. Sampling method

The sampling method for this study is described as follows.

4.4.3.2.1. Quantitative sampling method

The quantitative sampling method included only the demand side of MVT. Table 4.3 provides a summary of the population and extracted sample sizes (99% confidence level and 5% confidence interval) for the demand side.

Table 4.3: Population and sample sizes for the demand side of MVT

Target (case study sites or online survey)	Species of interest	Population size	Estimated sample size *	Final sample size - quantitative	Final sample size - qualitative
South Africa	Sharks	114	97	59	17
Mozambique	Dolphins	25	24	40**	9
Madagascar	Coral reef	45	42	43**	4
Current marine wildlife voluntourists across the globe		<1 million	665	211	NA
Total marine wildlife voluntourists reached at the case study sites				142	30
Total marine wildlife voluntourists reached (case study sites and online survey)				353	30

* (99% confidence level, 5% confidence interval)

** The final sample included more people than expected from the sample estimate

The estimated sample size for the case study sites was 163 and the final sample size was 142 voluntourists: 59 in South Africa, which included organisations A and D (Figure 4.2); 40 in Mozambique, which included organisation B (Figure 4.2); and 43 in Madagascar, which included organisation C (Figure 4.2). The sample size for each case study site was sufficient for data analysis. Due to the small population sizes, a non-probability sampling method, including convenience sampling, was followed to collect data from marine wildlife voluntourists at the case study sites (Maree & Pietersen, 2019a:219). Positively, a 100% response rate was received from the marine wildlife voluntourists at the case study sites.

A non-probability sampling method, including snowball sampling using the social networks, was followed to reach marine wildlife voluntourists across the globe (Maree & Pietersen, 2019a:220). This method was deemed appropriate since marine wildlife voluntourists can be considered a “hard-to-reach” population (Baltar & Brunet, 2012:57). Marine wildlife voluntourists were targeted using Facebook as an online platform. The online survey was generated in Google Forms and shared in various groups. This process is further discussed in 4.4.3.3. People visiting the groups were invited to participate in the research and ultimately to share the invitation so that others

could participate (Davis, 2014:14). The survey was made available regularly for approximately one year (4 July 2019 – 25 June 2020).

The number of questionnaires collected from marine wildlife voluntourists across the globe was 211, resulting in the total data collected from marine wildlife voluntourists (case study sites and online) being 353. The estimated sample size for the online survey was estimated to be 655. However, according to Krejcie and Morgan (1970:607), for a population of 1 million, the recommended sample size is 384. Based on this estimate, the researcher was confident to have obtained sufficient data from marine wildlife voluntourists.

4.4.3.2.2. Qualitative sampling method

A phenomenology and case study approach was followed for the qualitative sampling method, which targeted the demand and supply side of MVT at the organisations selected from the case study sites (Flick, 2014:121; Nieuwenhuis, 2019c:89). The qualitative research on the demand side involved a non-probability sampling method including convenience sampling (see Table 4.3) which targeted marine wildlife voluntourists, managers and staff of the organisations at each case study site (Maree & Pietersen, 2019a:220). The qualitative data were collected to complement the demand side data collected through quantitative research (Creswell & Creswell, 2018:186).

In total, 30 marine wildlife voluntourists from the case study sites agreed to be interviewed (see Table 4.3). The number of people interviewed from the supply side of the organisations at the case study sites is presented in Table 4.4. In total, 24 managers and staff were interviewed at the three case study sites.

Table 4.4: Population and sample sizes for the supply side of MVT at the organisations selected from the case study sites

Case study sites	Main species of interest	Population size	Final sample size
South Africa	Sharks	19	17
Mozambique	Dolphins	6	4
Madagascar	Coral reef	11	3
Total data collected		36	24

4.4.3.3. Duration of data collection

Overall, data collection began after ethical approval for this study was obtained (25 June 2019), and was concluded on 25 June 2020, spanning one year.

4.4.3.3.1. Case study sites data collection (demand and supply)

Table 4.5 provides a timeframe for data collection at the organisations. The researcher went on data collection trips to collect as much data as possible in person. However, the organisations agreed to share the questionnaire survey (which was also available in an online form) on behalf of the researcher during times that the researcher was not present (and always in the case of organisation C), to ensure that maximum data collection was achieved. The survey was shared with the organisations via email after ethical clearance was received (25 June 2019). The questionnaire was administered to the voluntourists at the end of their trip to capture all relevant data.

Table 4.5: Timeframe for data collection at the organisations at the case study sites

Date	Organisation	Number of interviews		Number of questionnaires	
		Demand	Supply	Printed	Online
Tue, 25 Jun'19	Questionnaire survey promoted online by the case study organisations				
Sun, 7 Jul'19	Arrival in Mossel Bay, South Africa				
Mon, 8 Jul'19	A	-	3	-	-
Tue, 9 Jul'19	A	-	3	-	-
Wed, 10 Jul'19	D	-	1	-	-
	A	-	2	-	-
	A	5	-	3	2
Thu, 11 Jul'19	D	-	1	-	-
	D	1	-	1	-
	A	-	3	-	-
Fri, 12 Jul'19	D	3	-	3	-
	A	-	3	-	-
	A	2	-	2	-
Sat, 13 Jul-Tue, 16 Jul'19	Observed the managerial side and onsite activities at organisation A				
Wed, 17 Jul'19	D	-	1	-	-
Thu, 18 Jul'19	C	-	2	-	-
Fri, 19 Jul-Sat, 20 Jul'19	Observed the managerial side and onsite activities at organisation A				
Sun, 21 Jul'19	Departure				
Tue, 23 Jul'19	A	5	-	5	-
Sat, 17 Aug'19	Arrival in Ponta do Ouro, Mozambique				
Sun, 18 Aug'19	Observed and participated in the volunteering activities at organisation B				
Mon, 19 Aug'19	B	-	1	-	-
	B	3	-	-	3
Tue, 20 Aug'19	B	-	3	-	-
	B	2	-	-	2
Wed, 21 Aug-Thu, 22 Aug'19	Observed and participated in the volunteering activities at organisation B				
Fri, 23 Aug'19	Departure				
Fri, 4 Oct'19	C	-	1	-	-
Mon, 8 Mar'20	C	-	1	-	-
Wed, 10 Mar'20	C	-	1	-	-
Thu, 11 Mar'20	C	-	2	-	-
Thu, 25 Jun'20	Data collection closed				

The duration of the data collection trip for organisations A and D was from 7 July 2019 until 21 July 2019 (two weeks). Upon arrival, the researcher was introduced to the voluntourists and staff by the coordinators. While not collecting data, the researcher observed the managerial side and onsite activities at the organisations. This included the planning of the daily volunteer schedule, parasite analyses, creation of eco-bricks (Figure 4.6), data capture and analyses, and plastic analyses (Figure 4.7).



Figure 4.6: Creation of eco-bricks
Source: Author's picture



Figure 4.7: Plastic analyses
Source: Author's picture

The duration of the data collection trip for organisation B was from 17 August 2019 to 23 August 2019 (one week). Upon arrival, the researcher was introduced to the voluntourists and staff by the volunteer coordinator. Outside of data collection, the researcher observed and participated in a variety of volunteer activities that included interacting with clients who took part in boat-based activities (ethical dolphin swims and whale watching - Figure 4.8), launching the boat, gear maintenance, skeleton work (cleaning and reconstructing the skeletons of deceased marine animals - Figure 4.9), beach clean-ups, and microplastic collection.



Figure 4.8: Boat-based activity

Source: Dolphin Encountours Research Center's picture



Figure 4.9: Skeleton work

Source: Author's picture

The researcher did not visit organisation C in Madagascar. On 4 October 2019, the researcher had an opportunity to interview one of the staff members from organisation C face-to-face (as he was in South Africa at the time of the study). Everyone else (voluntourists and supply side) was reached online and via Skype.

Another round of in-person data collection would have taken place in 2020 at the organisations including organisation C. However, due to limited funds, the COVID-19 pandemic and the resulting national lockdowns, the researcher was unable to travel to the organisations to collect more data. The researcher was able to continue some data collection online. The researcher was confident that an adequate sample size was reached (4.4.3.2).

4.4.3.3.2. Online questionnaire survey (demand globally)

The online survey targeting marine wildlife voluntourists globally was launched on 4 July 2019 and closed on 25 June 2020. The link to the online survey was shared across 185 Facebook groups. The Facebook groups had a marine, wildlife, conservation, VT, marine biology and science, citizen science (CS) or sustainability focus. The survey was shared on Facebook weekly. In total, the online survey was

shared 965 times by the researcher. During this time, the survey was also shared by other Facebook users and participants (Davis, 2014:14).

4.4.3.4. Data analysis

This section explains the quantitative and qualitative data analyses for this study. As mentioned earlier, the quantitative data were for the demand side, and the qualitative data were for both the demand and supply sides.

4.4.3.4.1. Quantitative data analysis

The data obtained from both the case study sites and online questionnaires were captured in Microsoft Excel, cleaned and prepared for further analysis. Analysis was performed using the statistical software Tibco Statistica (Version 13.3, 2020) and the Statistical Package for the Social Sciences (SPSS Version 25, 2017) with extensions such as Analysis of Moment Structure (AMOS).

The quantitative data included the following variables: 1) dependant variables – a variable that is not manipulated by the researcher and its value depends on the independent variables (Field, 2016:770); 2) independent variables – a variable that is manipulated by the researcher and does not depend on other variables (Field, 2016:770); 3) continuous variables – a variable that can be measured to any level of precision (Field, 2016:704); 4) categorical variable – a variable that consists of made-up categories (Field, 2016:701); and 5) binary variables – a categorical variable with only two categories (Field, 2016:700). The following data analyses were performed.

A) Frequency tables

According to Field (2016:83), frequency tables are used to organise data into a more manageable form. This includes organising the data in tables or graphs according to categories of independent variables. It also includes the percentage of each category based on the frequency that it occurred in the data (Field, 2016:83). Frequency tables (tables and graphs) were used to organise the data concerning 1) descriptive results for marine wildlife voluntourists at the case study sites; 2) qualitative results for the supply side; 3) descriptive results for marine wildlife voluntourists intercepted through the online survey; and 4) comparison between case study sites and the online survey. The data included the: 1) demographic profile of marine wildlife voluntourists; 2)

preferred types of tourism; 3) introduction to VT; 4) previous volunteering experiences; 5) trip duration; 6) all the Likert-scale questions (motivation to participate in MVT, preferences in MVT, expectations towards MVT, satisfaction with MVT, perceived ethical conduct of the MVT organisation, and attitudes); and 7) specific attitudes towards MVT. Frequency tables were not used for continuous variables.

B) Descriptive statistics

According to Field (2016:705), descriptive statistics is a process used to summarise or organise the data collected from a sample according to categories of independent variables. This includes (Field, 2016:723; Pietersen & Maree, 2019:229): 1) mean (average of the data values); 2) median (middle value of a distribution); 3) minimum and maximum values (minimum and maximum values in a distribution); 4) standard deviation (square root of the variance; SD); and 5) standard error (SD of the sampling distribution of a statistic; SE). Descriptive statistics, including mean, median, minimum and maximum values, SD, and SE, were used to organise data concerning 1) descriptive results for marine wildlife voluntourists at the case study sites; 2) qualitative results for the supply side; 3) descriptive results for marine wildlife voluntourists intercepted through the online survey; and 4) comparison between case study sites and the online survey. The variables included: 1) respondents' age; 2) time involved in volunteering; 3) trip duration; 4) spending per day; and 5) all the Likert-scale questions.

C) Cross-tabulation

Cross-tabulation is used to evaluate the relationships between different categorical variables (Field, 2018:838; Pallant, 2010:207; Pietersen & Maree, 2019:229). It indicates how correlations change from one categorical variable to another. Pearson's Chi-square (χ^2) test is used to determine whether there is a relationship between categorical variables and indicates whether the cross-tabulations are significant. If the significance level is equal to or less than 0.05 ($*P \leq 0.05$; $**P \leq 0.01$; $***P \leq 0.001$), it means that there is a statistically significant difference between the variables (Field, 2018:838; Pallant, 2010:207; Pietersen & Maree, 2019:229). Cross-tabulation was used to evaluate the relationship between different categorical variables in the data concerning 1) descriptive results for marine wildlife voluntourists at the case study sites, and 2) comparison between the case study sites and the online survey. The data

included the: 1) demographic profile of the marine wildlife voluntourists; 2) previous volunteering experiences; 3) preferred types of tourism among marine wildlife voluntourists; 4) channels of introduction to VT among marine wildlife voluntourists; and 5) specific attitudes towards MVT.

D) Correspondence analysis

Correspondence analysis is a valuable method to assess the relationship between a set of categorical variables. It presents the results of the relationship between the categorical variables in a two-dimensional graph (Pietersen & Maree, 2019:300). Correspondence analysis was used to assess the relationship between preferred types of tourism in the data from the descriptive results for marine wildlife voluntourists at the case study sites.

E) Levene's test of homogeneity of variances

Levene's test of homogeneity of variances assesses whether the variances in different groups are equal (Field, 2018:1022; Pallant, 2010:207). If the significance level is greater than 0.05, it means the null hypothesis is accepted and the variances are equal. If the significance level is equal to or less than 0.05, it means that the variances for the two groups are significantly different, and the assumption of homogeneity of variances has been violated (Field, 2018:1022; Pallant, 2010:207). It produces the *P*-value and *F*-value and is less sensitive than other tests. It uses deviations from group means for the construction of the transformed variables (Field, 2018:1022; Pallant, 2010:207). Levene's test of homogeneity of variances was used to test whether the variances in different groups were equal in the data concerning 1) descriptive results for marine wildlife voluntourists at the case study sites; and 2) comparison between the case study sites and the online survey. Levene's test of homogeneity of variances was only used for continuous variables. These included the: 1) respondents' age; 2) trip duration; and 3) spending per day.

F) Brown-Forsythe test of homogeneity of variances

The Brown-Forsythe test of homogeneity of variances is developed to be precise when the assumption of homogeneity of variance has been violated (Field, 2016:701; Field, 2018:1010). The variances are weighted by the *n* sample size as a fraction of the total sample size. This results in a reduced impact on the *F* of large sample sizes with large

variances. It produces the *P*-value and *F*-value and is a more robust test (Field, 2016:701; Field, 2018:1010). It uses deviations from group medians, resulting in a lower likelihood of erroneously concluding that the assumption of equal variances has been violated (Field, 2016:701; Field, 2018:1010). The Brown-Forsythe test of homogeneity of variances was used for: 1) descriptive results for marine wildlife voluntourists at the case study sites; 2) comparison between the case study sites and online survey; and 3) results from the cluster analysis. The data included: 1) the respondents' age; 2) trip duration; 3) spending per day; 4) time involved in volunteering; and 5) the clusters resulting from the cluster analysis.

G) Welch's F test

Welch's *F* test is a version of the *F*-ratio. It is designed to be accurate when the assumption of homogeneity of variance has been violated (Field, 2016:726). Welch's *F* test modifies the *F* and the residual degrees of freedom to tackle problems that arise from violations of the homogeneity of variance assumption (Field, 2018:536). Welch's *F* test was used for the cluster analysis for the case study sites and the online survey.

H) Kruskal-Wallis test

The Kruskal-Wallis test is the non-parametric version of the one-way independent ANOVA (Field, 2018:1022; Pietersen & Maree, 2019:282). It tests whether three or more independent groups are different from one another by making use of the ranks of the data and testing the corresponding *P*-value and *H*-value (Field, 2018:1022; Pietersen & Maree, 2019:282). The Kruskal-Wallis test was used for the descriptive results for marine wildlife voluntourists at the case study sites. The Kruskal-Wallis test was only used for continuous variables. These included: 1) the respondents' age; 2) trip duration; and 3) spending per day.

I) Analysis of Variance (ANOVA)

ANOVA tests whether three or more dependent and independent groups have different average scores (Field, 2018:1008; Pietersen & Maree, 2019:276). It is used when the independent groups need to be compared on a single score. It produces the *P*-value and *F*-value (Field, 2018:1008; Pietersen & Maree, 2019:276). ANOVA was used for: 1) descriptive results for marine wildlife voluntourists at the case study sites; 2) comparison between the case study sites and the online survey; 3) relationships

and variation among factors extracted from Likert-scale data; 4) results from the cluster analysis; and 5) determinants of satisfaction and attitude. The data included all the Likert-scale questions, factors, clusters, and determinants of satisfaction and attitude.

J) Tukey HSD (post-hoc tests)

The Tukey Honestly Significant Difference (HSD) post-hoc test is used to conduct a set of comparisons and to investigate the difference between groups in a study (Pallant, 2010:209). Due to the large number of different comparisons being made, it is designed to guard against the possibility of an increased Type 1 error. It produces the *P*-value and *F*-value and assumes equal variance for the different groups (Pallant, 2010:209). The Tukey HSD post-hoc test was used on the Likert-scale questions of the descriptive results for marine wildlife voluntourists at the case study sites as well as the relationships and variation among factors extracted from Likert scale data.

K) Mann-Whitney U non-parametric test

The Mann-Whitney U test is non-parametric, used to test differences between two independent groups on a continuous measure (Field, 2018:286; Pallant, 2010:227; Pietersen & Maree, 2019:280). It compares the medians and converts the scores on the continuous variables to ranks across the two groups. Finally, it assesses whether the ranks differ significantly between the two groups. It produces the *P*-value and *U*-value (Field, 2018:286; Pallant, 2010:227; Pietersen & Maree, 2019:280). Respondents' age and trip duration were compared between the case study sites and the online survey using this test.

L) Practical effect size (Cohen's *d*)

Cohen's *d* is used to calculate the practical effect size (Field, 2018:1011; Pallant, 2010:210; Steyn & Ellis, 2009:106). It expresses the difference between two means in SD units. Effect sizes are categorised as small (0.2), medium (0.5), and large (0.8). The larger the effect size the more significant the results (Field, 2018:1011; Pallant, 2010:210; Steyn & Ellis, 2009:106). Cohen's *d* was calculated for 1) the descriptive results for marine wildlife voluntourists at the case study sites; 2) the comparison between the case study sites and the online survey; 3) the relationship and variation

among factors extracted from Likert-scale data; and 4) the results from the cluster analysis. The data included all the Likert-scale questions, factors, and clusters.

M) Exploratory and confirmatory factor analysis and reliability test

According to Pallant (2010:104), a factor analysis allows a large set of variable items to be condensed to a smaller and more manageable number of factors. Field (2018:875) states that factor analysis is a multivariate technique for identifying whether the correlations between a set of observed variables stem from their relationship with one or more latent variables in the data. Furthermore, factor analysis has three main uses: to understand the structure of a set of variables, to construct a questionnaire to measure an underlying variable, and to reduce a data set to a more manageable size, while keeping as much of the information as possible (Field, 2018:666). Exploratory factor analysis (EFA) is used to explore the interrelationships among a set of variables (Pallant, 2010:104). Confirmatory exploratory factor analysis (CEFA) is a more sophisticated set of methods used to test certain hypotheses regarding the structure underlying a set of variables (Pallant, 2010:104). The items within a factor must have a loading value above 0.3 to be acceptable (Pallant, 2010:194; Peterson, 2000:261).

The factor analysis provides the following information: 1) eigenvalue, representing the amount of total variance explained by the factor. Based on Kaiser's criterion only those factors with an Eigenvalue greater than 1.0 are considered important during factor analysis (Field, 2018:688; Pallant, 2010:192). 2) Total variance explained indicates the percentage of variance explained by the factor(s). The explained variance value should be higher than 60% to be sufficient, although a variance value higher than 50% is also acceptable (Field, 2018:688; Pallant, 2010:192). 3) Cronbach alpha (α), measures the internal consistency (reliability) by indicating the average correlation among all the items that make up the scale. The α values should be above 0.7 to be considered satisfactory, although values above 0.5 may be acceptable (Field, 2018:709; Pallant, 2010:100). 4) Mean inter-item correlation also measures the reliability of the factors (Field, 2018:709; Pallant, 2010:100). It should range between 0.2 and 0.4 (Briggs & Cheek, 1986:106), or between 0.15 and 0.55 (Clark & Watson, 1995:316). 5) Mean factor score represents the average of the data values (Field, 2016:723; Pietersen & Maree, 2019:229). 6) SD of mean factor score represents the square root of the variance (Field, 2016:723; Pietersen & Maree, 2019:229). 7) SE of

the mean factor score represents the SD of the sampling distribution of a statistic (Field, 2016:723; Pietersen & Maree, 2019:229). And 8) loading value, which should be above 0.3 to be acceptable. The data for EFA and CFA included all the Likert-scale questions for the marine wildlife voluntourists at the case study sites and those intercepted through the online survey.

N) Spearman's rank-order correlation rho (r_s)

Spearman's rank-order correlation rho (r_s) is a non-parametric correlation analysis used when the data do not meet the criteria for Pearson correlation (Pallant, 2010:104; Pietersen & Maree, 2019:289). It explores the strength of the relationship between two continuous variables and indicates the direction and strength of the relationship. A positive correlation indicates that if one variable increases, the other variable will also increase. A negative correlation indicates that if one variable increases, the other variable will decrease (Pallant, 2010:104; Pietersen & Maree, 2019:289). Spearman's rank-order correlation rho (r_s) was performed for 1) descriptive results for marine wildlife voluntourists at the case study sites; 2) descriptive results for marine wildlife voluntourists intercepted through the online survey; and 3) relationships and variation among factors. The data included: 1) demographic profile (gender, education, subject, profession, and age); 2) previous volunteering experience; 3) time involved in volunteering; 4) trip duration; 5) spending per day; and 6) factors extracted from Likert scale data.

O) Cluster analysis

A hierarchical cluster analysis was used to investigate the natural structure of the data by using Ward's method with squared Euclidean distances (Tan, Steinbach, Karpatne & Kumar, 2018:487). According to Shalizi (2009:1), Ward's method is a criterion applied in hierarchical cluster analysis to merge clusters with the smallest distances while keeping the growth of the sum of squares small. Cluster analysis divides data into meaningful and useful groups (clusters) (Tan *et al.* 2018:487). A cluster is a compilation of data objects that are similar to one another but different from the data objects in the other clusters (Tan *et al.* 2018:490). Hierarchical cluster analysis indicates where the objects are joined together hierarchically, the closest indicates most similar and the furthest indicates most different (Greenacre, 2008:1). Cluster

analysis was performed on data from marine wildlife voluntourists at the case study sites and intercepted through the online survey. The data included: 1) demographic profile (gender, marital status, education, subject, occupation, profession, and age); 2) previous volunteering experience; 3) time involved in volunteering; 4) trip duration; 5) spending per day; and 6) the factors extracted from Likert-scale data.

P) Structural equation model

Structural equation modelling (SEM) is a technique that tests various models concerning the interrelationships among a set of variables. It evaluates the importance of each independent variable, tests the overall fit of the model in the data and compares alternative models (Pallant, 2010:104). The AMOS module was used to test models that were hypothesised based on the literature and the research questions (using the maximum likelihood estimation technique as recommended by Olsson, Foss, Troye & Howell, 2000:557) and to perform SEM. The data for SEM included the factors extracted from the Likert-scale data on marine wildlife voluntourists at the case study sites and intercepted through the online survey.

Q) Stepwise backward multiple regression analysis

Stepwise regression is a method of multiple regression where predictor variables are captured in a model based on a statistical criterion (Field, 2016:723). In backward stepwise regressions, the predictors in the model are assessed to determine which one should be removed; the regressions start with all the predictors and those that contribute the least are removed in a stepwise manner (Field, 2016:723). Stepwise backward multiple regression was performed on data from marine wildlife voluntourists at the case study sites and intercepted through the online survey. The data included: 1) demographic profile (gender, education, subject, profession, and age); 2) previous volunteering experience; 3) trip duration; and 4) the factors extracted from Likert-scale data.

4.4.3.4.2. Qualitative data analysis

The qualitative data analysis for the interviews included thematic analysis. Thematic analysis is defined by Braun and Clarke (2006:77) as a method that organises and describes the data set in detail, explains different aspects of the research topic and involves identifying, analysing, and reporting themes within the data. The analysis was

done in four main phases: A) organising the data, B) coding the data, C) establishing themes, and D) interpreting the data. The techniques used for each phase in the thematic analysis of the interviews are illustrated in Figure 4.10 and described afterwards.

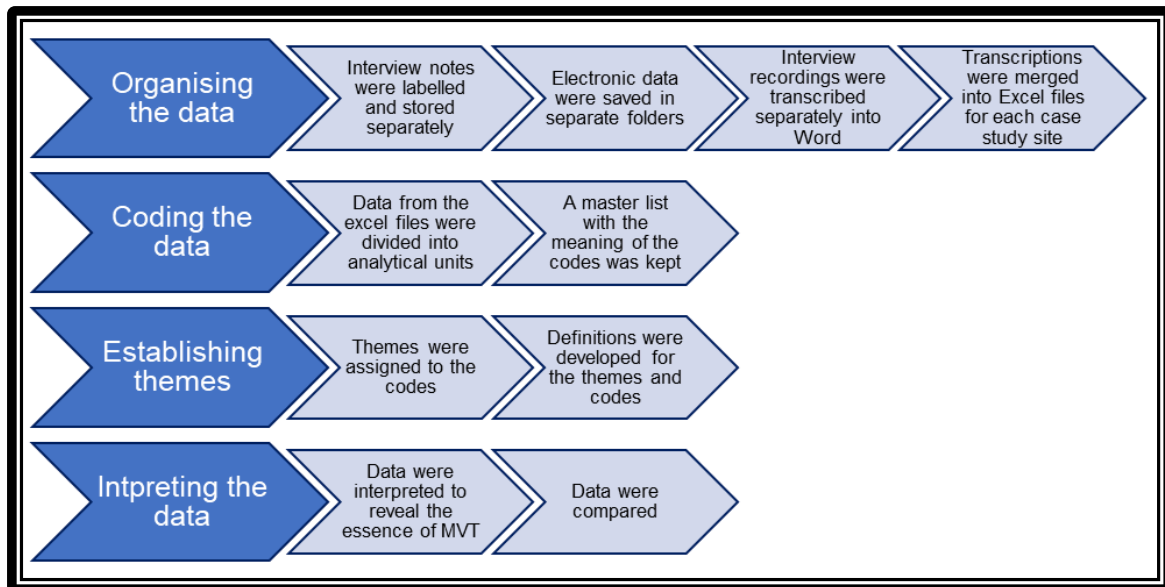


Figure 4.10: Qualitative data analysis – thematic analysis

Source: Author's compilation

A) Organising the data

The qualitative data collected included interview notes, transcribed notes, interview recordings, volunteer schedules and photos. The interview notes were labelled, according to the different case study sites, locations, dates, and times during which each interview was conducted. The interview notes for each case study site were filed separately in secure folders. The different electronic data for each case study site (transcribed notes, interview recordings, volunteer schedules and photos) were saved in separate folders on the computer. All the data were backed up on multiple devices. The interview recordings from the respondents were transcribed verbatim separately into a word document. After transcribing the recordings, the researcher merged all the interviews (keeping the three case study sites separate) into six Word files, three for the demand and three for the supply side (Creswell & Creswell, 2018:192; Nieuwenhuis, 2019a:134).

B) Coding the data

This study followed an inductive open coding process, enabling the comparison between the case study sites. The data from the different Word files were carefully read through and divided into meaningful analytical units. This involved marking the segments of data with either unique identifying names, symbols or descriptive words (keywords). This assisted the researcher to retrieve and collect the data associated with the thematic idea so that the codes could be examined together and compared to one another. The inductive open coding process was concluded once all the data were segmented and the initial coding was completed. During the inductive open coding process, a master list was kept for each code that was developed and used in the research - in vivo coding. These codes were reapplied to similar segments of data (Creswell & Creswell, 2018:192; Nieuwenhuis, 2019a:136).

C) Establishing themes

After the data from the different Word files were coded and the codes were saturated, the different codes were categorised into sub-themes under a given theme, which was represented by the question asked to the respondent. The sub-themes were assigned to the codes that shared commonality. Key quotes for each sub-theme were identified from the data. This assisted in keeping the researcher focused on the meaning of every theme and code, and in discussing the findings (Creswell & Creswell, 2018:192; Nieuwenhuis, 2019a:138).

D) Interpreting the data

This process followed the rule of essential sufficiency, which involves finding the simplest way to fully describe the phenomenon under study, in this case, MVT. The data were interpreted into a logical and well-ordered structure that revealed the essence of MVT. This was achieved by searching for emerging patterns, associations, concepts, and explanations in the data. The data from the case study sites were compared to one another and the quantitative data (Creswell & Creswell, 2018:192; Nieuwenhuis, 2019a:140).

4.5. ETHICAL CONSIDERATIONS

Ethical clearance was received from the Economic and Management Sciences Research Ethics Committee (EMS-REC) at the North-West University, Potchefstroom

Campus. The ethical clearance number for this study is NWU-00767-19-A4 (Appendix 6). The following considerations were followed to ensure that the data were collected in an ethical manner (Maree, 2019:43).

The study did not target any vulnerable groups or underage people (<18). The case study sites (supply side - MVT organisations) were approached and invited formally to participate in the research. No documents from the companies were required except for the written consent to participate in the research (MoA). The measuring instruments included a consent form that provided the participants with information on the purpose of the study, study procedures, risks, benefits, confidentiality, and voluntary participation. The form included copyright details and the ethical clearance number (NWU-00767-19-A4). Before they could participate, the participants had to give consent that they understood the information provided and that they voluntarily agreed to take part in the study. By agreeing to take part in the research, the objectives of which were always clearly outlined upon invitation, the participants were free to leave the research at any time. No unnecessary data were collected, and no data mining was performed.

There was no occasion on which the identity of the participants was made known at any phase during this study. All data were treated anonymously. No sensitive data were requested throughout the research, respecting the privacy of the participants. The data were handled according to national laws on privacy, following all national POPI Act (Act 4 of 2013) rules and regulations as well as the Universities of South Africa Guidelines. The data were collected by the researcher, who received all the relevant training on mixed methods of data collection. The data were stored by the researcher and the study leader in the appropriate data repositories of the research unit at the North-West University. The data will remain the property of the North-West University and will be accessible to the researcher, the study leaders, and the North-West University.

4.6. CONCLUSION

The purpose of this chapter was to describe the geographical gap in research, case study site selection and the methodology that were used to contribute to achieving Objective 3 of the study. Clear gaps can be seen in the literature on MVT in Southern

Africa, including South Africa, Mozambique and Madagascar. A total of 13 MVT organisations were invited to participate in this study. Six organisations agreed to participate. However, due to the limited data collected at two organisations, only four organisations were used. From the four MVT organisations, two were in South Africa, one in Mozambique and one in Madagascar. A concurrent convergent mixed-method approach was followed in this study, which allowed the researcher to collect both quantitative and qualitative data on parallel variables. Non-probability sampling methods, specifically convenience sampling and snowball sampling, were used for the total sample frame of this study. Questionnaire surveys and interviews were used to collect data at the different case study sites. An online survey was used to collect data globally on participants in MVT. The raw data were used for statistical and thematic analyses to create results that will be presented and described in the next chapter.

CHAPTER 5: EMPIRICAL RESULTS

“The greatest danger to our planet is the belief that someone else will save it”

~ Robert Swan

5.1. INTRODUCTION

This study aimed to assess marine wildlife voluntourism (MVT) in Southern Africa from a supply and demand perspective. This chapter aims to achieve Objective 3, which focused on empirical research assessing MVT in Southern Africa. The purpose of this chapter was to present and describe the results of this study. The study included a mixed-method research approach, both quantitative and qualitative. According to Ivanova *et al.* (2019:338), a mixed-method approach, where both quantitative and qualitative methods are integrated, can result in an increased understanding of the research problem and phenomenon. Quantitative research focused on the demand side of MVT. Data were gathered using a non-probability sampling strategy and included structured questionnaire surveys targeting marine wildlife voluntourists at selected case study sites (convenience sampling), and online (snowball sampling). Qualitative research focused on the demand and supply sides of MVT. Data were gathered using a non-probability sampling strategy with semi-structured interviews targeting voluntourists as well as managers and staff at the specific case study sites. Data were collected for one year (25 June 2019 - 25 June 2020).

This chapter is divided into nine sections: 1) descriptive results (both quantitative and qualitative) for marine wildlife voluntourists at the case study sites; 2) qualitative results for the supply side; 3) descriptive results for marine wildlife voluntourists intercepted through the online survey; 4) comparison between the case study sites and online survey; 5) exploratory results for marine wildlife voluntourists; 6) relationships and variation among factors extracted from exploratory factor analysis of Likert-scale data; 7) results from the cluster analysis clustering marine wildlife voluntourists; 8) results from structural equation modelling (SEM) testing hypotheses of relations between factors; and 9) determinants of voluntourists' satisfaction and attitude.

5.2. DESCRIPTIVE RESULTS FOR MARINE WILDLIFE VOLUNTOURISTS AT THE CASE STUDY SITES

The descriptive results for marine wildlife voluntourists at the case study sites selected for this research are reported under 12 sections: 1) demographic profile; 2) preferred types of tourism; 3) introduction to volunteer tourism or voluntourism (VT); 4) previous volunteering experiences; 5) trip duration; 6) motivation to participate in MVT; 7) preferences in MVT; 8) expectations towards MVT; 9) satisfaction with MVT; 10) perceived ethical conduct of the MVT organisation; 11) attitudes (e.g. towards the environment, education, career choices); and 12) specific attitudes towards MVT.

The data collected from the marine wildlife voluntourists belonged to three groups or case study sites: 1) South Africa (organisations A and D; shark-based; $n = 59$); 2) Mozambique (organisation B; dolphin-based and turtle-based; $n = 40$); and 3) Madagascar (organisation C; coral-reef-based; $n = 43$). The total number of samples for the case study sites was $n = 142$. The tests performed on the data included frequency tables, descriptive statistics (mean, median, maximum, minimum, standard deviation (SD), and Standard Error (SE)), cross-tabulations including Pearson's χ^2 , correspondence analysis, Levene's test of homogeneity of variances, the Brown-Forsythe test of homogeneity of variances, the Kruskal-Wallis test (a non-parametric test), Analysis of Variance (ANOVA) with post-hoc tests (Tukey HSD), practical effect sizes (Cohen's d), and Spearman's rank-order correlations (r_s).

Quantitative data from the case study sites were complemented with qualitative data collected through interviews with the voluntourists (South Africa $n = 17$, Mozambique $n = 9$, Madagascar $n = 4$). Thematic analysis including organisation, in vivo open coding, categorisation and interpretation was performed on the voluntourists' narratives in response to the various questions (Braun & Clarke, 2006:77; Creswell & Creswell, 2018:192; Nieuwenhuis, 2019a:136). This was to extract relevant keywords, codes and sub-themes within a given theme (each question), and compare them between the case study sites and with quantitative data to see whether they would match or whether new information would emerge to complement quantitative data. The results of the thematic analysis of qualitative data are reported in Appendix 7, which contains the broad theme or interview question, keywords extracted from narratives at each case study site in response to the question, codes or meaningful

units of text extracted from the narratives (in vivo open coding), sub-themes generated from keywords and codes, and a quote signifying a given sub-theme. Relevant quotes embodying the sub-themes emerging from this analysis were also reported in the text.

5.2.1. DEMOGRAPHIC PROFILE

Table 5.1 provides a summary of the demographic profile of marine wildlife voluntourists at the case study sites.

Table 5.1: Demographic profile of marine wildlife voluntourists at the case study sites

Variable	Categories	South Africa	Mozambique	Madagascar	All	Pearson's χ^2	P
Gender (%)	Male	27	40	28	31	2.12	0.345
	Female	73	60	72	69		
Marital status (%)	Single	92	85	88	89	3.00	0.557
	Married / relationship	8	10	10	9		
	Divorced / widow	0	5	2	2		
Origin (%)	Africa	13	7	14	12	49.78	0.063
	Asia	6	0	0	3		
	Australia	8	3	5	5		
	Europe	26	65	60	47		
	North America	47	25	21	33		
	South America	0	0	0	0		
Education (%)	School	39	25	26	31	3.02	0.220
	University	61	75	74	69		
Subject of study (%)	EBS	98	68	71	82	13.07	0.001***
	Other	2	32	29	18		
Occupation (%)	Student	61	45	58	56	2.97	0.562
	Employed	32	43	35	36		
	Unemployed	7	12	7	8		
Profession (%)	EBS	50	48	36	45	1.26	0.531
	Other	50	52	64	55		
Variable	Categories	South Africa	Mozambique	Madagascar	All	A) Levene's, B) Brown-Forsythe, C) Kruskal-Wallis	
Age (y)	$\bar{x}$	26	33	28	29	A) F = 10.23, P = 0.000*** B) F = 7.25, P = 0.001*** C) H = 7.70, P = 0.021*	
	Median	24	30	25	25		
	Min-max	19-46	18-68	18-52	18-68		
	SD	5.49	12.35	8.95	9.32		
	SE	0.714	1.952	1.365	0.781		

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

EBS = Environmental or biological sciences.

From Table 5.1, it can be seen that most voluntourists at the case study sites were female (69%) and single (89%). For the South African case study site, most respondents originated from North America (47%). For Mozambique and Madagascar, they originated from Europe (65%, 60%). The average age of the respondents at the South African case study site was 26 years, in Mozambique 33 years and Madagascar 28 years, with an overall average of 29 years. The Kruskal-Wallis test (age was a non-parametric variable) indicates that there was a significant difference in age between the case study sites ($H = 7.70$, $P = 0.021$), mainly between South Africa (youngest group) and Mozambique (oldest group). Most respondents had a university degree (69%) in EBS (82%), and a good proportion of them was still studying (56%). Cross-tabulation results show that there was a significant difference in the subject of study between the case study sites (Pearson's $\chi^2 = 13.07$, $P = 0.001$). The South African case study site had the highest percentage of people who studied EBS (98%), followed by Madagascar (71%) and Mozambique (68%). Although a large number of the respondents had a university degree in EBS, the majority of the employed respondents (55%) were in other professions, such as accounting, legal or bookkeeping.

Table 5.2 displays the results of Spearman's rank-order correlations (r_s) investigating unique relationships between demographic parameters. Correlations include demographic profile, previous volunteering experience (discussed under 5.2.4) and the trip duration with spending per day (discussed under 5.2.5).

Table 5.2: Spearman correlations (r_s) on voluntourists' sociodemographic parameters at the case study sites

Variable		1	2	3	4	5	6	7	8	9
1	Gender (0 = male, 1 = female)	1.00								
2	Education (0 = school, 1 = university)	-0.19	1.00							
3	Subject (0 = other, 1 = EBS)	-0.02	-0.16	1.00						
4	Profession (0 = other, 1 = EBS)	-0.16	0.25	0.42	1.00					
5	Age (years, continuous)	-0.16	0.66	-0.25	0.04	1.00				
6	Previous volunteering experience (0 = no, 1 = yes)	0.15	0.11	0.03	0.04	0.17	1.00			
7	Time involved in volunteering (months, continuous)	0.06	-0.16	0.17	0.22	-0.16		1.00		
8	Trip duration (days, continuous)	0.08	-0.32	0.00	0.00	-0.42	0.03	0.29	1.00	
9	Spending per day (\$, continuous)	0.14	-0.17	0.08	0.03	-0.13	0.02	0.34	-0.10	1.00

Bold values indicate statistical significance at $P \leq 0.05$.

EBS = Environmental or biological sciences.

Several conclusions can be drawn from Table 5.2. When looking at the demographic section, female respondents tended to be younger, have a high school qualification, and be employed in other professions than EBS. Respondents with a university qualification tended to be older and were more likely to have employment in EBS professions. Those respondents who studied EBS were younger and were likely to have employment in EBS professions.

5.2.2. PREFERRED TYPES OF TOURISM

Table 5.3 indicates the preferred types of tourism among marine wildlife voluntourists at the case study sites.

Table 5.3: Preferred types of tourism among marine wildlife voluntourists at the case study sites

Type of tourism	South Africa (%)	Mozambique (%)	Madagascar (%)	All (%)
Nature-based	93	83	95	91
Wildlife-based	97	83	81	88
Water-based	90	83	74	83
Beach-based	63	58	58	60
Mountain-based	54	35	53	49
Adventure-based	75	35	37	52
Sport-based	10	15	21	15
Food-based	34	15	26	26
Tropical location	59	53	53	56
Temperate location	24	18	21	21
Party-based	8	13	2	8
Shopping-based	7	0	5	4

The top three preferred forms of tourism at the case study sites and overall were nature-based (91%), wildlife-based (88%) and water-based (83%). The least preferred types of tourism were sport-based (15%), party-based (8%) and shopping-based (4%). A correspondence analysis (Figure 5.1) shows that at all the case study sites, nature-based tourism or similar forms were most preferred (these types of tourism were all grouped together and centrally placed between the case study sites in two-dimensional space) and that non-nature-based tourism was considered least important among the respondents (dispersed away from the case study sites in the two-dimensional space). The dimensions are represented by the two axes (Dimension 1 and Dimension 2) in the figure.

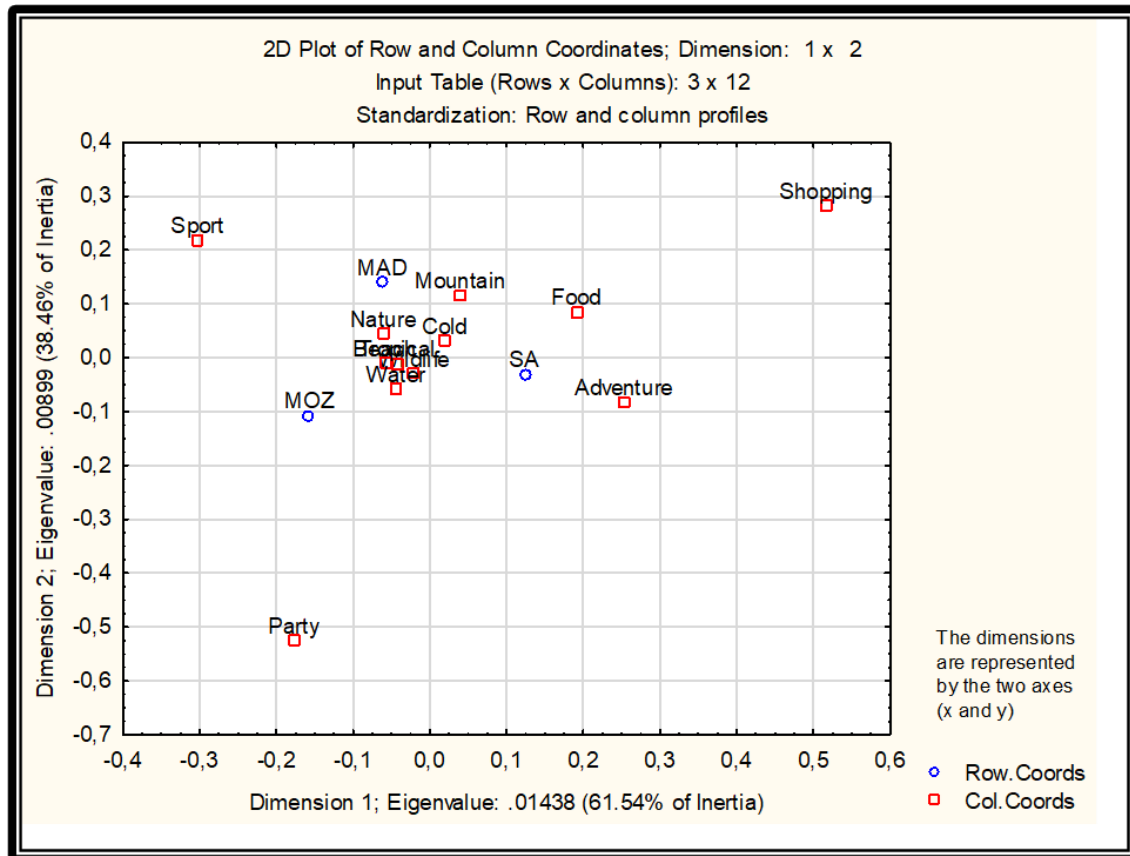


Figure 5.1: Preferred types of tourism among marine wildlife voluntourists at the case study sites

Source: Author's compilation

These quantitative data were confirmed in the qualitative data collected, narratives of the voluntourists in response to questions on preferred types of tourism (Appendix 7). The main sub-theme that emerged from the narratives at the case study sites included a preference for nature and wildlife-based ecotourism that would be characterised by responsible outdoor experiences, wildlife encounters and adventure. This sub-theme is epitomised in the following quote by a voluntourist in Madagascar: *"I like conscious tourism in nature, like observing animals in their natural habitat, and visiting undestroyed places."*

Voluntourists in South Africa and Mozambique also mentioned a preference for exploration and opportunities to learn and develop skills during tourism experiences, while those in Madagascar mentioned a mixture of citizen science (CS) and being in contact with nature.

5.2.3. INTRODUCTION TO VOLUNTOURISM

Table 5.4 and Figure 5.2 show how marine wildlife voluntourists at the case study sites were introduced to VT.

Table 5.4: Channels of introduction to VT among marine wildlife voluntourists at the case study sites and overall

Type of introduction	South Africa (%)	Mozambique (%)	Madagascar (%)	All (%)
Friend	37	65	100	64
Teacher / school	37	13	28	27
General website	20	18	35	24
Social networks	8	18	19	14
Organisation	12	25	9	15
Family	2	3	5	3

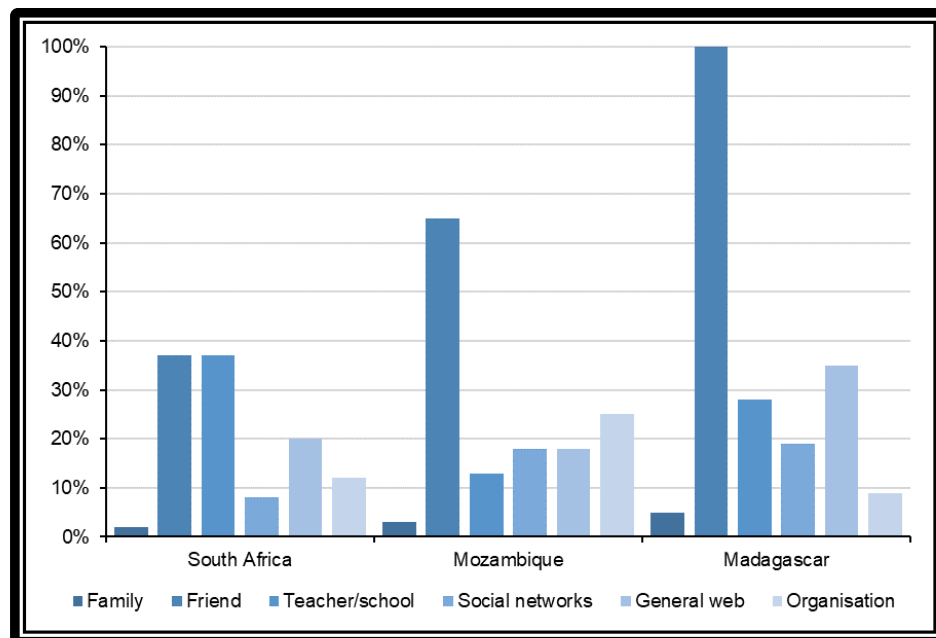


Figure 5.2: Channels of introduction to VT among marine wildlife voluntourists at the case study sites

Source: Author's compilation

From the table and figure, it can be seen that the majority of the respondents at the Mozambique and Madagascar case study sites were introduced to VT by their friends (65%; 100%). In South Africa, respondents were equally introduced to VT by friends (37%) and their teachers or school (37%). Family scored the lowest value across all the case study sites (3%). The website played some role for the Madagascar case study site: organisations for Mozambique and the social networks equally for Madagascar and Mozambique.

5.2.4. PREVIOUS VOLUNTEERING EXPERIENCES

Table 5.5 and Figure 5.3 provide a summary of previous volunteering experiences among the marine wildlife voluntourists at the case study sites.

Table 5.5: Previous volunteering experiences among marine wildlife voluntourists at the case study sites and overall

Variable	Categories	South Africa	Mozambique	Madagascar	All	Pearson's χ^2	P
Previous volunteering experience (%)	Yes	76	78	72	75	0.37	0.830
	No	24	22	28	25		
Time involved in volunteering (months)	$\bar{x}$	53	43	44	48	49.57	0.041 *
	Median	60	9	24	36		
	Min-max	1-120	1-240	1-216	1-240		
	SD	41.46	71.42	53.81	53.55		
	SE	6.640	15.228	10.763	5.775		
aTypes of previous volunteering (%)							
Community		42	33	35	37	-	-
Environment		46	35	28	37	-	-
Terrestrial conservation		22	18	21	20	-	-
Marine conservation		42	53	35	43	-	-
Education		29	25	21	25	-	-
Healthcare		5	5	9	6	-	-
NGO support		8	5	3	6	-	-

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

^a Types of previous volunteering % based on those who have previously volunteered.

Most respondents from all the case study sites had previous volunteering experience (75%), with no significant difference between the case study sites. Respondents had been actively involved in volunteer work for an average of 53 months (South Africa's respondents) to 43 months (Mozambique respondents) with a significant difference (Pearson's $\chi^2 = 49.57$, $P = 0.041$) specifically between South Africa respondents and the rest. Previous volunteering experience tended to revolve around marine conservation as well as environmental or community work, although the respondents also mentioned terrestrial conservation, education, healthcare and support to NGOs (Figure 5.3).

It is evident from Table 5.2 that female and older respondents were more likely to have previous volunteering experience. Older respondents with a higher education qualification were likely to have been involved in volunteering for fewer months, while

younger respondents with qualifications and a profession in EBS were likely to be involved in volunteering for longer.

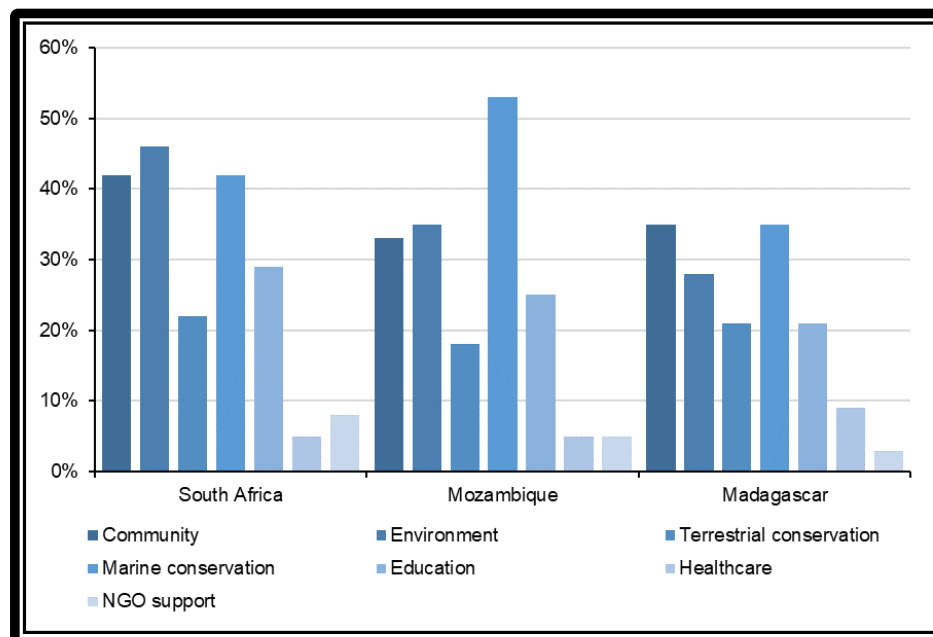


Figure 5.3: Types of previous volunteering among marine wildlife voluntourists at the case study sites

Source: Author's compilation

The quantitative data were confirmed in the qualitative data collected, narratives of the voluntourists in response to questions on previous volunteering experiences (Appendix 7). The main sub-theme that emerged from the narratives at all the case study sites included environment and community conservation activities that revolved around domestic animals, wildlife, community, research, and marine and terrestrial conservation in general. This sub-theme is epitomised in the following quote by a voluntourist in South Africa: *"I have been volunteering at home for four or five years at an animal shelter, and I have done much community service through school."*

5.2.5. TRIP DURATION

Table 5.6 indicates the trip duration among marine wildlife voluntourists at the case study sites. The average trip duration at the South African case study site was 36 days, 29 in Mozambique and 37 in Madagascar, with an overall average of 34 days. The voluntourists spent an average of \$108 per day, specifically \$123 in South Africa, \$108 in Mozambique and \$81 in Madagascar (the MVT organisation working in Madagascar strived to reduce the travel costs of the voluntourists). The Kruskal-Wallis test

(spending was a non-parametric variable) indicates that there was a significant difference in spending per day between the case study sites ($H = 8.34$, $P = 0.016$). The respondents at the South African case study site spent significantly more per day compared to those in Madagascar. From Table 5.2 it can be seen that older and more educated respondents tended to have shorter trips. People with higher education also tended to spend less per day. Those respondents who had been long involved in volunteering tended to have a longer trip duration and spend more per day.

Table 5.6: Trip duration among marine wildlife voluntourists at the case study sites and overall

Variable	Categories	South Africa	Mozambique	Madagascar	All	A) Levene's, B) Brown-Forsythe, C) Kruskal-Wallis
Trip duration (days)	$\bar{x}$	36	29	37	34	
	Median	30	21	30	30	A) $F = 1.45$, $P = 0.239$
	Min-max	7-120	7-150	7-240	7-240	B) $F = 1.30$, $P = 0.276$
	SD	22.55	27.67	39.26	29.87	C) $H = 4.33$, $P = 0.115$
	SE	2.936	4.550	5.987	2.534	
^a Spending per day (\$)	$\bar{x}$	123	108	81	108	
	Median	114	104	68	95	A) $F = 6.56$, $P = 0.002^{**}$
	Min-max	0-333	0-267	21-233	0-333	B) $F = 6.57$, $P = 0.002^{**}$
	SD	76.44	66.75	42.95	68.11	C) $H = 8.34$, $P = 0.016^*$
	SE	10.215	11.283	7.592	6.141	

Statistically significant differences: $*P \leq 0.05$, $**P \leq 0.01$, $***P \leq 0.001$.

^a Includes transport, accommodation, food, activities and other expenses.

5.2.6. MOTIVATION TO PARTICIPATE IN MARINE WILDLIFE VOLUNTOURISM

The respondents were asked to indicate their motivations to participate in MVT by giving importance to a list of items using a 5-point Likert scale. Table 5.7 shows the average scores of motivation items including means for each case study site and average scores including mean, SD and SE for the pooled case study sites. Figure 5.4 shows the response frequencies for each item, pooling the case study sites.

Table 5.7: Average scores of motivation to participate in MVT among respondents at the case study sites and overall

I participated in marine wildlife voluntourism because:	$\bar{x}$ South Africa	$\bar{x}$ Mozambique	$\bar{x}$ Madagascar	$\bar{x}$ All	Average level	SD	SE
I want to contribute to marine conservation	4.83	4.80	4.77	4.80	Very important	0.46	0.039
I want to contribute to animal protection and welfare	4.76	4.80	4.81	4.79	Very important	0.49	0.041
It is an opportunity to learn about marine life	4.78	4.73	4.81	4.77	Very important	0.45	0.038
Marine conservation and marine issues are very close to my heart	4.64	4.50	4.79	4.65	Very important	0.67	0.056
It is an opportunity to interact with marine life*	4.73	4.30	4.77	4.62	Very important	0.68	0.057
It provides me with an opportunity to gain important skills*	4.71	4.28	4.65	4.57	Very important	0.69	0.058
I want to be a part of solving marine issues	4.61	4.35	4.63	4.54	Very important	0.73	0.061
It is an opportunity to meet and interact with marine scientists	4.66	4.33	4.42	4.49	Very important	0.86	0.072
I want to contribute to the successful management of marine areas	4.49	4.43	4.56	4.49	Very important	0.77	0.065
It is a fulfilling experience*	4.51	4.18	4.65	4.46	Very important	0.72	0.060
I am compassionate towards marine animals in need	4.49	4.08	4.47	4.37	Important	0.91	0.076
I want to feel part of a marine conservation community	4.41	4.18	4.47	4.36	Important	0.89	0.075
I want to give something back to the community and environment	4.47	4.13	4.37	4.35	Important	0.81	0.068
Marine volunteering is a chance of a lifetime*	4.51	3.80	4.37	4.27	Important	0.91	0.076
It is fun	4.34	4.15	4.21	4.25	Important	0.85	0.072
It makes the tourism experience more meaningful*	4.05	3.88	4.49	4.13	Important	0.96	0.081
It is an opportunity to explore career options*	4.58	3.75	3.86	4.13	Important	1.20	0.100
I want to experience the local traditions and cultures	4.07	3.90	4.26	4.08	Important	0.84	0.071
I wanted to be somewhere new	4.00	3.60	3.86	3.85	Important	1.14	0.095
I want to meet African people and experience African culture*	3.73	3.38	4.07	3.73	Important	1.15	0.096
It is an opportunity to make new friends with similar interests	3.85	3.65	3.58	3.71	Important	0.99	0.083
It is a good escape from my daily life	3.58	3.38	3.81	3.59	Important	1.23	0.103
It makes me feel important and useful	3.27	3.35	3.56	3.38	Neutral	1.24	0.104
It helps me to work through my personal problems	2.75	2.65	2.95	2.78	Neutral	1.34	0.113
It is part of my society's traditions and / or culture	2.64	2.53	2.42	2.54	Neutral	1.31	0.110
My family and friends partake in volunteering programmes	2.58	2.25	2.19	2.37	Not important	1.34	0.112
It helps me feel less lonely	2.24	2.28	2.47	2.32	Not important	1.28	0.107

Scale of importance: 1 = not at all important, 2 = not important, 3 = neutral, 4 = important, and 5 = very important.

* These items had significantly different average scores between the case study sites.

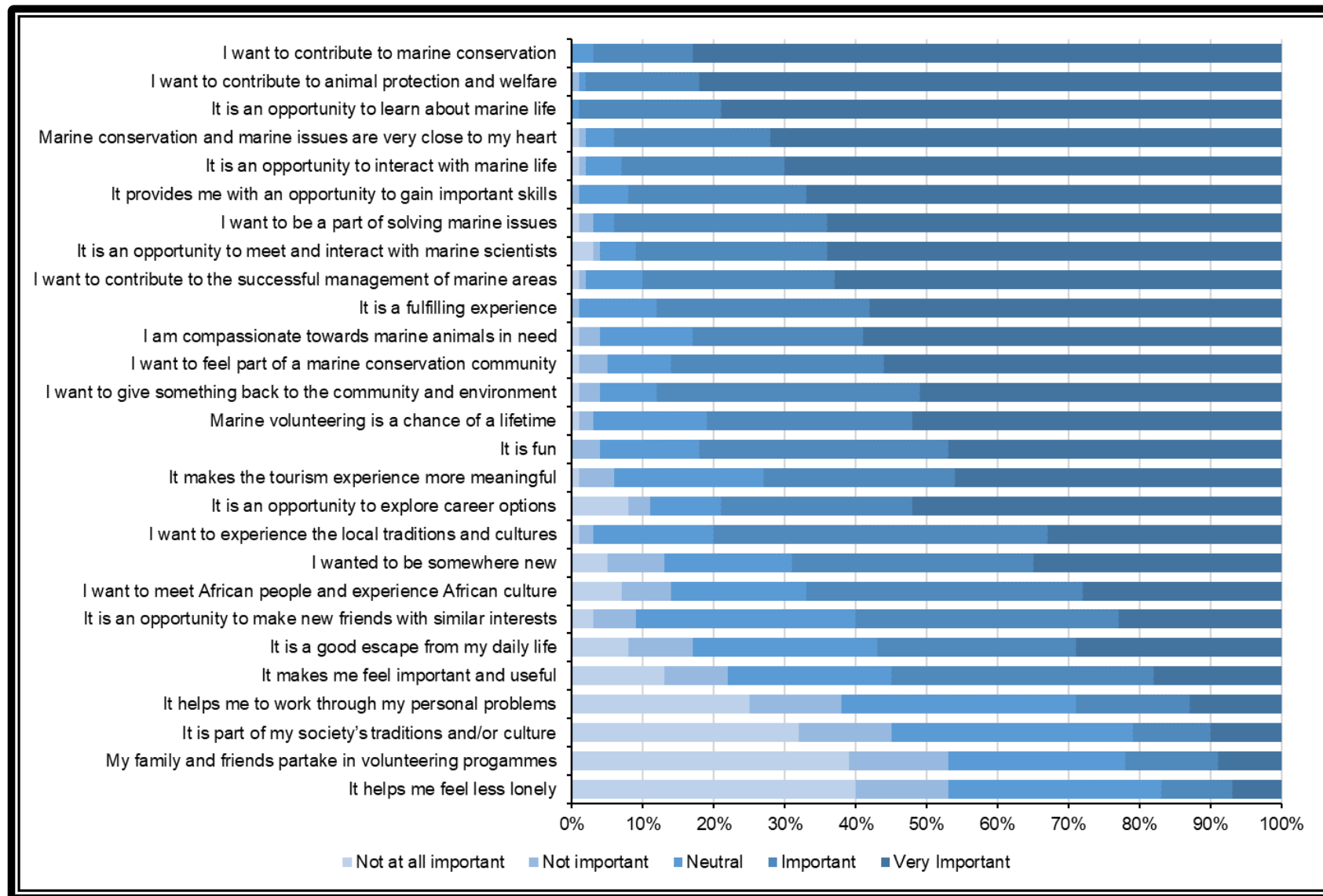


Figure 5.4: Motivation to participate in MVT among respondents at the pooled case study sites

Source: Author's compilation

On average, most motivation statements were considered important by the voluntourists (Table 5.7). In particular, statements related to assisting marine wildlife, participating in marine conservation efforts and enhancing one's personal development had the highest average scores. Statements to which the voluntourists tended to be neutral or gave no importance were related to more personal reasons, such as feeling less lonely, feeling more important, or family traditions and ties to MVT. Response frequencies in Figure 5.4 support the results of Table 5.7. In summary, ecocentric and development items were important and very important motivators to participate in MVT, with frequencies scoring even beyond 95% in importance. Personal well-being and social values were considered as being secondary in stimulating participation in MVT, with importance frequencies scoring around or lower than 20% in some cases.

ANOVA and post-hoc tests were performed to compare motivation items between the case study sites. The results show that seven items, reported in Table 5.8, had significantly different average scores between the case study sites.

Table 5.8: ANOVA results and effect sizes for motivation items that were significantly different between the case study sites

Items (SA n = 59, MZ n = 40, MD n = 43)	ANOVA F	ANOVA P	Post hoc (Tukey HSD)			Effect size (Cohen's d)		
			SA & MZ	SA & MD	MZ & MD	SA & MZ	SA & MD	MZ & MD
It is an opportunity to interact with marine life	6.666	0.002**	0.004**	0.954	0.003**	0.64***	0.06	0.63***
It provides me with an opportunity to gain important skills	5.565	0.005**	0.004**	0.893	0.028*	0.63***	0.10	0.52***
It is a fulfilling experience	5.046	0.008**	0.053	0.567	0.006**	0.43***	0.23**	0.68****
Marine volunteering is a chance of a lifetime	8.512	0.000***	0.000***	0.710	0.007**	0.78****	0.17**	0.63***
It makes the tourism experience more meaningful	4.838	0.009**	0.630	0.052	0.008**	0.19**	0.46***	0.69****
It is an opportunity to explore career options	7.926	0.001**	0.001***	0.005**	0.899	0.73****	0.67***	0.08
I want to meet African people and experience African culture	3.954	0.021*	0.274	0.285	0.014*	0.29**	0.32**	0.67***

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

Effect sizes are categorised as **small (0.2), ***medium (0.5), ****large (0.8).

SA = South Africa, MS = Mozambique, MD = Madagascar.

Specifically, interacting with marine life and gaining important skills were not as important for respondents in Mozambique as for those in South Africa and Madagascar. Similarly, MVT was considered less fulfilling and meaningful and also less the chance of a lifetime among respondents in Mozambique than among those in South Africa and Madagascar. MVT was considered more of an opportunity to explore career options by respondents in South Africa than in Mozambique and Madagascar. Finally, meeting African people and cultures was more important for respondents in Madagascar than in Mozambique and South Africa. In summary, Mozambique tended to represent a separate group for several items. It must be noted that this group was, on average older, and this may have affected the results. The relation between age and motivations to participate in MVT is explored later in this chapter.

The quantitative data were confirmed by the voluntourists' narratives of the motivations to participate in MVT (Appendix 7). The main sub-themes that emerged from the narratives at all the case study sites included ecocentric, personal development, personal well-being and social value motivations. The participants focused on the desire to be a part of marine and wildlife conservation, gain knowledge and experience, fulfil personal needs and interests, and travel to discover Africa and its culture. Concerning ecocentric motivations, for example, a participant in South Africa stated: *"I want to educate the new generations and protect the ocean and nature, involving the local communities."* As for personal development, a voluntourist in Madagascar explained: *"I want to increase my knowledge of coral reefs and learn conservation techniques."* Regarding personal well-being, a respondent in Mozambique claimed: *"I thought if I can combine holidays and resting with something interesting where I can learn, I can be useful. It is perfect."* Finally, concerning social values, a participant in South Africa declared: *"I probably came here more for the culture. Usually, when I travel, yeah probably culture, to see more of the world."*

5.2.7. PREFERENCES IN MARINE WILDLIFE VOLUNTOURISM

The respondents were asked to indicate their preferences in MVT by giving importance to a list of items using a 5-point Likert scale. Table 5.9 shows the average scores of preference items at the case study sites and altogether. Figure 5.5 shows the response frequencies for each item, pooling the case study sites.

Table 5.9: Average scores of preferences in MVT among respondents at the case study sites and overall

I prefer to volunteer at a programme, that:	$\bar{x}$ South Africa	$\bar{x}$ Mozambique	$\bar{x}$ Madagascar	$\bar{x}$ All	Level	SD	SE
Contributes tangibly to the conservation of the environment	4.83	4.60	4.58	4.69	Very important	0.60	0.050
Provides hands-on experience with different marine life*	4.83	4.33	4.51	4.59	Very important	0.66	0.056
Allows me to participate in scientific research*	4.66	4.38	4.26	4.46	Very important	0.75	0.063
Helps marine life that is suffering	4.44	4.38	4.35	4.39	Important	0.82	0.068
Works with local marine and coastal managers	4.51	4.23	4.30	4.37	Important	0.79	0.067
Includes activities like animal tagging and monitoring*	4.44	4.05	4.05	4.21	Important	0.90	0.075
Provides diving opportunities	3.97	4.28	4.30	4.15	Important	0.94	0.079

Scale of importance: 1 = not at all important, 2 = not important, 3 = neutral, 4 = important, and 5 = very important.

* These items had significantly different average scores between the case study sites.

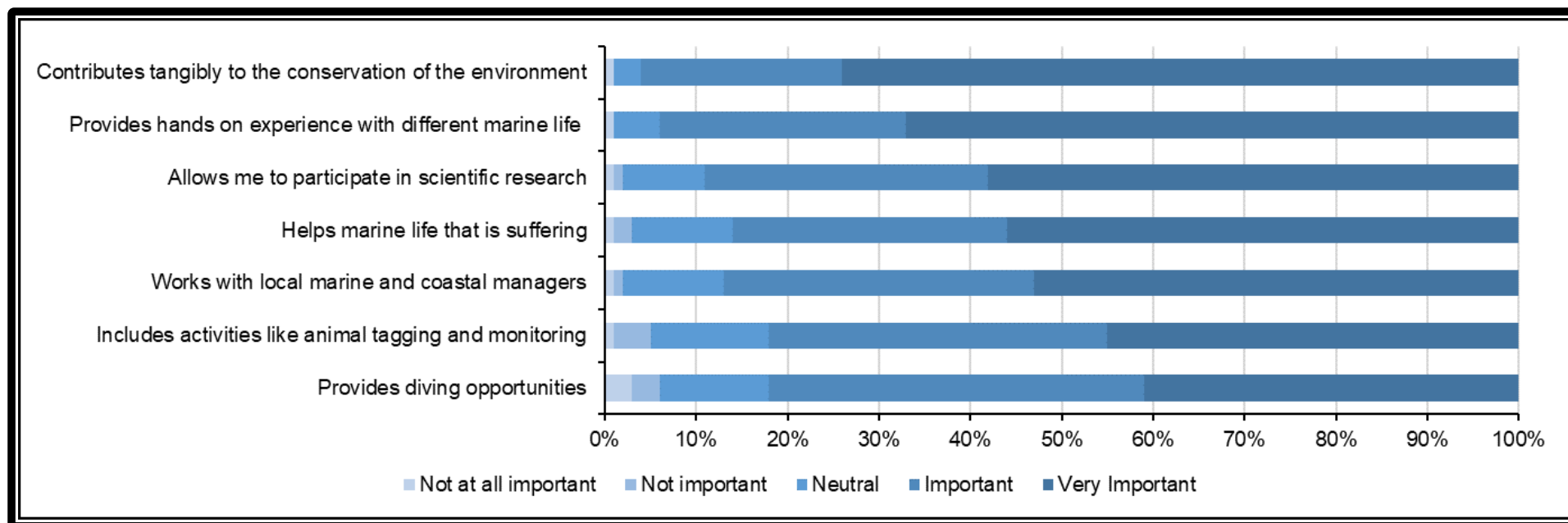


Figure 5.5: Preferences in MVT among respondents at the pooled case study sites

Source: Author's compilation

From Table 5.9, it is clear that the voluntourists gave, on average, importance or great importance to all items presented to them. The most important elements of an MVT programme, however, would be specifically hands-on experiences with marine life that would contribute tangibly to conservation and have a scientific value. Figure 5.5 confirms that more than 80% of the respondents gave importance or great importance to the items presented to them. Particularly, having hands-on experience with marine life and contributing tangibly to conservation received the greatest frequencies (>60%) under the “very important” category.

ANOVA and post-hoc tests were performed to compare preference items between the case study sites (Table 5.10). The results show that three items had significantly different average scores between the case study sites.

Table 5.10: ANOVA results and effect sizes for preference items that were significantly different between the case study sites

Items (SA n = 59, MZ n = 40, MD n = 43)	ANOVA F	ANOVA P	Post hoc (Tukey HSD)			Effect size (Cohen's d)		
			SA & MZ	SA & MD	MZ & MD	SA & MZ	SA & MD	MZ & MD
Provides hands on experience with different marine life	8.074	0.000***	0.000***	0.032*	0.373	0.88****	0.50***	0.25**
Allows me to participate in scientific research	4.150	0.018*	0.138	0.016*	0.740	0.48***	0.51***	0.14
Includes activities like animal tagging and monitoring	3.408	0.036*	0.078	0.067	1.000	0.48***	0.44***	0.00

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

Effect sizes are categorised as **small (0.2), ***medium (0.5), ****large (0.8).

SA = South Africa, MS = Mozambique, MD = Madagascar.

Specifically, providing hands-on experience with marine life, participating in scientific research, and activities like animal tagging and monitoring were more favoured in South Africa than in Madagascar and Mozambique. In summary, voluntourists in South Africa seemingly represented a special group concerning preferences for hands-on activities and participation in scientific research. Out of all three case study sites, the South African case study site had the highest number of students studying EBS. This could be one reason why these voluntourists preferred hands-on experience and scientific research. Relations between preferences in MVT and sociodemographic variables are better explored later in this chapter.

During the qualitative interviews, in answer to the question on preferred types of tourism, the voluntourists provided many details mirroring their interest in VT with a focus on nature, marine conservation, learning, skills development, and CS (Appendix 7). Therefore, they were not further probed concerning their preferences in MVT.

5.2.8. EXPECTATIONS TOWARDS MARINE WILDLIFE VOLUNTOURISM

The respondents were asked to indicate their expectations towards MVT by giving importance to a list of items using a 5-point Likert scale. Table 5.11 shows the average scores of expectation items for each case study site and overall. Figure 5.6 shows the response frequencies for each item, pooling the case study sites.

From Table 5.11 it can be seen that the respondents gave importance or great importance to most of the items presented to them. In particular, they valued the acquisition of marine scientific knowledge, proper training and coordination, and interactions with marine life. They tended to be less concerned with the quality of accommodation and food at the destination. Figure 5.6 confirms that less than 50% of respondents gave importance to only three items, with large proportions of neutrality (over 30%). These items were quality food, quality accommodation, and a clean environment. Items that were considered important by around, or more than, 80% of the respondents included quality information and education on marine life, proper training and coordination, interactions with marine life, and available research equipment.

Table 5.11: Average scores of expectations towards MVT among respondents at the case study sites and overall

My expectations for participating in marine wildlife voluntourism included:	$\bar{x}$ South Africa	$\bar{x}$ Mozambique	$\bar{x}$ Madagascar	$\bar{x}$ All	Level	SD	SE
Good quality training on different things*	4.83	4.38	4.49	4.60	Very important	0.60	0.050
Good coordinator's expertise*	4.69	4.33	4.49	4.53	Very important	0.67	0.056
Brand new knowledge about marine life and conservation	4.59	4.43	4.40	4.49	Very important	0.69	0.058
Plenty of interactions with marine life	4.59	4.23	4.40	4.43	Important	0.76	0.064
Materials related to marine life, conservation and management at the destination*	4.41	4.28	3.98	4.24	Important	0.81	0.068
Availability of sufficient equipment for research*	4.31	3.80	4.05	4.08	Important	0.85	0.071
Group meetings / pre-trip briefings	3.98	3.98	3.77	3.92	Important	0.99	0.083
Plenty of diving*	3.63	4.00	4.23	3.92	Important	0.99	0.083
A detailed programme of the activities to be offered	3.92	3.68	3.93	3.85	Important	1.00	0.084
A list of pre-trip / post-trip add-on marine experiences	3.92	3.63	3.74	3.78	Important	0.92	0.077
Impressive natural beauty at the destination*	3.51	3.90	3.95	3.75	Important	0.98	0.083
A list of do's and don'ts	3.63	3.73	3.58	3.64	Important	0.98	0.082
A suggested packing list	3.51	3.43	3.63	3.52	Important	1.06	0.089
A clean environment	3.47	3.43	3.44	3.45	Important	1.04	0.087
Comfortable accommodation facilities	3.44	3.20	3.23	3.31	Neutral	1.00	0.084
Good quality food	3.32	3.20	3.30	3.28	Neutral	1.01	0.085

Scale of importance: 1 = not at all important, 2 = not important, 3 = neutral, 4 = important, and 5 = very important.

* These items had significantly different average scores between the case study sites.

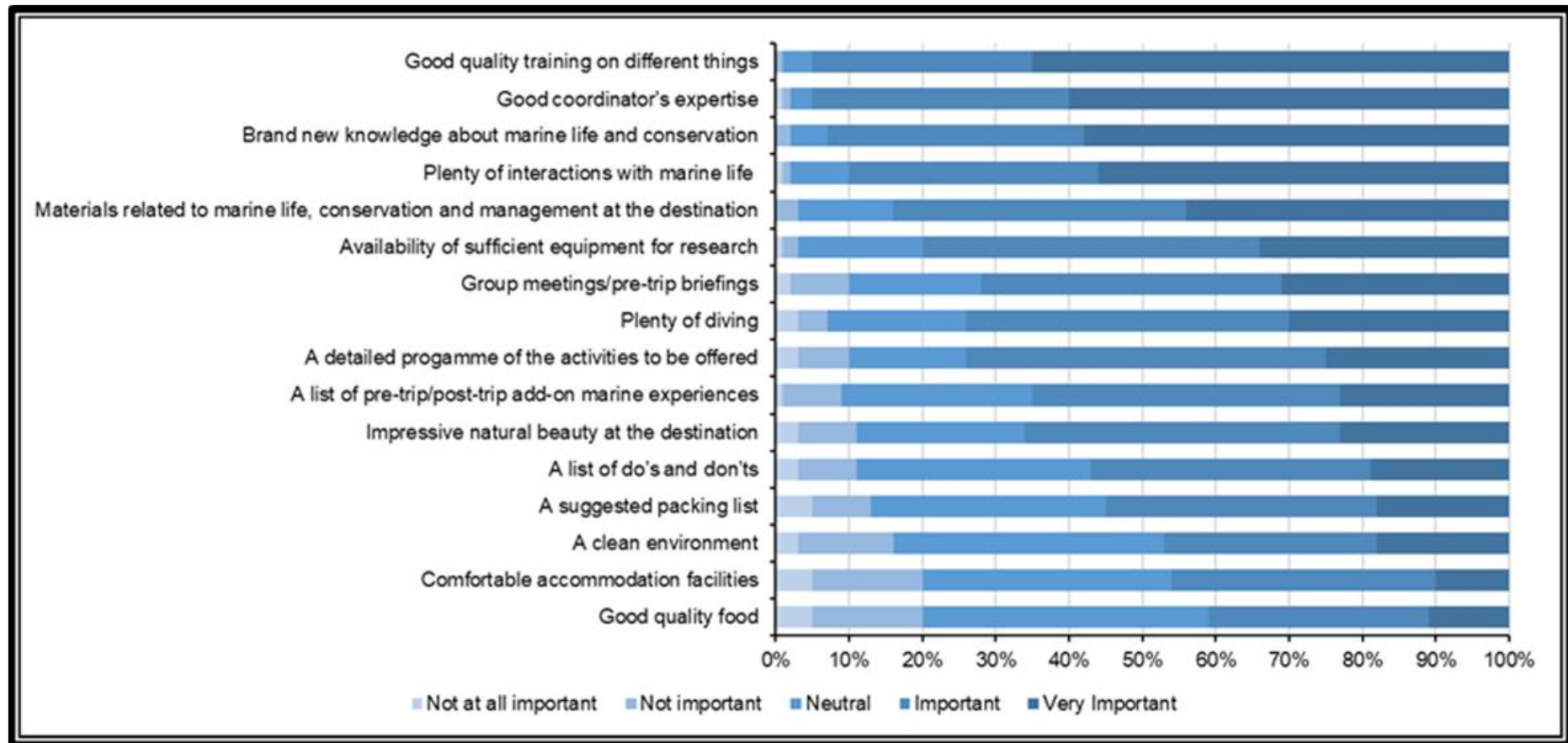


Figure 5.6: Expectations towards MVT among respondents at the pooled case study sites

Source: Author's compilation

ANOVA and post-hoc tests were performed to compare expectation items between the case study sites (Table 5.12). The results show that six items had significantly different average scores between the case study sites.

Table 5.12: ANOVA results and effect sizes for expectation items that were significantly different between the case study sites

Items (SA n = 59, MZ n = 40, MD n = 43)	ANOVA F	ANOVA P	Post hoc (Tukey HSD)			Effect size (Cohen's d)		
			SA & MZ	SA & MD	MZ & MD	SA & MZ	SA & MD	SA & MZ
Good quality training on different things	8.910	0.000***	0.000***	0.007**	0.632	0.81****	0.66***	0.17**
Good coordinator's expertise	3.890	0.023*	0.017*	0.260	0.494	0.60***	0.31**	0.22**
Impressive natural beauty at the destination	3.266	0.041*	0.118	0.057	0.966	0.40***	0.46***	0.06
Availability of sufficient equipment for research	4.523	0.013**	0.008**	0.263	0.363	0.64***	0.32**	0.26**
Plenty of diving	5.188	0.007**	0.138	0.005**	0.511	0.40***	0.61***	0.26**
Materials related to marine life, conservation and management at the destination	3.723	0.027*	0.695	0.019*	0.200	0.18**	0.51***	0.36**

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

Effect sizes are categorised as **small (0.2), ***medium (0.5), ****large (0.8).

SA = South Africa, MS = Mozambique, MD = Madagascar.

Specifically, respondents in South Africa expected better quality training compared to those in Madagascar and Mozambique. They expected good coordinators' expertise and sufficient equipment more than respondents in Mozambique. They were less concerned with diving activities and more concerned with information on marine life and conservation than respondents in Madagascar. They were also less concerned with the aesthetic qualities of the natural environment at the destination compared to respondents in Madagascar and Mozambique. In summary, South Africa-based voluntourists tended to stand alone as a group with high expectations towards the MVT programme and lower expectations towards the destination and activities like diving. These voluntourists had specific sociodemographic characteristics, and the relation between these and expectations variables are explored later in this chapter.

The quantitative data were confirmed by the voluntourists' narratives of the expectations towards MVT (Appendix 7). The main sub-themes that emerged from the narratives at all the case study sites included knowledge and development,

interactions with marine life, and destination experience. Overall, the participants focused on expectations to learn as much as possible in a scientifically sound way and through experience, to interact with marine life in its natural habitat as a way to better learn about it, to do something meaningful and helpful and to have good destination experiences from making friends and interacting with local communities. Concerning expectations towards knowledge and development, for example, a participant in South Africa stated: *“I expected to learn different skills and how to use different equipment for marine science research. I knew there would be courses, so I would learn from people who have done research, have done these studies and have years of experience with this.”* As for interactions with marine life, a voluntourist in Mozambique explained: *“I wanted to learn about dolphins while being in the water as much as possible.”* Regarding destination experiences, a respondent in Madagascar claimed: *“I expected to have an experience in the local village and be able to interact with the local African community.”*

5.2.9. SATISFACTION WITH MARINE WILDLIFE VOLUNTOURISM

The respondents were asked to indicate their level of satisfaction with their MVT experience by rating items using a 5-point Likert scale. Table 5.13 shows the average scores of satisfaction items for each case study site and altogether. Figure 5.7 shows the response frequencies for each item, pooling the case study sites.

On average, the respondents were satisfied or totally satisfied with all the statements in Table 5.13. Voluntourists were happy with the whole experience, from the destination attributes (environmental and social) to the MVT programme itself and their temporary role within the programme. Satisfaction was greatest with statements related to the location; places seen; people met; interactions with marine life; MVT programme quality; training, education and information received; and accommodation. Response frequencies in Figure 5.7 support the results of Table 5.13. At least 80% of the respondents indicated that they were satisfied or totally satisfied with all but two items. These two items were the available technology and the project’s webpage or social media and received just over 20% neutrality responses. There was some dissatisfaction (5-10%) with the free time available to explore, the food and, the data collected (by the voluntourists).

Table 5.13: Average scores of satisfaction with MVT among respondents at the case study sites and overall

Indicate your level of satisfaction with the following:	$\bar{x}$ South Africa	$\bar{x}$ Mozambique	$\bar{x}$ Madagascar	$\bar{x}$ All	Level	SD	SE
The location and the places I managed to see	4.78	4.55	4.67	4.68	Totally satisfied	0.61	0.051
The interactions I had with marine life	4.71	4.55	4.74	4.68	Totally satisfied	0.67	0.056
The people that I have met	4.75	4.60	4.49	4.63	Totally satisfied	0.58	0.049
The marine species I had contact with	4.71	4.55	4.53	4.61	Totally satisfied	0.75	0.063
The overall quality of the volunteer programme	4.69	4.43	4.44	4.54	Totally satisfied	0.66	0.055
The guidance by the coordinators*	4.80	4.23	4.40	4.51	Totally satisfied	0.71	0.060
The information received on marine issues and conservation*	4.73	4.33	4.28	4.48	Totally satisfied	0.73	0.061
The accommodation	4.63	4.30	4.40	4.46	Totally satisfied	0.75	0.063
The education received on the different marine species*	4.68	4.30	4.30	4.46	Totally satisfied	0.71	0.060
The training received*	4.75	4.20	4.28	4.45	Totally satisfied	0.69	0.058
The communication between staff and voluntourists*	4.66	4.28	4.28	4.44	Satisfied	0.81	0.068
The infrastructure of the volunteer programme*	4.59	4.20	4.26	4.38	Satisfied	0.74	0.062
The overall success of the project*	4.54	4.13	4.37	4.37	Satisfied	0.77	0.064
My job assignment and my performance*	4.56	4.15	4.21	4.34	Satisfied	0.74	0.062
The recognition given to me by staff for the job that I have done*	4.56	4.08	4.14	4.30	Satisfied	0.78	0.065
The orientation received*	4.54	3.93	4.30	4.30	Satisfied	0.80	0.067
The organisation of the programme*	4.58	4.08	4.09	4.29	Satisfied	0.78	0.065
The interactions I had with the local community	4.32	4.15	4.30	4.27	Satisfied	0.89	0.075
The equipment and tools that were provided to me	4.39	4.13	4.19	4.25	Satisfied	0.83	0.070
The food*	4.54	4.10	3.93	4.23	Satisfied	1.02	0.086
The data collected by us, the voluntourists*	4.51	3.95	4.12	4.23	Satisfied	0.86	0.072
The free time that I had available to explore*	4.51	4.10	3.86	4.20	Satisfied	1.02	0.086
The overall outreach of this volunteer project*	4.41	4.03	4.02	4.18	Satisfied	0.80	0.067
The technology available*	4.27	3.75	3.77	3.97	Satisfied	0.82	0.068
The project's webpage / social media	4.15	3.78	3.84	3.95	Satisfied	0.94	0.079

Scale of satisfaction: 1 = totally dissatisfied, 2 = dissatisfied, 3 = neutral, 4 = satisfied, and 5 = totally satisfied.

* These items had significantly different average scores between the case study sites.

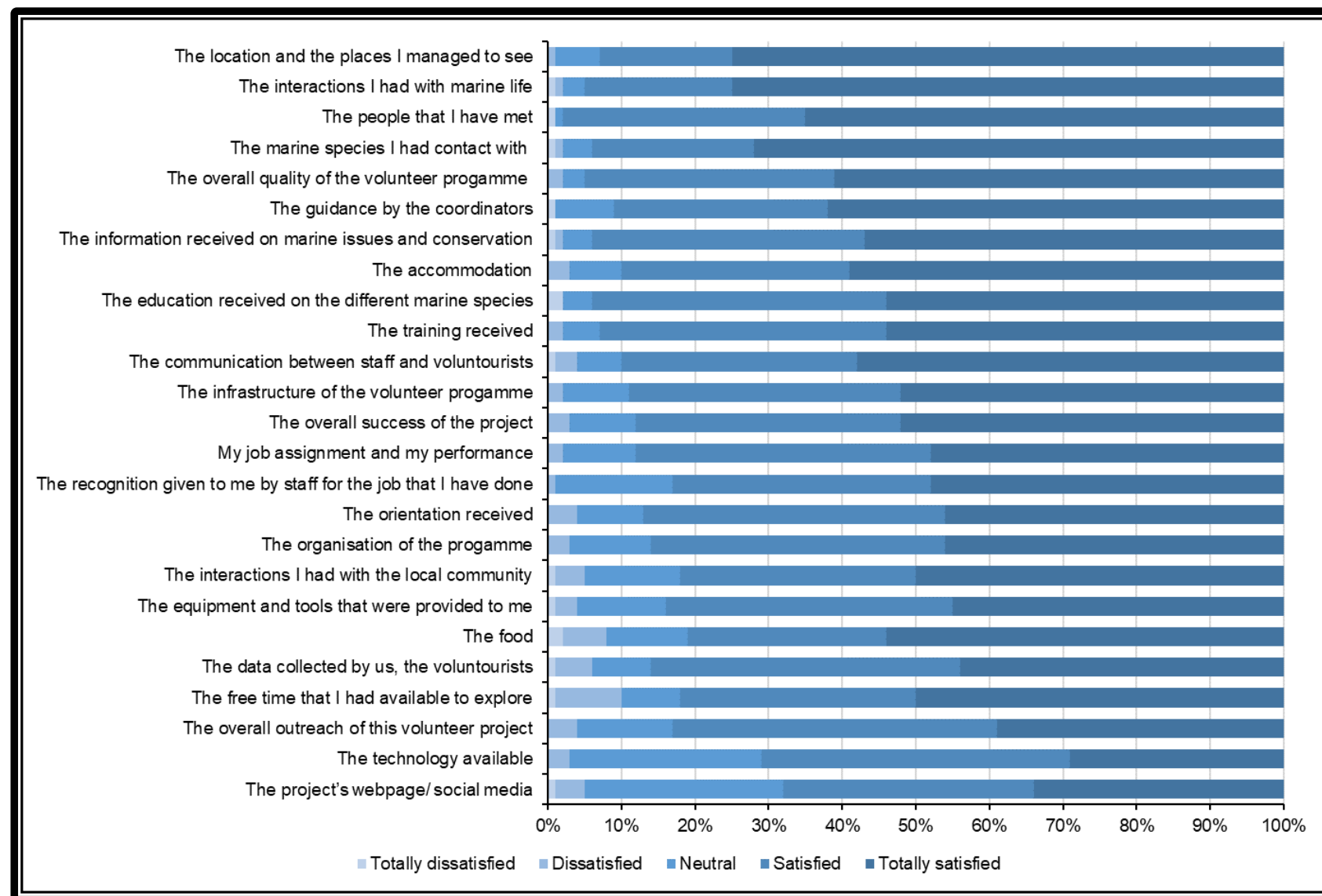


Figure 5.7: Satisfaction with MVT among respondents at the pooled case study sites

Source: Author's compilation

ANOVA and post-hoc tests were performed to compare satisfaction items between the case study sites (Table 5.14). The results show that 16 items had significantly different average scores between the case study sites.

Table 5.14: ANOVA results and effect sizes for satisfaction items that were significantly different between the case study sites

Items (SA n = 59, MZ n = 40, MD n = 43)	ANOVA A F	ANOVA P	Post hoc (Tukey HSD)			Effect size (Cohen's d)		
			SA & MZ	SA & MD	MZ & MD	SA & MZ	SA & MD	SA & MZ
The guidance by the coordinators	9.580	0.000***	0.000***	0.008**	0.481	0.90****	0.62***	0.21**
The information received on marine issues and conservation	6.387	0.002**	0.014**	0.004**	0.953	0.65***	0.62***	0.06
The education received on the different marine species	5.128	0.007**	0.021*	0.018*	1.000	0.64***	0.52***	0.00
The training received	10.642	0.000***	0.000***	0.001***	0.843	0.88****	0.75****	0.10
The communication between staff and voluntourists	4.021	0.020*	0.047*	0.044*	1.000	0.53***	0.47***	0.00
The infrastructure of the volunteer programme	4.430	0.014**	0.022*	0.052	0.934	0.55***	0.48***	0.07
The overall success of the project	3.650	0.029*	0.019*	0.498	0.295	0.53***	0.24**	0.31**
My job assignment and my performance	4.791	0.010**	0.016*	0.042*	0.926	0.60***	0.48***	0.08
The recognition given to me by staff for the job that I have done	6.285	0.002**	0.005**	0.015*	0.919	0.64***	0.58***	0.08
The orientation received	7.848	0.001***	0.000***	0.257	0.062	0.79****	0.33**	0.48** *
The organisation of the programme	7.557	0.001***	0.003**	0.003**	0.993	0.70****	0.65***	0.02
The food	5.222	0.007**	0.075	0.006**	0.716	0.52***	0.57***	0.16**
The data collected by us, the voluntourists	6.044	0.003**	0.003**	0.047*	0.631	0.68****	0.50***	0.18**
The free time that I had available to explore	5.626	0.004**	0.107	0.003**	0.511	0.47***	0.63***	0.21**
The overall outreach of this volunteer project	4.169	0.017*	0.044*	0.037*	1.000	0.49***	0.50***	0.00
The technology available	7.416	0.001***	0.003**	0.004**	0.994	0.68****	0.65***	0.02

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

Effect sizes are categorised as **small (0.2), ***medium (0.5), ****large (0.8).

SA = South Africa, MS = Mozambique, MD = Madagascar.

Specifically, respondents in South Africa were more satisfied than those in Mozambique with infrastructure, orientation and MVT programme success. They were

more satisfied than respondents in Madagascar with the food and free time available to explore. They were more satisfied than respondents in Mozambique and Madagascar concerning guidance, information, education, training, communication, their job assignment, the recognition received, the organisation of the programme, the data collected, the outreach of the project, and the technology available. In summary, South Africa-based voluntourists had a higher satisfaction rate compared to the other case study sites. Given the specific characteristics of these voluntourists, relations between sociodemographic parameters and satisfaction variables are explored later in this chapter.

The quantitative data were confirmed by the voluntourists' narratives of their satisfaction with the MVT experience (Appendix 7). The main sub-themes that emerged from the narratives at all the case study sites included destination and interactions (both with people and wildlife), information and education received, and overall programme quality. The participants focused on the professionalism of the staff, knowledge and skills gained, activities participated in, interactions with marine life, accommodation and food, and the people met. Concerning the satisfaction with the destination and interactions, for example, a participant in Mozambique stated: *"We had the opportunity to be in the water and have contact with the dolphins on a daily basis. The lodge with the owners, they are amazing, so really if you need something they are there for you and the other staff too, they helped us a lot."* As for information and education, a voluntourist in Madagascar explained: *"I was very satisfied with the way the course was structured and the techniques I learnt."* Regarding overall programme quality, a respondent in South Africa claimed: *"All the shifts were incredible, there wasn't a single shift where I would wake up and be like I don't want to go to that shift. All the field specialists and the staff are just the nicest people that I have ever met in my entire life and I am so glad that I have met every single one of them, they are all so amazing in their own ways and know so much."*

There were some things with which the voluntourists were less satisfied. For example, concerning South Africa, some voluntourists would have preferred more freedom with regards to the timetable and the rules at the establishment. Participants in Mozambique claimed to sometimes have a bit too much free time, although this was also related to poor weather preventing fieldwork. Some also had personality clashes

with other people they had met. Respondents in Madagascar claimed that more time available for the planned field activities would have enhanced the quality of the experience and that there were not enough interactions with local communities.

5.2.10. PERCEIVED ETHICAL CONDUCT OF THE MARINE WILDLIFE VOLUNTOURISM ORGANISATION

The respondents were asked to indicate their perceptions of the ethical conduct of the hosting MVT organisation by rating items using a 5-point Likert scale of agreement. Table 5.15 shows the average scores of perception items for each case study site and overall. Figure 5.8 shows the response frequencies for each item, pooling the case study sites.

From Table 5.15, it can be seen that, on average, the voluntourists agreed or strongly agreed that the hosting MVT organisation acted in an ethically sound manner towards people, the environment and the law. The best scores were given to items revolving around handling marine life, environmental conservation, compliance with rules and regulations, personal conduct, and treatment of staff and voluntourists. Figure 5.8 shows that the respondents agreed or strongly agreed more than 85% with all items presented to them. The perceived ethical conduct of the MVT organisation towards community engagement was the only item receiving a disagreement score by around 5% of the respondents.

Table 5.15: Average scores of perceived ethical conduct of the MVT organisation among respondents at the case study sites and overall

I feel that the programme acted according to ethical considerations with regards to:	$\bar{x}$ South Africa	$\bar{x}$ Mozambique	$\bar{x}$ Madagascar	$\bar{x}$ All	Level	SD	SE
Handling of marine life	4.69	4.53	4.58	4.61	Strongly agree	0.57	0.048
Conservation of the environment	4.71	4.43	4.58	4.59	Strongly agree	0.62	0.052
Personal conduct of staff and voluntourists*	4.75	4.48	4.44	4.58	Strongly agree	0.59	0.049
Compliance with local rules and regulations pertaining to the marine environment*	4.76	4.40	4.35	4.54	Strongly agree	0.70	0.059
Treatment of voluntourists*	4.76	4.40	4.35	4.54	Strongly agree	0.64	0.054
Treatment of staff	4.63	4.45	4.40	4.51	Strongly agree	0.64	0.054
Pro-environmental practices*	4.66	4.28	4.16	4.40	Agree	0.84	0.071
Community engagement	4.54	4.23	4.23	4.36	Agree	0.81	0.068

Scale of agreement: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree.

* These items had significantly different average scores between the case study sites.

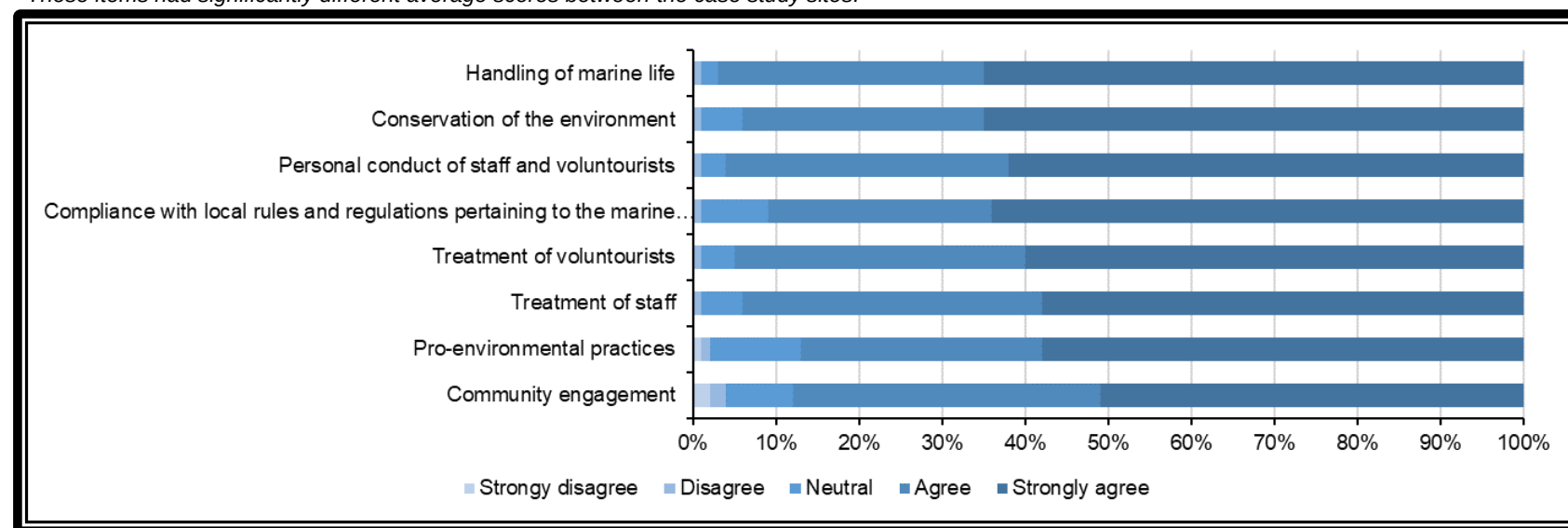


Figure 5.8: Perceived ethical conduct of the MVT organisation among respondents at the pooled case study sites

Source: Author's compilation

ANOVA and post-hoc tests were performed to compare items of perceived ethical conduct of the MVT organisation between the case study sites (Table 5.16). Four items had significantly different average scores between the case study sites. In essence, the personal conduct of staff and voluntourists, compliance with rules and regulations, treatment of voluntourists, and pro-environmental practices received a higher rating in South Africa compared to the other case study sites.

Table 5.16: ANOVA results and effect sizes for items on the perceived ethical conduct of the MVT organisation that were significantly different between the case study sites

Items (SA n = 59, MZ n = 40, MD n = 43)	ANOVA F	ANOVA P	Post hoc (Tukey HSD)			Effect size (Cohen's d)		
			SA & MZ	SA & MD	MZ & MD	SA & MZ	SA & MD	SA & MZ
Personal conduct of staff and voluntourists	4.376	0.014**	0.055	0.022*	0.963	0.50***	0.52***	0.05
Compliance with local rules and regulations pertaining to the marine environment	5.728	0.004**	0.025*	0.007**	0.937	0.57***	0.61***	0.07
Treatment of voluntourists	7.049	0.001***	0.011**	0.002**	0.923	0.67****	0.66***	0.07
Pro-environmental practices	5.276	0.006**	0.055	0.007**	0.807	0.49***	0.59***	0.13

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

Effect sizes are categorised as **small (0.2), ***medium (0.5), ****large (0.8).

SA = South Africa, MZ = Mozambique, MD = Madagascar.

The quantitative data were confirmed by the voluntourists' narratives of the perceived ethical conduct of the MVT organisations they visited (Appendix 7). The main sub-theme that emerged from the narratives at all the case study sites included the proper conduct of the MVT organisation. The participants focused on how the organisations promoted moderate and respectful interactions with wildlife, followed codes of conduct, accommodated voluntourists' needs, and educated them before action. The views of the participants can be summarised in a statement by one of the voluntourists in Mozambique: *"There is always a code of conduct with each marine animal that the staff approach. There is a no touching rule, no noise rule, and they are always careful and respectful towards the marine animals."*

5.2.11. ATTITUDES

The respondents were asked, based on their experience as a marine voluntourist, to indicate their attitudes towards environmental conservation and management, environmental responsibility, education, science, and MVT, by rating items using a 5-

point Likert scale of agreement. Table 5.17 shows the average scores of attitude items for each case study site and overall. Figure 5.9 shows the response frequencies for each item, pooling the case study sites.

On average, the respondents agreed or strongly agreed with most of the statements relating to their attitudes (Table 5.17). In particular, attitudes towards conservation, education and environmental responsibility received very high average scores. The only statement to which the respondents tended to be neutral concerned participation in MVT in future despite a price increase. Response frequencies in Figure 5.9 support the results of Table 5.17. Thirteen statements, mainly about conservation, education, environmental responsibility, and volunteering as a scientific tool, received agreement scores by around or beyond 90% of the respondents. There was more uncertainty regarding future participation in volunteering and MVT, in scientific activities, in conservation campaigning, and willingness to pay for conservation, although an agreement was still achieved by around or above 70% of respondents on these topics.

ANOVA and post-hoc tests were performed to compare attitude items between the case study sites (Table 5.18). The results show that 13 items had significantly different average scores between the case study sites. Along a spectrum, respondents in South Africa generally gave the highest attitude scores and Madagascar the lowest. Specifically, respondents in Madagascar had a less positive attitude towards recycling and respecting laws and regulations that deal with marine protection than those in South Africa and Mozambique. Respondents in South Africa had a more positive attitude towards conserving the environment, reducing waste, education, and abiding by-laws that deal with environmental protection, compared especially with those in Madagascar. They had a more positive attitude towards science in general, scientific career prospects and CS than respondents in Mozambique. In summary, voluntourists in South Africa stood out but were more similar to those in Mozambique concerning general environmental attitudes, and more similar to those in Madagascar concerning scientific attitudes. Possible relations between attitudes and sociodemographic parameters are explored later in the chapter.

Table 5.17: Average scores of attitude among respondents at the case study sites and overall

Based on my experience as a marine voluntourist, I:	$\bar{x}$ South Africa	$\bar{x}$ Mozambique	$\bar{x}$ Madagascar	$\bar{x}$ All	Level	SD	SE
Will try to conserve the marine environment for future generations*	4.83	4.73	4.58	4.73	Strongly agree	0.51	0.043
Respect the laws and regulations that deal with the protection of marine and coastal environments*	4.81	4.83	4.53	4.73	Strongly agree	0.54	0.046
Will reduce unnecessary waste*	4.81	4.78	4.51	4.71	Strongly agree	0.53	0.044
Will educate myself better about marine issues and conservation, so that I can better contribute to conservation*	4.86	4.65	4.49	4.69	Strongly agree	0.56	0.047
Will recycle in the future*	4.80	4.75	4.47	4.68	Strongly agree	0.56	0.047
Feel that everybody should be educated on marine conservation*	4.85	4.55	4.53	4.67	Strongly agree	0.63	0.053
Will educate my family and friends on marine issues and conservation*	4.83	4.68	4.44	4.67	Strongly agree	0.54	0.045
Am interested to learn more about conserving the marine resources through daily acts	4.73	4.65	4.49	4.63	Strongly agree	0.61	0.051
Will abide to laws and regulations which are intended for environmental protection at home and work*	4.73	4.70	4.44	4.63	Strongly agree	0.61	0.051
Feel that stricter policies should be implemented to conserve the marine environment	4.61	4.48	4.40	4.51	Strongly agree	0.66	0.055
Feel that volunteering is a powerful scientific tool*	4.71	4.20	4.40	4.47	Strongly agree	0.71	0.06
Will sign petitions to protect and conserve marine life	4.54	4.30	4.47	4.45	Strongly agree	0.73	0.061
Feel that voluntourism is an important aspect of marine conservation and management	4.47	4.40	4.47	4.45	Strongly agree	0.68	0.057
Will continue to participate in volunteer programmes that deal with marine conservation	4.56	4.45	4.21	4.42	Agree	0.74	0.062
Feel that I have obtained a general interest in science*	4.64	4.25	4.23	4.41	Agree	0.73	0.061
Will only engage in responsible tourism that benefits conservation	4.32	4.23	4.53	4.36	Agree	0.74	0.062
Am interested in a career that focuses on marine conservation and marine sciences*	4.61	4.05	4.09	4.30	Agree	0.99	0.083
Feel that I will join other citizen science projects*	4.47	3.95	4.16	4.23	Agree	0.80	0.067
Will become a member of an organisation that protects marine life	4.34	4.08	4.12	4.20	Agree	0.86	0.072
Will motivate others to invest in a career that focuses on marine conservation and sciences	4.39	4.10	4.00	4.19	Agree	0.86	0.072
Will participate in any kind of volunteering in the future	4.27	4.05	4.09	4.15	Agree	0.92	0.078
Will pay to go to marine protected areas	4.20	4.13	4.12	4.15	Agree	0.79	0.067
Will participate in public relations campaigns to try to prevent incompatible industries from damaging ecosystems	4.25	4.03	4.12	4.15	Agree	0.84	0.071
Feel that I will pursue a career in science*	4.59	3.83	3.74	4.12	Agree	1.01	0.085

Will participate in environmental lobbying to conserve the marine environment	4.25	3.85	4.05	4.08	Agree	0.85	0.071
Will pay to assist organisations and governments conserve natural resources	4.08	3.88	3.88	3.96	Agree	0.90	0.076
Will pay to support non-governmental organisations	4.03	3.83	3.86	3.92	Agree	0.93	0.078
Will pay to raise funds for marine conservation	4.09	3.80	3.81	3.92	Agree	0.90	0.076
Will donate money to marine conservation organisations	3.92	3.58	3.91	3.82	Agree	0.96	0.080
Will participate in this volunteer programme again even if the price increases	3.24	3.48	3.23	3.30	Neutral	1.17	0.098

Scale of agreement: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree.

* These items had significantly different average scores between the case study sites.

Table 5.18: ANOVA results and effect sizes attitude items that were significantly different between the case study sites

Items (SA n = 59, MZ n = 40, MD n = 43)	ANOVA F	ANOVA P	Post hoc (Tukey HSD)			Effect size (Cohen's d)		
			SA & MZ	SA & MD	MZ & MD	SA & MZ	SA & MD	SA & MZ
Will try to conserve the marine environment for future generations	3.090	0.049*	0.558	0.035*	0.391	0.22**	0.49***	0.27**
Respect the laws and regulations that deal with the protection of marine and coastal environments	4.250	0.016*	0.994	0.025*	0.035*	0.03	0.46***	0.48***
Will reduce unnecessary waste	4.730	0.010**	0.929	0.009**	0.051	0.09	0.54***	0.47***
Will educate myself better about marine issues and conservation, so that I can better contribute to conservation	6.150	0.003**	0.129	0.002**	0.363	0.48***	0.65***	0.25**
Will recycle in the future	4.960	0.008**	0.909	0.007**	0.047*	0.10	0.56***	0.47***
Feel that everybody should be educated on marine conservation	4.284	0.016*	0.047*	0.030*	0.993	0.53***	0.52***	0.02
Will educate my family and friends on marine issues and conservation	6.930	0.001***	0.311	0.001***	0.103	0.34**	0.72***	0.39**
Will abide to laws and regulations which are intended for environmental protection at home and work	3.144	0.046*	0.971	0.047*	0.126	0.05	0.46***	0.41***
Feel that volunteering is a powerful scientific tool	7.088	0.001***	0.001***	0.054	0.394	0.67***	0.59***	0.24**
Feel that I have obtained a general interest in science	5.675	0.004**	0.017*	0.010**	0.993	0.55***	0.62***	0.02
Am interested in a career that focuses on marine conservation and marine sciences	5.457	0.005**	0.012**	0.019*	0.977	0.52***	0.70***	0.04
Feel that I will join other citizen science projects	5.780	0.004**	0.003**	0.108	0.419	0.63***	0.46***	0.25**
Feel that I will pursue a career in science	13.164	0.000***	0.000***	0.000***	0.917	0.75***	1.09***	0.08

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

Effect sizes are categorised as **small (0.2), ***medium (0.5), ****large (0.8).

SA = South Africa, MS = Mozambique, MD = Madagascar.

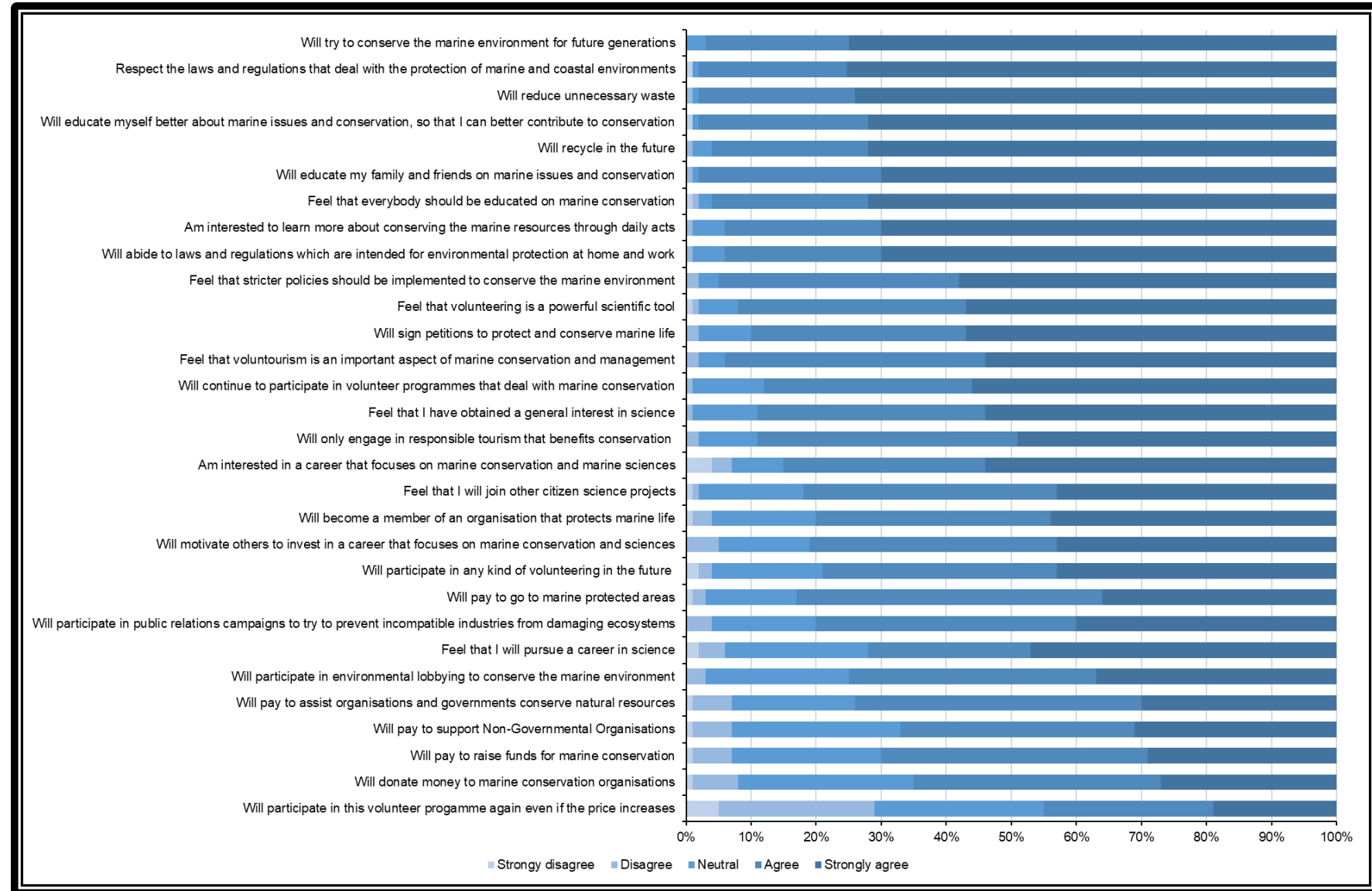


Figure 5.9: Attitude among respondents at the pooled studies

Source: Author's compilation

The quantitative data were confirmed by the voluntourists' narratives (qualitative data) concerning their attitude (Appendix 7). The main sub-themes that emerged from the narratives at all the case study sites included:

Attitude towards education: taking action and educating people. The participants focused on the desire to arrange conservation activities, share information about their experience, and share information about the impact of pollutants like plastic. A voluntourist in Madagascar, for example, stated: *"I will educate people on marine conservation by engaging them in citizen science projects and beach clean-ups. I will also share pictures and videos and teach conservation in classes."*

Environmental concern for the ocean and terrestrial ecosystems. The participants expressed concern for all ecosystems, from the tropics to the polar regions, and the human impact on the ecosystems. A voluntourist in Madagascar, for instance, explained: *"I am concerned for the well-being of the marine ecosystems, especially the most fragile ones, such as the mangroves and tropical reefs."* Another participant in South Africa stated: *"I am concerned for the well-being of the land ecosystems, especially with poaching and climate change, which is going to affect all the ecosystems."*

Perceived environmental threat: anthropogenic. The participants believed that most threats to the environment and ecosystems derive from humankind, focusing on pollution, carbon emissions, climate change, acidification, hunting / fishing, public ignorance, and other human behaviours. A voluntourist in Mozambique, for instance, declared: *"Humans and mainly their impact are the biggest threat to the environment and species."*

Individual environmental responsibility: striving to reduce individual environmental footprint. The participants claimed that their main effort as part of individual environmental responsibility included reducing their carbon footprint as best as they could. Narratives in this regard focused on recycling, reusing, litter clean-ups, education, limiting plastic use, energy-saving, and purchasing sustainable products. A voluntourist in Madagascar, for example, stated: *"I am careful about what I eat, what I buy and especially how I manage my waste to reduce the amount I disperse in the*

environment. I do not buy single-use products and I prefer, where possible, to avoid plastic. When I can, I use coral-friendly sunscreen and I deal with scientific obligation to increase people's awareness of the problems that affect the ocean."

Collective environmental responsibility: active responsibility. The participants believed in collective environmental responsibility and that citizens should be "actively" responsible towards the environment. They focused on citizens being aware of their actions, changing their behaviour to reduce environmental footprints, educating, and taking action for environmental protection. For example, a voluntourist in Madagascar claimed: *"All citizens have the responsibility to care about our planet. Because as many people say, we do not have a planet B. So, we have to be responsible."*

Behavioural intention to further reduce environmental footprint. The participants claimed that, following their MVT experience, they would try harder to reduce their environmental footprint. Their discussions focused (similarly to individual environmental responsibility) on recycling, reusing, limiting plastic use, litter clean-ups, education, energy-saving, limiting meat consumption, and purchasing sustainable products. A voluntourist in Mozambique, for example, declared: *"I am going to recycle more strictly, buy fewer products, avoid unnecessary consumerism, spread awareness, be more environmentally friendly, and use more public transport."*

Conservation awareness: safeguarding. The participants claimed that conservation is a form of protection, also influenced by positive environmental behaviour and education. In summary, the participants believed that conservation is about safeguarding the environment and ecosystems. A voluntourist in South Africa explained: *"Conservation is having a mindset to help the planet and change your ways accordingly."*

Attitude towards conservation policies: politically-supported policy change. The participants believed that new or modified policies were required to enhance conservation and had to be supported by politicians and governments. In particular, the participants argued the importance of plastic ban policies, corporate social responsibility, government involvement, new environmental policies, and education and awareness. A voluntourist in Madagascar stated: *"I think that we know enough*

and we can do a lot with what we know. There are enough policies but there are no politicians that implement these policies, or that are aware of the problems. So, the problem is that the economic question is always more important than the ecosystems.”

Attitude towards the contribution of volunteering: science, education, direct and indirect contributions. The participants believed that, as volunteers, they did give a contribution to conservation, both directly and indirectly. Indirect contributions included educating and raising awareness and responsible behaviour. Direct contributions included scientific research (e.g. data collection) and active help (e.g. collecting litter). A voluntourist in South Africa explained: *“I give a meaningful contribution to conservation just by having an interest and trying to be a conservationist. That is a good place to start, having the desire to help and that motivates you to do practical things to help.”*

Behavioural intention to volunteer in future: conservation-based and community-based volunteering. The participants were generally positive about volunteering in future, expressing an interest in conservation-based and community-based volunteering. They mentioned wanting to participate in internships, marine and terrestrial conservation, community, and healthcare. A voluntourist in Madagascar claimed: *“My future volunteer programmes should include both the marine environment and the terrestrial environment.”* Another participant in Mozambique explained: *“My future volunteer programme should be with people in the community, like helping and teaching children.”*

Attitude towards paying to volunteer: personal circumstances are most influential. The participants explained that, while being willing to participate in volunteering in future, their ability to pay to volunteer was much dependent on personal circumstances such as finance or the features of the volunteer programme. They mentioned how volunteering could be expensive or affordable depending on the situation. A voluntourist in Madagascar declared: *“It depends on the circumstances. For example, in my case, I think there are two differences. If I am talking from a marine biologist’s point of view, these experiences help me to enhance my skills and experience for a career in marine science. So, I am willing to pay to do it. But, if I were a tourist*

passionate about marine ecosystems, I think the price would be more influential on my choice.”

Attitude towards CS: educational, impactful and scientific tool. Based on their experience, the participants believed that CS was an important tool for education, community engagement, capacity building, and the contribution of valuable data for science and management. The participants recognised the importance of proper community engagement to ensure scientific validity and legitimacy of data in CS. A voluntourist in South Africa stated: *“Citizen Science is important because communities may have or access information that the scientist needs or can use. It is important to involve various communities so that they can give the scientist additional knowledge. One just needs to ensure that communication and relations between the scientists and communities are good, because some communities may need to first learn something before participating and collecting data, which is a good thing.”*

Attitude towards career choices: marine conservation and other career interests. The participants were not necessarily interested in marine conservation careers based on their MVT experience, with some preferring other career avenues. Those who had an interest in marine conservation careers specified that education, research and interaction with people should be essential components. Those who did not have an interest feared that marine conservation would not pay well, or that they would not have the preparation required for such a career. A voluntourist in South Africa explained: *“This experience has made me want a career in marine conservation more than I did before I got here.”* A participant in Mozambique claimed: *“For now, no, I do not want a career in marine conservation, because it does not pay well.”*

5.2.12. SPECIFIC ATTITUDES TOWARDS MARINE WILDLIFE VOLUNTOURISM

The respondents were asked to indicate specific attitudes towards MVT, by rating four items. Table 5.19 shows the response frequencies for the category in each item, according to each case study site and overall.

Table 5.19: Response frequencies of specific attitudes towards MVT among respondents at the case study sites and overall

Variable	Possible answers	South Africa (%)	Mozambique (%)	Madagascar (%)	All (%)	Pearson's χ^2	P
If I have another opportunity to volunteer, I will:	A) Volunteer at the marine volunteer programme again	46	50	56	50	3.33	0.765
	B) Volunteer at a different marine volunteer programme	29	33	30	30		
	C) Volunteer at a volunteer programme with a different focus	24	17	14	19		
	D) Not volunteer again	1	0	0	1		
If somebody asks me about the programme, I will:	A) Encourage them to volunteer at the marine volunteer programme	98	95	93	96	5.66	0.226
	B) Advise them to volunteer at a different marine volunteer programme	2	5	2	3		
	C) Tell them they should volunteer at a programme with a different focus	0	0	5	1		
	D) Inform them that they should not volunteer	0	0	0	0		
If the manager of the programme asks me what I think about the volunteer programme, I will:	A) Honestly answer the manager, by saying what I enjoyed and did not enjoy	95	90	93	93	3.15	0.532
	B) Complain to the manager about the negative things that I experienced	0	0	0	0		
	C) Tell the manager about the positive things that I experienced	3	10	7	6		
	D) Not give the manager any direct feedback	2	0	0	1		
I will demand to speak to the manager of the programme to give the manager feedback, if:	A) My experience had been below standard	42	23	44	37	7.48	0.278
	B) My experience had been up to standard	9	23	12	13		
	C) My experience had been above standard	9	10	7	9		
	D) I will not demand to speak to the manager	40	44	37	41		

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

From the table, it can be seen that the majority of the respondents had a positive attitude towards MVT, with no significant differences between the case study sites. More than 90% of the respondents at all the case study sites would encourage people to volunteer at the same programme in which they had participated. About half of the respondents indicated that they would return to the same programme, although a good proportion would also consider a new MVT programme in future, probably to try something new. They further specified that they would honestly communicate with the programme manager, should they wish to speak to them about the programme. For South Africa and Madagascar, about 40% of the respondents claimed they would demand to see the manager in case the programme was of a poor standard, while respondents in Mozambique were slightly more reluctant to do so in such a case.

5.3. QUALITATIVE RESULTS FOR THE SUPPLY SIDE

The qualitative results for the supply side of the case study sites are reported under three sections: 1) demographic profile; 2) business model canvas; and 3) key characteristics of the organisations at the case study sites. A total of 24 staff members were interviewed at the case study sites, 17 for the South African case study site (including the main organisation A and a collaborating organisation D at the time of the study, see Figure 4.2), four for the Mozambique case study site (organisation B, see Figure 4.2), and three for the Madagascar case study site (organisation C, see Figure 4.2).

Frequency tables and descriptive statistics (mean, median, maximum, minimum, SD, and SE) were used to analyse the data for the demographic profile of interviewees representing the supply side at the case study sites. Answers to the question on the business model of the organisations at the case study sites were used to draft a business model canvas for the case study sites. Thematic analysis including organisation, in vivo open coding, categorisation and interpretation was performed on the narratives of the supply side interviewees in response to various questions (Braun & Clarke, 2006:77; Creswell & Creswell, 2018:192; Nieuwenhuis, 2019a:136). This was to extract relevant keywords, codes and sub-themes within a given theme for each question, and compare them between the case study sites. In the discussion, these data are also compared to the results from the demand side (both quantitative and qualitative data).

5.3.1. DEMOGRAPHIC PROFILE OF STAFF AT THE CASE STUDY SITES

Table 5.20 provides a summary of the demographic profile of the staff members at the organisations at the case study sites, who participated in semi-structured interviews conducted by the researcher.

Table 5.20: Demographic profile of staff members at the case study sites who participated in semi-structured interviews conducted by the researcher

Variable	Categories	South Africa (n = 17)	Mozambique (n = 4)	Madagascar (n = 3)
Gender (%)	Male	53	50	100
	Female	47	50	0
Age (y)	$\bar{x}$	30	42	49
	Median	27	45	44
	Min-max	22-52	28-50	33-70
	SD	8.30	9.95	19.00
	SE	2.013	4.973	10.970
Origin (%)	Africa	41	100	0
	Australia	0	0	0
	Europe	24	0	100
	North America	35	0	0
Education (%)	School	29	75	0
	University	71	25	100
Subject of study (%)	EBS	67	0	100
	Other	33	100	0
How did you start working at this organisation? (%)	Internship / volunteer	59	25	0
	Offered / approached	29	50	33
	Founder / CEO	12	25	67
For how long have you worked at this organisation? (y)	$\bar{x}$	5	14	8
	Median	2	16	11
	Min-max	0.5-14	2-22	2-11
	SD	4.14	8.50	5.20
	SE	1.004	4.250	3.000
Did you volunteer before you started working at this organisation? (%)	Yes	47	25	33
	No	53	75	67

EBS = Environmental or biological sciences.

The results from the table may not necessarily represent the complete profile of staff at the case study sites, as not all staff could be interviewed. Only staff available at the time of the study were interviewed. The researcher still strived to reach as many staff members as possible, to have a representation of staff structure as well as detailed information on the MVT organisations at the case study sites. To obtain quality information about the structure of the organisations at the case study sites, the

researcher interviewed, among other staff, three people in managerial or leadership positions from the South African case study site, one from the Mozambique case study site, and two from the Madagascar case study site.

The researcher reached similar proportions of male and female staff in South Africa and Mozambique and entirely male staff in Madagascar. Staff from South Africa were, on average, 30 years old, followed by staff from Mozambique in their early forties and staff from Madagascar in their late forties. The majority of the staff at the South African case study site originated from Africa (41%), with the rest coming from Europe, North America or Australia. All the staff at the Mozambique case study site originated from Africa, and all staff at the Madagascar case study site originated from Europe. The organisation of the Madagascar case study site is based in Europe and organises trips to various tropical destinations, such as Indonesia, Vietnam and Madagascar. All interviewed staff for the Madagascar case study site and most of those interviewed in South Africa had a university degree in EBS, while staff interviewed in Mozambique claimed not to possess a university degree (although the researcher is aware that at least one staff member at the organisation B has a degree but was not present at the time of the study).

Over half of the staff from the South African case study site were interns or volunteers at the organisations before they started working there. Half of those in Mozambique and about a third from Madagascar were either offered a position or approached by the organisations. The remaining staff, as previously explained, were either founders or CEOs of the organisations. The interviewees had been working for the MVT organisations for 5-14 years on average. About half at the South African case study site (and a little less than half for Mozambique and Madagascar) had previous volunteering experience before starting their work for the organisations. This experience revolved around marine conservation, terrestrial conservation, community engagement, and the health sector.

5.3.2. BUSINESS MODEL CANVAS FOR THE CASE STUDY SITES

Table 5.21 displays the conceptualised business model canvas for the organisations at the three case study sites. The information contained in the table was extracted from the interviews with six managerial staff at the case study sites. It can be seen

that the business model canvases of the organisations at the case study sites had certain similarities and differences, described as follows.

Key partners: All three case study sites had tourism support services (e.g. accommodation facilities and dive centres), educational institutions (e.g. schools and universities), government organisations (e.g. marine protected areas (MPAs) and museums) and research centres as key partners. The South African and Mozambique case study sites also had additional NGOs (focusing on environmental conservation and community engagement) as key partners.

Key activities: The key activities at all three case study sites included community engagement (e.g. educating locals and creating awareness), conservation of marine ecosystems and species (e.g. shark tagging and reef restoration) and research projects (e.g. data collection and data analyses). Marine ecotourism (e.g. shark cage diving and ocean safaris) was a key activity at the South African and Mozambique case study sites. Diving and snorkelling (e.g. whale shark monitoring and coral reef surveys) were a key activity at the Mozambique and Madagascar case study sites. The Madagascar case study site additionally had key activities such as training and teaching protocols, and teaching courses (e.g. eco-diver courses).

Key resources: All three case study sites considered the ocean, coastal zone and marine life (e.g. sharks and marine mammals), voluntourists, and external collaborators (e.g. visiting researchers and scientists) as key resources. The South African and Mozambique case study sites additionally considered the local destination and community (e.g. destination and local people), their staff (with and without special knowledge and skills), and the equipment (e.g. boats and research equipment) as key resources. The Madagascar case study site indicated that the marine animal species databank that they had collated over the years was a key resource.

Table 5.21: Business model canvas of the three case study sites

Key Partners (Infrastructure)	Key Activities (Infrastructure)	Value Propositions (Offer)	Customer Relationships (Customer)	Customer Segments (Customer)
- Tourism support services - Educational institutions - Government - Research centres - NGOs	- Community engagement - Conservation of marine ecosystems & species - Research projects - Marine ecotourism - Diving / snorkelling - Training / teaching protocols - Courses	- Protecting - Raising awareness - Educating - Research - Conservation - Alleviating poverty - Ethical marine ecotourism	- Social media - Newsletter - Company blog - Courses	- Someone interested in & with a passion for ocean conservation & marine fauna & flora - Students & gap year takers - Those interested in marine mammal research - Ecotourists - General divers
	Key Resources (Infrastructure) - Ocean, coastal zone & marine life - Voluntourists - External collaborators - Local destination & community - Staff - Equipment - Marine animal species databank		Channels (Customer) - Social media - Scientific conferences - Company website - Newsletter - Educational institutions - Exhibitions	
Cost Structure (Financial Viability)			Revenue Stream (Financial Viability)	
- Employee salaries - Services & requirements for voluntourists - Rent - IT & Equipment	- Fuel - Advertising - Maintenance - Governance tax - Educational material	- Training / teaching protocols - Courses - Trainers - Travel expeditions - Miscellaneous items (T-shirts)	- Voluntourist fees - Sponsors - Grants - Research funds	- Marine ecotourism - Documentaries - Donations & membership

Key: Grey – all case study sites; Red – South Africa and Mozambique; Yellow – Mozambique and Madagascar; Green – South Africa only; Orange – Mozambique only; Blue – Madagascar only.

Value propositions: The value propositions at all three case study sites included protecting the different marine species, raising awareness of marine-related issues, educating the general public, researching different marine species and the challenges that they face as well as conserving the marine environment and resources. South Africa also included alleviating poverty of the local people and community, and Mozambique also included ethical marine ecotourism.

Customer relationships and channels: All three case study sites used social media (e.g. Facebook and Twitter), scientific conferences and the company website as channels to have a relationship with their customers. The South African and Mozambique case study sites also used newsletters and company blogs, and the South African case study site used educational institutions (e.g. schools and universities). The South African case study site additionally used exhibitions while the Madagascar case study site used courses (e.g. eco-diver courses) as channels to relate to their customers.

Customer segments: The customer segments for all three case study sites included those interested in, and with a passion for, ocean conservation and marine fauna and flora (e.g. wildlife tourist and marine tourist), students and gap year takers (e.g. marine biology or environmental conservation students), those interested in marine wildlife research (e.g. academics and researchers), and ecotourists (e.g. those tourists who travel responsibly to natural areas). General divers (e.g. advanced or dive master) were also considered as potential customers at the Madagascar case study site.

Cost structure: Employee salaries, services and requirements for voluntourists (e.g. accommodation, food and scuba diving), facilities rental, information technology (IT) equipment, fuel, advertising, overall maintenance and taxation (e.g. government and MPA) were part of the cost structure for the South African and Mozambique case study sites. The cost structure for the Madagascar case study site included educational material, training and teaching protocols, courses, trainers, travel expeditions, and miscellaneous items.

Revenue stream: All three case study sites considered the voluntourists fees, sponsors, grants, and research funds as a revenue stream. The South African and Mozambique case study sites received funds primarily from marine ecotourism. The South African case study site also received funds from the production of documentaries. The Madagascar case study site received funds primarily from donations and membership.

In conclusion, the business model canvases for the South African and Mozambique case study sites were similar in many respects except for some context-specific aspects, whereas Madagascar tended to be a standalone case study site. The South African and Mozambique case study sites were similar mainly due to their tourism-and-research focus. They obtained additional support from other NGOs that could assist with additional key activities and research projects and reach out to more potential voluntourists. Both case study sites included more touristic activities within their key activities, potentially attracting a larger market of voluntourists. The value proposition of these case study sites was not only animal and environment-focused, but also community-focused. They strived to assist, improve and sustain the local community surrounding them. Due to the nature of the organisations, key resources also included the local destination and community, staff and equipment. With the key partners, key resources and variety of activities that the two case study sites offered, they also adopted more marketing strategies. Having the tourists come to them and their facilities, these case study sites had a different and more operations-focused cost structure, with their revenue stream being very dependent on the tourists themselves and then on other external sources.

On the other hand, the Madagascar case study site seemingly did not obtain additional support from other NGOs. It was very much focused on the science and skills development of the participants, and the courses offered were seen as an additional marketing strategy. Due to the nature of the organisation, it might not be able to focus on and impact the local community, and might not have staff, equipment and a destination to consider as key resources. It rather considered the marine animal species databank as a key resource. Concerning the cost structure and revenue streams, it also seemed that the Madagascar case study site had different expenses

that focused more on the educational and training factors of the voluntourists. It also relied mainly on the revenue from the expeditions and donations for funding.

These differences may have implications in the experiences of voluntourists, and make it possible to highlight potential areas of improvement to guarantee positive impacts on the tourist, the organisation, the local communities, and the research and conservation efforts revolving around marine wildlife.

5.3.3. KEY CHARACTERISTICS OF THE ORGANISATIONS AT THE CASE STUDY SITES

Appendix 8 contains the results of the thematic analysis of qualitative data from the supply side that focused on the key characteristics of organisations at the case study sites aside from the business canvas. These included: history of the organisations; activities; staff and voluntourists' training; scientific contributions and engagement; interactions with local community and support for the local tourism industry; success elements; vision and mission; environmental and conservation attitude and behaviour; and the envisaged future of the organisations. Furthermore, Appendix 8 contains the broad theme or interview question, keywords extracted from narratives at each case study site in response to the question, codes or meaningful units of text extracted from the narratives (in vivo open coding), sub-themes generated from keywords and codes, and a quote signifying a given sub-theme. Relevant quotes embodying the sub-themes emerging from this analysis were also reported in the text.

The South African and Madagascar organisations were the youngest (established in 2007) compared to Mozambique (established in 1996). All organisations aimed to sustain and conserve the marine environment, either through research, ecotourism or monitoring protocols. The main activities carried out at the South African and Mozambican organisations revolved around raising awareness through research, education and ecotourism, and community engagement. The Madagascan organisation focused on involving and training people to monitor the marine environment: *"We want to train people to use the protocols to collect data and monitor the coral reefs."*

Staff at the organisations were given hands-on and formal training that ranged from first aid and seaman's skills to diving courses and research project management skills. South Africa and Mozambique offered some informal training such as people skills. The South African organisations seemed to offer a wider variety of staff training compared to the remaining case study sites. The training received by the voluntourists partly mirrored the training received by staff at the case study sites. This included formal hands-on training, such as research skills (e.g. data collection) and project management skills. Informal training, mainly provided in South Africa and Mozambique, involved people skills and other informal courses. Also here, South Africa seemed to offer a wider variety of training options: *"The whole programme is a training opportunity, and each of the projects is a skill development opportunity."*

All organisations at the cases studies contributed to scientific research through collaborations with different universities and scientists (e.g. supplying universities and scientists with the data), and publication of scientific research. A participant from Mozambique indicated: *"The data that we collect and supply to scientists are a way that we contribute to scientific research."* The voluntourists were practically involved in research projects, assisting the organisations mainly through data management (e.g. collection, entry). In South Africa, voluntourists would also be involved in project management: *"The volunteers do everything, they contribute, collect and enter all the data."* In Madagascar, the voluntourists were also involved in the application of standardised environmental monitoring protocols.

All organisations at the case study sites claimed to work collaboratively with the local community one way or another. For example, through organised beach clean-ups, sponsorships and teaching local children how to swim. The South African and Mozambican organisations also involved the local community in education through school and public talks. A participant from the Mozambique case study site stated: *"We collaborate with the local community mainly through the beach clean-ups and educating the local school kids."* While in the business canvas, community involvement had a marginal role, it emerged as a component of the activities carried out by the organisation of the Madagascar case study site. Due to the peculiarity of the Madagascar case study site (being a European organisation), the community

engagement mentioned by the staff pertained to people in Europe and not at the MVT destination, and involved engagement of these people in coastal monitoring.

All organisations at the case study sites supported the tourism industry. For the South African and Mozambique organisations, this was done through the voluntourists and staff supporting the local businesses by buying products and services. A participant from the Mozambique case study site indicated: *“We attract volunteers and tour groups to town that stay in local accommodation facilities and eat at restaurants.”* The organisation in the Madagascar case study site believed to enhance local diving tourism: *“The tourists are attracted to new things and our organisation is the representative for the diving centre that sells and attracts diving tourism, a new commercial opportunity.”*

All organisations at the case study sites believed hard-working voluntourists and diverse marine ecosystems to be elements making them successful. A member from the Mozambique case study site stated: *“The volunteers are an important element; they let us go out and study the animals.”* For the South African and Mozambique organisations, hard-working staff and the support of the local community also contributed to their success. For the Madagascar case study site, environmental monitoring protocols further contributed to success in the organisation. The vision and mission of all organisations at the case study sites focused on making a difference, either through conservation, education, research, codes of conduct or monitoring protocols. A participant from the Madagascar case study site indicated: *“Our mission is to protect and educate people about the problems and the importance of marine life.”*

All organisations at the case study sites believed that human impact was the largest threat to the environment and ecosystems, especially focusing on the human impact on the oceans. This included pollution, climate change, hunting or fishing, acidification and human misconduct in general. A participant from the South African case study site stated: *“The biggest threat is the human impact.”* The South African and Mozambique organisations tried to counteract their environmental footprint and the excessive use of resources by reducing, reusing and recycling, and using eco-friendly products. The

Madagascar case study site focused on educating people on environmental problems: *“We strive to increase the awareness of the problems faced.”*

All organisations at the case study sites defined conservation as safeguarding the environment and ecosystems. In South Africa and Madagascar, definitions of conservation also included a component of raising awareness about environmental problems and educating others to act responsibly towards the environment: *“Conservation is educating people so that they want to make a change in their lives, and want to protect the environment”*. In Mozambique, there was mention of preservation for future generations. All the organisations claimed to give a meaningful contribution to conservation and environmental management mainly through education (e.g. raising awareness) and science (e.g. research and publications), but also through responsible behaviour (South Africa and Mozambique). Importantly, the organisations believed their work with the MVT programmes to be part of this contribution to conservation, through the input and efforts of the marine wildlife voluntourists, and education.

Concerning their role in public education, the South African and Madagascar organisations exploited various channels of communication and dissemination (e.g. social media, scientific publications and public talks) to reach different audiences, such as the general public, local communities, tourists and voluntourists: *“We educate people on marine conservation through social media, publications and public talks.”* The Mozambique case study site was more focused on educating tourists and voluntourists: *“We educate the clients and volunteers through the briefings before we go out to sea.”* Education and outreach were also perceived to be important instruments of advocacy by the interviewees: *“The advocacy activities that we are involved in, include speaking at schools and to the community.”* Other activities of advocacy included research itself (South Africa and Madagascar), active stewardship (South Africa and Mozambique), and petitioning (Mozambique).

All organisations at the case study sites envisioned that, in five years, they would be bigger and better, with long-term staff and attracting more voluntourists. All organisations wished to have a greater impact, through research and education, on marine conservation. For instance, a participant from the South African case study site

stated: *“The organisation will educate more volunteers and attract more researchers and conservationists with the same passion.”* The organisations at the South African case study site also wished to impact the local community positively. All organisations at the case study sites were aware that, to achieve their improvement goals, various resources were required, including finances, staff and volunteers. The organisations at the South African case study site also mentioned the importance of marketing and equipment. In conclusion, as summarised in Figure 5.10, the key characteristics of the organisations at the three case study sites were similar in certain respects, and different in others, mirroring the results from the business model canvases.

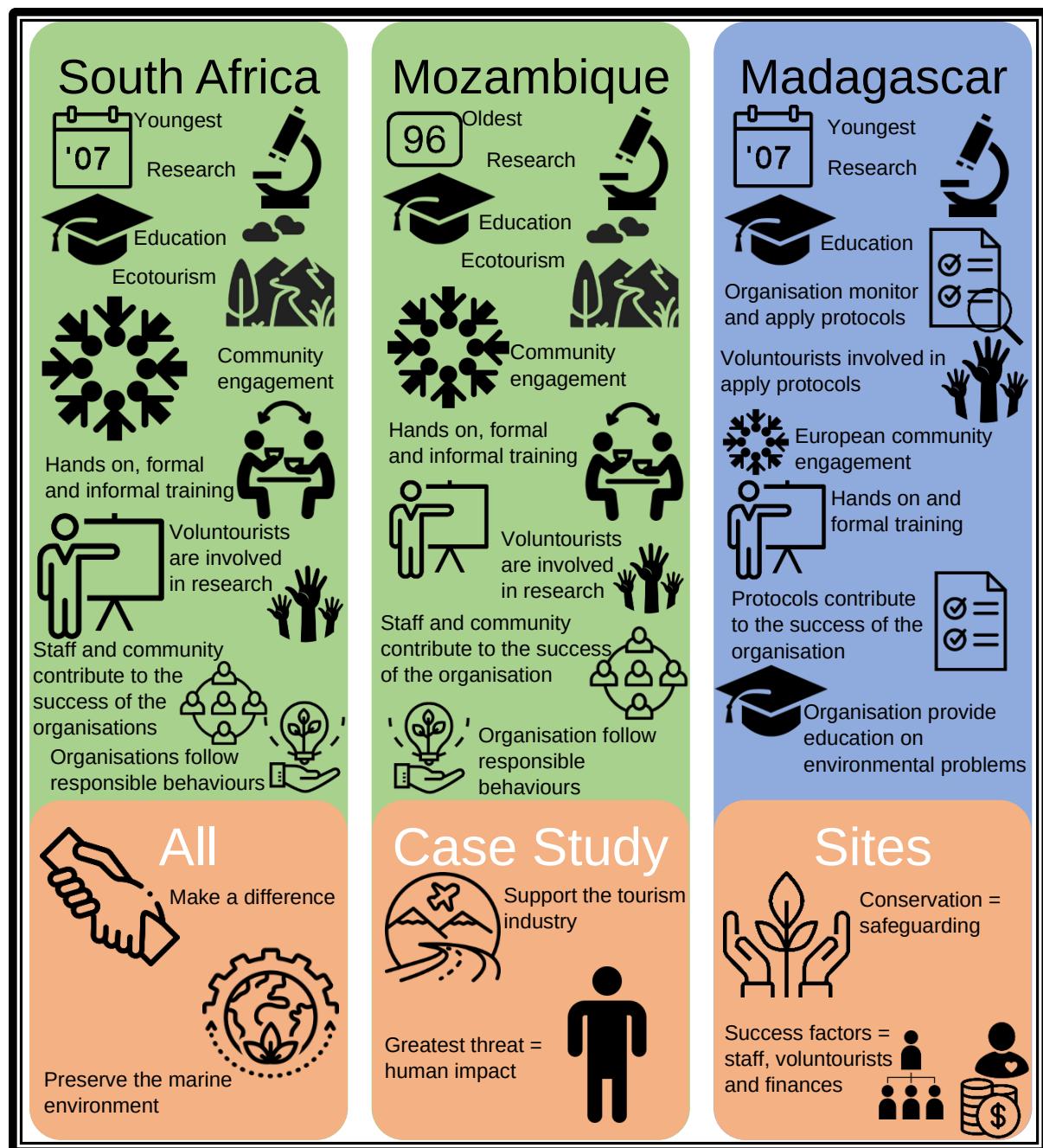


Figure 5.10: Infographic of the key characteristics of the organisations at the three case study sites

Source: Author's compilation

The South African and Mozambique case study sites shared several similarities. At both case study sites, organisations focused on research, education, ecotourism and community engagement (with the South African organisations having a larger focus). Besides the hands-on and formal training, they also offered the staff and voluntourists informal training. The South African organisations offered a wider variety of training opportunities, with the marine wildlife voluntourists also being more involved in research projects. Organisations from both case study sites believed that the staff and

support of the local community contributed to their success. They believed in reducing their environmental footprint by following responsible behaviours. The Madagascar organisation also focused on research with more emphasis on education and training people to monitor the marine environment. The volunteers were involved in applying the monitoring protocols. The organisation was not as involved in community engagement but did involve communities in Europe in coastal monitoring protocols.

All the organisations were originally established to make a difference and preserve the marine environment. They were largely involved in research and supported the tourism industry indirectly. They believed that the greatest threat to the marine environment was the human impact, and defined conservation as safeguarding the environment and ecosystems. All organisations recognised the importance of staff, VT and finances for success, and envisaged a positive future, striving for improvement.

5.4. DESCRIPTIVE RESULTS FOR MARINE WILDLIFE VOLUNTOURISTS: ONLINE SURVEY

The descriptive results for marine wildlife voluntourists intercepted through the international online survey are reported under 12 sections: 1) demographic profile; 2) preferred types of tourism; 3) introduction to VT; 4) previous MVT experiences and average MVT trip duration; 5) motivation to participate in MVT; 6) preferences in MVT; 7) expectations towards MVT; 8) satisfaction with MVT; 9) perceived ethical conduct of hosting MVT organisations; 10) attitudes (e.g. towards the environment, education, CS); and 11) specific attitudes towards MVT.

The number of marine wildlife voluntourists intercepted online was $n = 211$. The tests reported here include frequency tables, descriptive statistics (mean, median, minimum, maximum, SD, and SE), and Spearman rank-order correlations (r_s).

5.4.1. DEMOGRAPHIC PROFILE

Table 5.22 provides a summary of the demographic profile of the marine wildlife voluntourists intercepted online.

Table 5.22: Demographic profile of marine wildlife voluntourists participating in the online survey

Variable	Categories	Value	Variable	Categories	Value
Gender (%)	Male	28	Subject (%)	Other	41
	Female	72		EBS	59
Marital status (%)	Single	62	Occupation (%)	Student	28
	Married / relationship	32		Employed	56
	Divorced / widow	6		Unemployed	16
Origin (%)	Africa	8.5	Age (y)	$\bar{x}$	37
	Asia	5.5		Median	32
	Australia	8		Min-max	19-81
	Europe	48		SD	14.41
	North America	27.5		SE	1.018
	South America	2.5			
Education (%)	School	18	Profession (%)	Other	74
	University	82		EBS	26

EBS = Environmental or biological sciences.

From Table 5.22, it can be seen that the majority were female (72%) and single (62%). The greatest number of respondents originated from Europe (48%) or North America (27.5%) and had a university degree (82%) mainly in EBS (59%). The average age of the respondents was 37 years. Most of the respondents were employed (56%) in occupations that were not related to EBS (74%). Table 5.23 shows correlations between sociodemographic parameters of the respondents, including some that are later described in 5.3.4.

Table 5.23: Spearman correlations (r_s) on sociodemographic parameters of marine wildlife voluntourists intercepted online

Variable		1	2	3	4	5	6	7
1	Gender (0 = male, 1 = female)	1.00						
2	Education (0 = school, 1 = university)	-0.10	1.00					
3	Subject (0 = other, 1 = EBS)	-0.03	0.09	1.00				
4	Age (years, continuous)	-0.10	0.36	-0.48	1.00			
5	Profession (0 = other, 1 = EBS)	-0.15	0.08	0.44	-0.10	1.00		
6	Times participated (0 = 1, 1 = 2-5, 3 = >5)*	-0.15	0.20	-0.05	0.27	0.02	1.00	
7	Trip duration (0 = 1 day, 1 = 2-7 days, 2 = 8-14 days, 3 = 15-30 days, 4 = >30 days)*	-0.07	0.03	0.30	-0.27	0.14	-0.18	1.00

Bold values indicate statistical significance at $P \leq 0.05$.

EBS = Environmental or biological sciences.

** These variables were originally continuous but were transformed into categorical variables for the sake of descriptive representation.*

From Table 5.23, it is evident that the respondents with a university qualification tended to be older. However, those who studied EBS were younger respondents. The female respondents tended to be employed in professions other than EBS as opposed to males. Although the proportion of people who studied EBS was greater than that of people who had a profession in EBS, there was a significant likelihood that respondents with a qualification in EBS would have a profession in EBS.

5.4.2. PREFERRED TYPES OF TOURISM

Figure 5.11 indicates the preferred types of tourism among marine wildlife voluntourists who participated in the online survey. The top three preferred forms of tourism among the respondents were nature-based (90%), wildlife-based (89%) and water-based (83%). The least preferred types of tourism were sport-based (19%), party-based (10%) and shopping-based (6%).

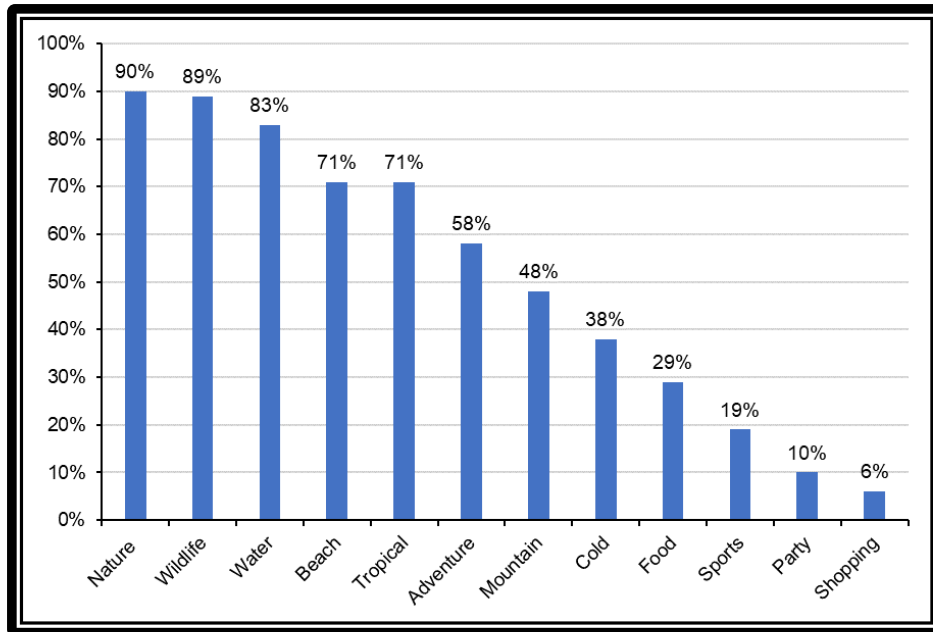


Figure 5.11: Preferred types of tourism among marine wildlife voluntourists intercepted online

Source: Author's compilation

5.4.3. INTRODUCTION TO VOLUNTOURISM

Figure 5.12 shows how participants in the online survey were introduced to VT. The majority were introduced to VT by the general website (36%), organisations (22%), and social networks (18%). Teachers and schools (4%), family (8%) and friends (11%) were least conducive.

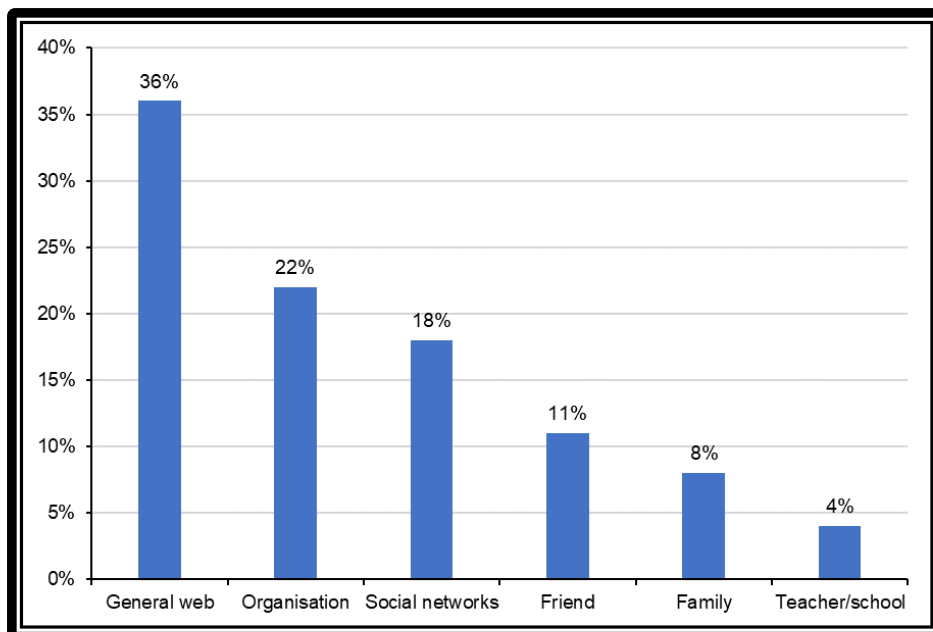


Figure 5.12: Channels of introduction to VT among marine wildlife voluntourists intercepted online

Source: Author's compilation

5.4.4. PREVIOUS MARINE WILDLIFE VOLUNTOURISM EXPERIENCES

Table 5.24 provides a summary of the previous experiences in MVT among participants in the online survey.

Table 5.24: Previous MVT experiences among marine wildlife voluntourists intercepted online

Variable	Categories	Value
Times participated in MVT (%)	1	43
	2-5	44
	>5	13
Average MVT trip duration (%)	1 day	5
	2-7 days	10
	8-14 days	16
	15-30 days	26
	>30 days	43

These variables were originally continuous but were transformed into categorical variables for the sake of descriptive representation.

About half (44%) had previously participated in MVT between two and five times, and 43% had participated a single time. The remaining 13% had participated more than five times. The average duration of MVT trips was over a month (43%), 15-30 days (26%), or 8-14 days (16%).

From Table 5.23 it can be drawn that male, older respondents and respondents with a university degree claimed to have had more MVT experiences. However, younger respondents with qualifications in EBS claimed to have had MVT trips of longer average duration. People who claimed to have had longer MVT trips tended to be those who had fewer previous MVT experiences.

The respondents were asked to give particulars on their previous MVT experiences. The popular destinations that the respondents volunteered in were Africa (27%; e.g. South Africa and Mozambique), followed by Europe (21%; e.g. Italy and Spain), and Central America (20%; e.g. Belize and Costa Rica). The least popular destinations were South America (4%; Brazil and Galapagos), North America (7%; including the United States of America (USA) and Canada), Australia (8%; including New Zealand), and Asia (13%; e.g. Thailand and Indonesia) (Figure 5.13).

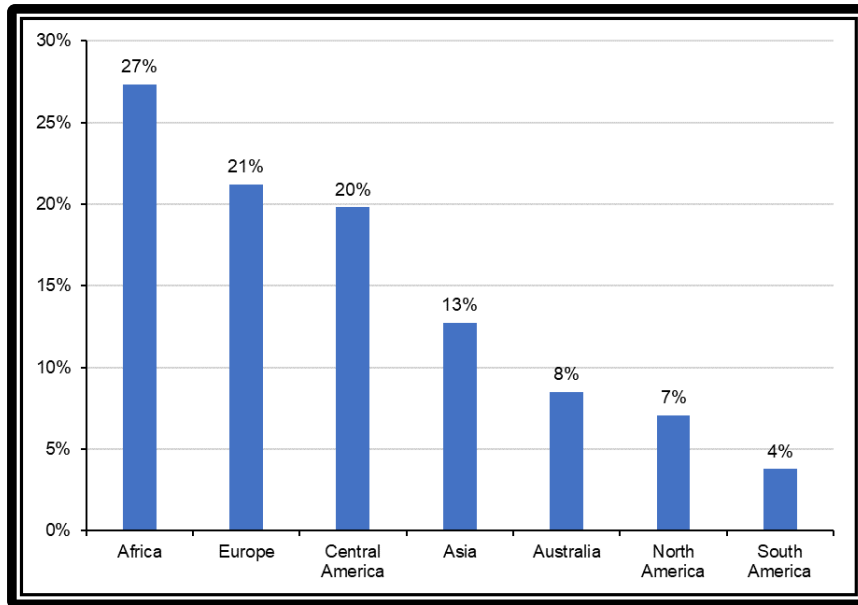


Figure 5.13: Locations of previous MVT experiences among marine wildlife voluntourists intercepted online

Source: Author's compilation

From Figure 5.14, it can be seen that the most popular marine wildlife that previous MVT activities revolved around included coral reefs (23%), followed by reptiles (19%; e.g. turtles), fish (18%; e.g. sharks), and mammals (16%; e.g. dolphins). Only 3% declared to have volunteered with birds (e.g. penguins).

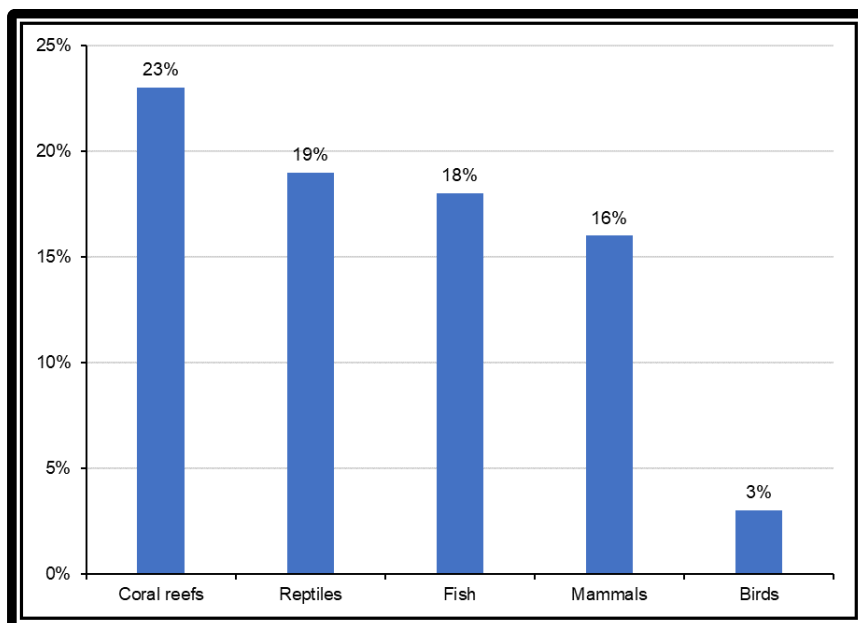


Figure 5.14: Types of wildlife that marine wildlife voluntourists intercepted online worked with

Source: Author's compilation

Figure 5.15 shows that during their MVT experiences, the majority of respondents participated in activities revolving around science and research (60%; e.g. data collection and capturing, monitoring and surveys), followed by marine conservation and protection (30%; e.g. habitat protection and turtle hatching protection), and health assessment, rehabilitation and restoration (20%; e.g. penguin rescue and rehabilitation, coral reef restoration). Activities revolving around ecotourism (5%; e.g. taking clients on tour boats), species / individual identification, tagging and tracking (6%; e.g. shark tagging and fish identification), clean-ups (11%; e.g. beach clean-ups and debris clean-up dives), and education, community and public awareness (12%; e.g. teaching at local schools and raising awareness at local events) were slightly less popular.

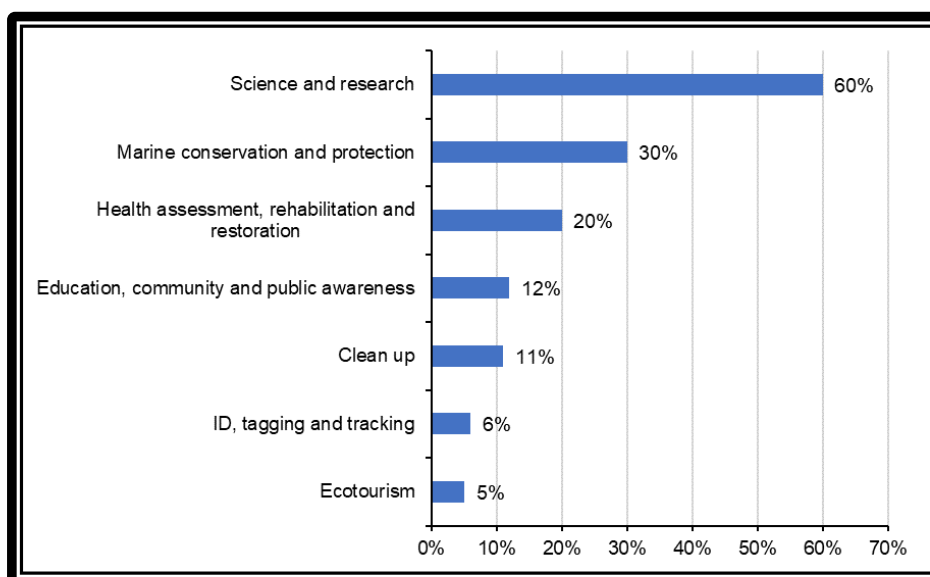


Figure 5.15: Types of MVT activities carried out by marine wildlife voluntourists intercepted online

Source: Author's compilation

5.4.5. MOTIVATION TO PARTICIPATE IN MARINE WILDLIFE VOLUNTOURISM

The respondents indicated their motivations to participate in MVT by giving importance to a list of items using a 5-point Likert scale. Table 5.25 shows the average scores of motivation items including mean, SD and SE, and Figure 5.16 shows the response frequencies for each item.

On average, most motivation statements were considered important or very important by the respondents (Table 5.25). Statements related to participating in marine conservation efforts, assisting marine wildlife, and personal fulfilment had the highest average scores. Statements related to personal development and having meaningful and new experiences followed. Statements to which the voluntourists tended to be neutral or gave no importance were related to more intimate and social reasons, such as working through personal problems or making new friends.

Table 5.25: Average scores of motivation to participate in MVT among marine wildlife voluntourists intercepted online

I participated in marine wildlife voluntourism because:	$\bar{x}$	Average level	SD	SE
Marine conservation and marine issues are very close to my heart	4.78	Very important	0.54	0.037
It is an opportunity to learn about marine life	4.64	Very important	0.66	0.045
I want to be a part of solving marine issues	4.61	Very important	0.63	0.044
I want to contribute to the successful management of marine areas	4.57	Very important	0.78	0.054
It is a fulfilling experience	4.53	Very important	0.78	0.053
It is an opportunity to interact with marine life	4.53	Very important	0.79	0.055
I am compassionate towards marine animals in need	4.52	Very important	0.74	0.051
I want to feel part of a marine conservation community	4.38	Important	0.89	0.061
It provides me with an opportunity to gain important skills	4.35	Important	0.99	0.068
I want to give something back to the community and environment	4.35	Important	0.85	0.059
It is fun	4.33	Important	0.87	0.060
It is an opportunity to meet and interact with marine scientists	4.23	Important	0.94	0.065
Marine volunteering is a chance of a lifetime	3.99	Important	1.10	0.076
It makes the tourism experience more meaningful	3.96	Important	1.13	0.078
I wanted to be somewhere new	3.69	Important	1.19	0.082
It is an opportunity to explore career options	3.66	Important	1.42	0.098
It is a good escape from my daily life	3.58	Important	1.23	0.085
I want to experience the local traditions and cultures	3.56	Important	1.24	0.085
It makes me feel important and useful	3.47	Important	1.26	0.086
It is an opportunity to make new friends with similar interests	3.35	Neutral	1.22	0.084
It helps me to work through my personal problems	2.36	Not important	1.29	0.089
It is part of my society's traditions and / or culture	2.35	Not important	1.36	0.094
It helps me feel less lonely	2.25	Not important	1.25	0.086
My family and friends partake in volunteering programmes	2.17	Not important	1.28	0.088

Scale of importance: 1 = not at all important, 2 = not important, 3 = neutral, 4 = important, and 5 = very important.

Figure 5.16 confirms that ecocentric elements were considered important by over 90% of the respondents. Development and fulfilment items were considered important by around 70-80%. Some experiential items like novelty and escapism were considered important by around 60%. Personal well-being and socio-cultural ties to MVT were considered important by around 20% or fewer of the respondents.

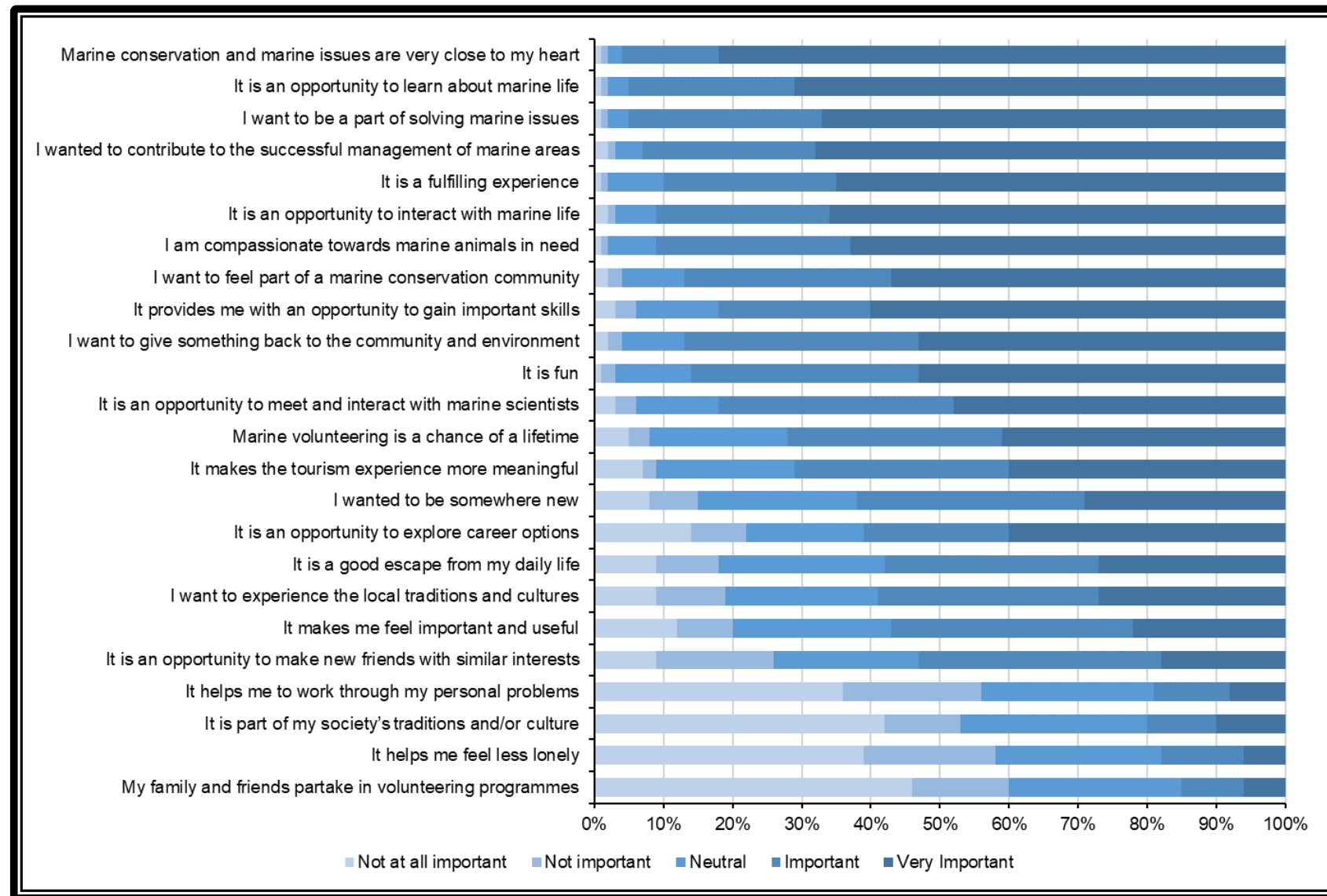


Figure 5.16: Motivation to participate in MVT among marine wildlife voluntourists intercepted online

Source: Author's compilation

5.4.6. PREFERENCES IN MARINE WILDLIFE VOLUNTOURISM

The respondents indicated their preferences in MVT by giving importance to a list of items using a 5-point Likert scale. Table 5.26 shows the average scores of preference items including mean, SD and SE. On average, the respondents gave importance to all items presented to them and great importance to one item.

The most important element of an MVT programme would be to contribute tangibly to the conservation of the environment, followed by offering opportunities to participate in scientific research, working with local marine and coastal managers, and working with vulnerable marine wildlife. While still being important, activities such as animal tagging and diving opportunities were given the lowest average score of importance.

Figure 5.17 shows response frequencies for each preference item. More than 65% of the respondents gave importance or great importance to all items presented to them. Contributing tangibly to conservation was the only item considered important by over 90% of the respondents.

Table 5.26: Average scores of preferences to participate in MVT among marine wildlife voluntourists intercepted online

I prefer to volunteer at a programme, that:	$\bar{x}$	Level	SD	SE
Contributes tangibly to the conservation of the environment	4.69	Very important	0.61	0.042
Allows me to participate in scientific research	4.37	Important	0.87	0.060
Works with local marine and coastal managers	4.36	Important	0.76	0.052
Helps marine life that is suffering	4.31	Important	0.84	0.058
Provides hands-on experience with different marine life	4.29	Important	0.91	0.063
Includes activities like animal tagging and monitoring	4.00	Important	0.98	0.068
Provides diving opportunities	3.86	Important	1.28	0.088

Scale of importance: 1 = not at all important, 2 = not important, 3 = neutral, 4 = important, and 5 = very important.

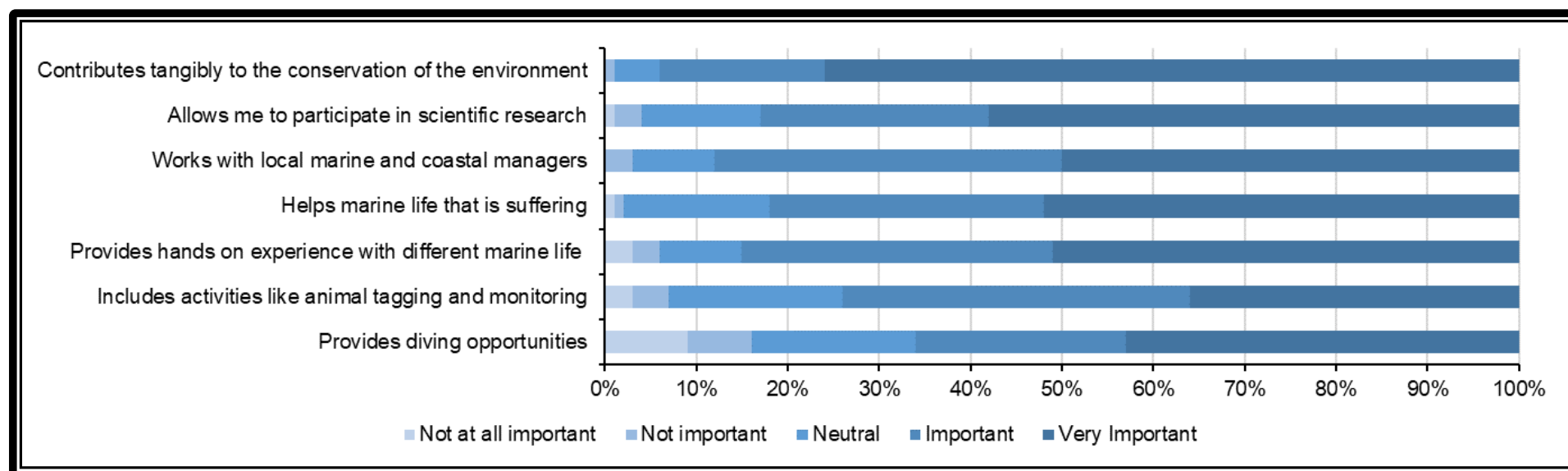


Figure 5.17: Preferences in MVT among marine wildlife voluntourists intercepted online

Source: Author's compilation

5.4.7. EXPECTATIONS TOWARDS MARINE WILDLIFE VOLUNTOURISM

The respondents indicated their expectations towards MVT by giving importance to a list of items using a 5-point Likert scale. Table 5.27 shows the average scores of expectation items including mean, SD and SE, and Figure 5.18 shows the response frequencies for each item.

Table 5.27: Average scores of expectations towards MVT among marine wildlife voluntourists intercepted online

My expectations for participating in marine wildlife voluntourism included:	$\bar{x}$	Level	SD	SE
Good coordinator's expertise	4.45	Very important	0.75	0.052
Good quality training on different things	4.38	Important	0.78	0.054
Brand new knowledge about marine life and conservation	4.12	Important	0.93	0.064
Plenty of interactions with marine life	4.10	Important	0.90	0.062
Materials related to marine life, conservation and management at the destination	4.09	Important	0.90	0.062
Availability of sufficient equipment for research	3.89	Important	0.95	0.065
A list of do's and don'ts	3.73	Important	1.07	0.073
A detailed programme of the activities to be offered	3.72	Important	1.09	0.075
Group meetings / pre-trip briefings	3.67	Important	1.11	0.076
Plenty of diving	3.54	Important	1.33	0.091
Impressive natural beauty at the destination	3.53	Important	0.96	0.066
A list of pre-trip / post-trip add-on marine experiences	3.45	Important	1.11	0.077
A suggested packing list	3.42	Neutral	1.13	0.078
A clean environment	3.22	Neutral	1.13	0.078
Comfortable accommodation facilities	2.98	Neutral	1.05	0.072
Good quality food	2.97	Neutral	1.05	0.072

Scale of importance: 1 = not at all important, 2 = not important, 3 = neutral, 4 = important, and 5 = very important.

On average, the respondents gave importance to most items presented to them (Table 5.27). A good programme coordinator's expertise was most important, followed by quality training, education and interactions with marine life. Respondents were least concerned with the quality of accommodation and food, suggested packing lists, add-on activities and, surprisingly, a clean environment while engaged in MVT.

Figure 5.18 confirms that around or more than 80% of the respondents believed that good coordination, training and education were important, and around 60-70% cared about good organisational aspects of an MVT programme. Around or over 60% were neutral or did not care about food, accommodation, additional activities and even a clean environment.

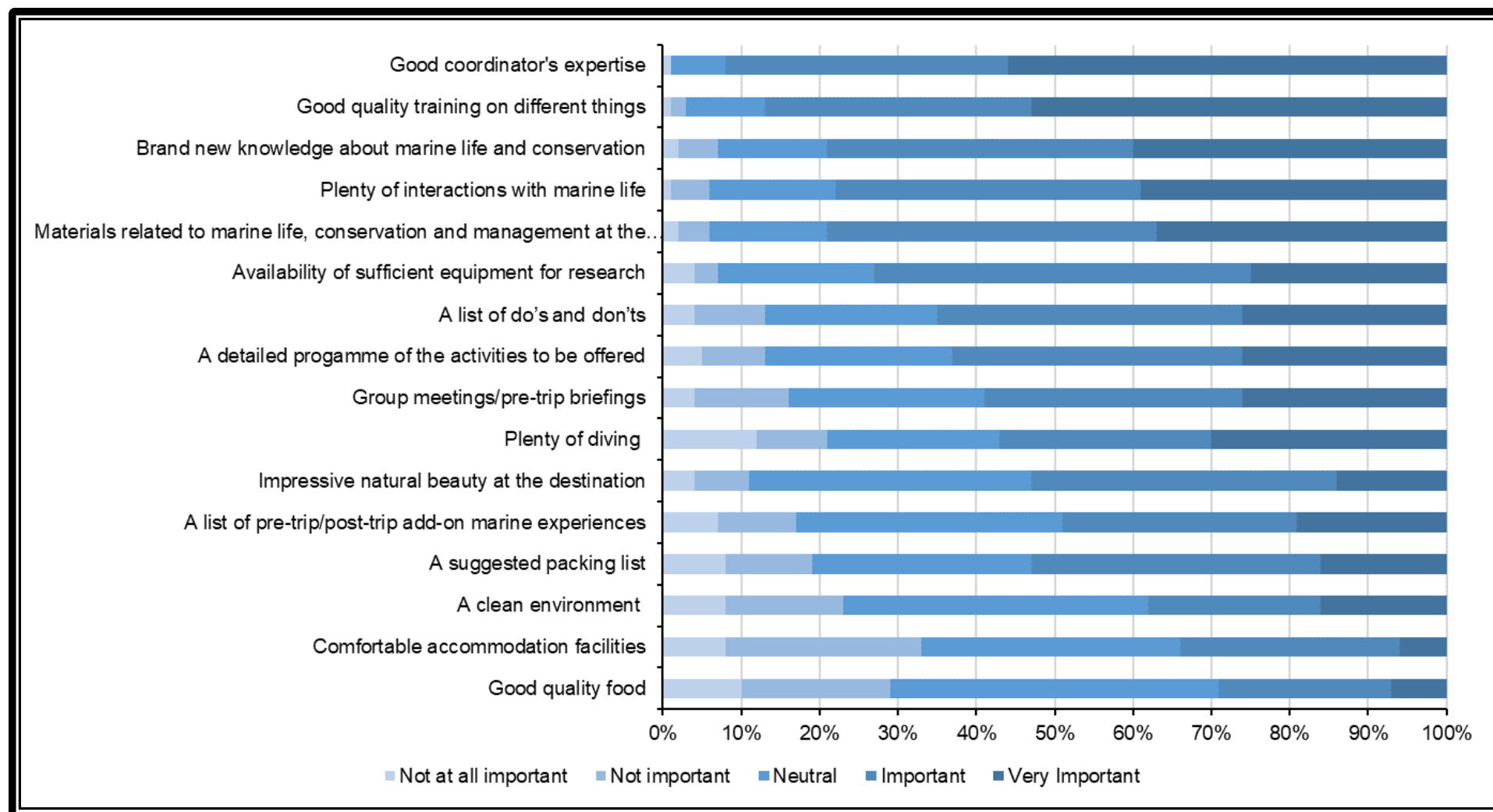


Figure 5.18: Expectations towards MVT among marine wildlife voluntourists intercepted online

Source: Author's compilation

5.4.8. SATISFACTION WITH MARINE WILDLIFE VOLUNTOURISM

The respondents indicated their level of satisfaction with their MVT experience by rating items using a 5-point Likert scale. Table 5.28 shows the average scores of satisfaction items including mean, SD and SE, and Figure 5.19 shows the response frequencies for each item.

Table 5.28: Average scores of satisfaction with MVT among marine wildlife voluntourists intercepted online

Indicate your level of satisfaction with the following:	$\bar{x}$	Level	SD	SE
The marine species I had contact with	4.54	Totally satisfied	0.76	0.053
The interactions I had with marine life	4.51	Totally satisfied	0.79	0.055
The people that I have met	4.45	Totally satisfied	0.76	0.052
The information received on marine issues and conservation	4.41	Satisfied	0.73	0.050
The education received on the different marine species	4.36	Satisfied	0.76	0.053
The location and the places I managed to see	4.35	Satisfied	0.85	0.059
The overall success of the project	4.24	Satisfied	0.90	0.062
My job assignment and my performance	4.21	Satisfied	0.79	0.054
The overall quality of the volunteer programme	4.20	Satisfied	0.88	0.061
The guidance by the coordinators	4.20	Satisfied	0.94	0.064
The communication between staff and voluntourists	4.10	Satisfied	1.00	0.069
The training received	4.08	Satisfied	0.88	0.060
The data collected by us, the voluntourists	4.02	Satisfied	1.04	0.072
The orientation received	4.00	Satisfied	0.89	0.062
The recognition given to me by staff for the job that I have done	3.97	Satisfied	0.97	0.066
The overall outreach of this volunteer project	3.96	Satisfied	0.97	0.067
The interactions I had with the local community	3.95	Satisfied	1.02	0.071
The organisation of the programme	3.91	Satisfied	1.07	0.073
The equipment and tools that were provided to me	3.87	Satisfied	0.97	0.067
The infrastructure of the volunteer programme	3.84	Satisfied	1.00	0.069
The free time that I had available to explore	3.81	Satisfied	1.00	0.069
The project's webpage / social media	3.77	Satisfied	0.99	0.068
The accommodation	3.68	Satisfied	1.07	0.074
The technology available	3.67	Satisfied	0.99	0.068
The food	3.63	Satisfied	1.16	0.080

Scale of satisfaction: 1 = totally dissatisfied, 2 = dissatisfied, 3 = neutral, 4 = satisfied, and 5 = totally satisfied.

On average, the respondents were satisfied or totally satisfied with all the aspects shown in Table 5.28. Interaction and contact with marine life and species, and the people met during the MVT experience were on average, the most satisfactory. The aspects with which, on average, the respondents were least satisfied included the food, accommodation, and the available technology.

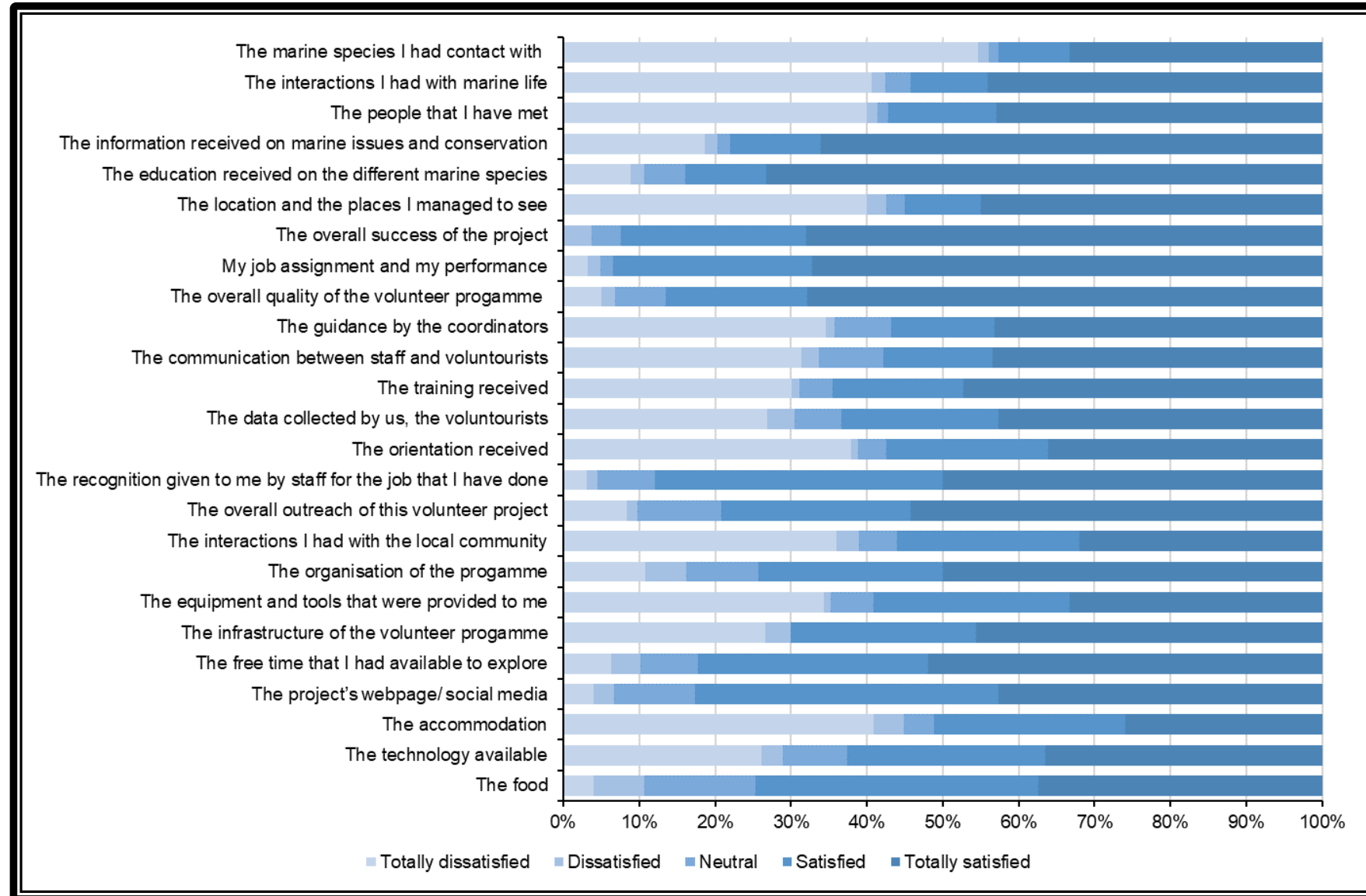


Figure 5.19: Satisfaction with MVT among marine wildlife voluntourists intercepted online

Source: Author's compilation

Response frequencies in Figure 5.19 support the results of Table 5.28. Around or over 90% of the respondents were satisfied with the contact and interaction with marine species, the information and education received on marine species and conservation, and the people met as well as the places seen. Around 65-85% were satisfied with the overall quality and coordination of the MVT programmes, including the jobs assigned to the voluntourists, the data collected by them, and the public outreach of the programme. For items including the project's webpage / social media, accommodation, available technology and the food there was about 20% neutrality or some dissatisfaction (10-15%).

5.4.9. PERCEIVED ETHICAL CONDUCT OF MARINE WILDLIFE VOLUNTOURISM ORGANISATIONS

The respondents indicated their perceptions on the ethical conduct of the hosting MVT organisations during their experiences, by rating items using a 5-point Likert scale of agreement. Table 5.29 shows the average scores of these items including mean, SD and SE, and Figure 5.20 shows the response frequencies for each item.

On average, the respondents agreed or strongly agreed with all the items concerning the ethical conduct of the hosting MVT organisations. This means that they believed the organisations acted according to ethical standards concerning various matters. Handling marine life, environmental conservation, and compliance with rules and regulations were the aspects towards which the respondents believed the MVT organisations acted in the most ethically sound manner.

Figure 5.20 shows that more than 80-95% of the respondents agreed or strongly agreed with the statements concerning the ethical conduct of the hosting MVT organisations, especially towards handling of marine life, environmental conservation, and compliance with environmental rules and regulations (over 90%). However, around 10% of the respondents disagreed that the conduct of MVT organisations was proper towards pro-environmental practices and community engagement.

Table 5.29: Average scores of perceived ethical conduct of MVT organisations among marine wildlife voluntourists intercepted online

I feel that the programme acted according to ethical considerations with regards to:	$\bar{x}$	Level	SD	SE
Conservation of the environment	4.56	Strongly agree	0.70	0.048
Handling of marine life	4.56	Strongly agree	0.74	0.051
Compliance with local rules and regulations pertaining to the marine environment	4.49	Strongly agree	0.77	0.053
Treatment of staff	4.29	Agree	0.85	0.059
Treatment of voluntourists	4.27	Agree	0.87	0.060
Personal conduct of staff and voluntourists	4.22	Agree	0.89	0.061
Pro-environmental practices	4.21	Agree	1.00	0.069
Community engagement	4.18	Agree	0.96	0.066

Scale of agreement: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree.

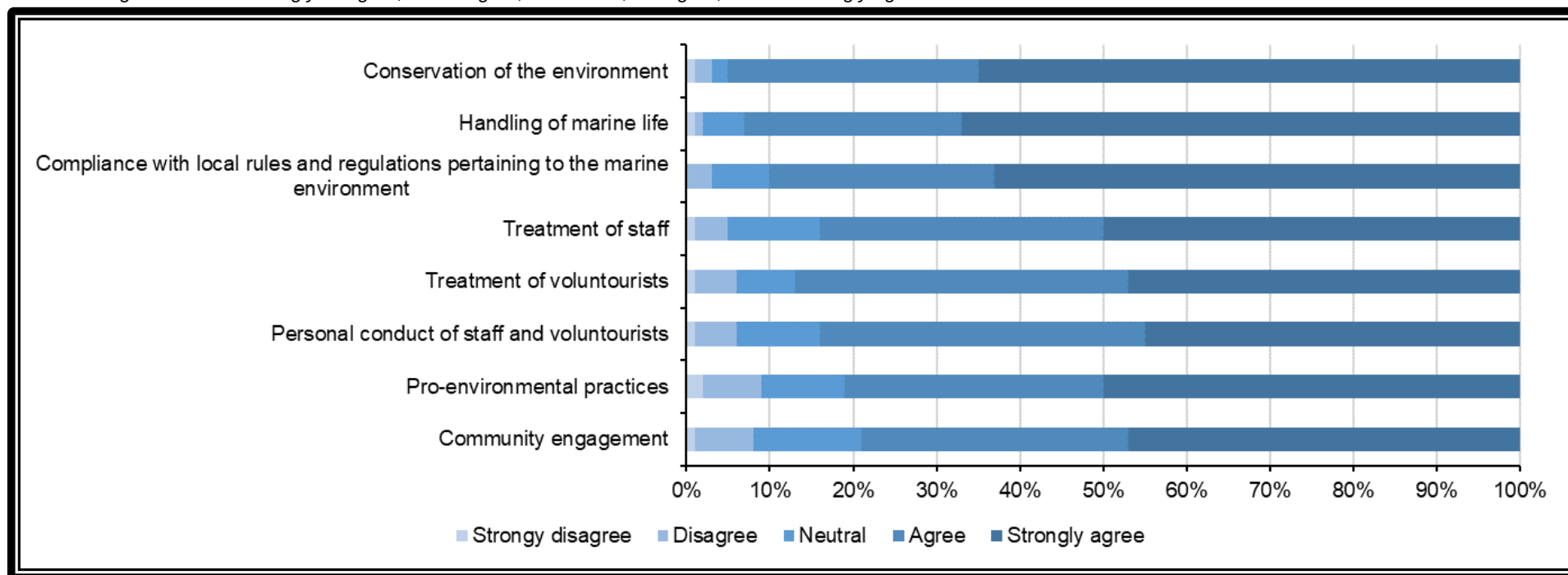


Figure 5.20: Perceived ethical conduct of MVT organisations among marine wildlife voluntourists intercepted online

Source: Author's compilation

5.4.10. ATTITUDES

The respondents indicated, based on their experience as a marine voluntourist, their attitudes towards environmental conservation and management, environmental responsibility, education, science, and MVT, by rating items using a 5-point Likert scale of agreement. Table 5.30 shows the average scores of attitude items including mean, SD and SE, and Figure 5.21 shows the response frequencies for each item.

On average, the respondents agreed or strongly agreed with most of the statements concerning their attitudes (Table 5.30). Statements on compliance to rules and regulations about marine environments, education (personal or of others), pro-environmental behaviour (e.g. recycling), generational equity and environmental advocacy had the highest average scores. The only statement to which the respondents were, on average, neutral was about their willingness to participate again in MVT despite a rise in financial costs. Similarly, statements on willingness to pay for marine conservation and pursuing a scientific career received lower average scores.

Response frequencies in Figure 5.21 support the results of Table 5.30. Around or above 90% of the respondents had positive attitudes towards compliance, education, pro-environmental behaviour, bequest values and advocacy, while some 25% were not happy to pay more money to participate in MVT. Around 15% were also unlikely to pursue a scientific career.

Table 5.30: Average scores of attitude among marine wildlife voluntourists intercepted online

Based on my experience as a marine voluntourist, I:	$\bar{x}$	Level	SD	SE
Respect the laws and regulations that deal with the protection of marine and coastal environments	4.80	Strongly agree	0.47	0.032
Will educate myself better about marine issues and conservation, so that I can better contribute to conservation	4.78	Strongly agree	0.50	0.034
Will abide to laws and regulations which are intended for environmental protection at home and work	4.78	Strongly agree	0.53	0.036
Will try to conserve the marine environment for future generations	4.77	Strongly agree	0.59	0.041
Will educate my family and friends on marine issues and conservation	4.71	Strongly agree	0.57	0.039
Will reduce unnecessary waste	4.68	Strongly agree	0.65	0.045
Feel that everybody should be educated on marine conservation	4.68	Strongly agree	0.60	0.041
Am interested to learn more about conserving the marine resources through daily acts	4.66	Strongly agree	0.65	0.045
Will recycle in the future	4.64	Strongly agree	0.67	0.046
Will sign petitions to protect and conserve marine life	4.56	Strongly agree	0.77	0.053
Feel that stricter policies should be implemented to conserve the marine environment	4.55	Strongly agree	0.74	0.051
Feel that volunteering is a powerful scientific tool	4.44	Agree	0.81	0.056
Will become a member of an organisation that protects marine life	4.44	Agree	0.8	0.055
Will only engage in responsible tourism that benefits conservation	4.44	Agree	0.72	0.050
Will continue to participate in volunteer programmes that deal with marine conservation	4.43	Agree	0.84	0.058
Feel that I have obtained a general interest in science	4.32	Agree	0.88	0.060
Feel that voluntourism is an important aspect of marine conservation and management	4.31	Agree	0.92	0.063
Will participate in public relations campaigns to try to prevent incompatible industries from damaging ecosystems	4.26	Agree	0.88	0.060
Will pay to go to marine protected areas	4.19	Agree	0.83	0.057
Feel that I will join other citizen science projects	4.16	Agree	0.97	0.067
Will motivate others to invest in a career that focuses on marine conservation and sciences	4.15	Agree	0.97	0.067
Will participate in environmental lobbying to conserve the marine environment	4.11	Agree	0.91	0.063
Will participate in any kind of volunteering in the future	4.08	Agree	1.02	0.070
Will pay to support non-governmental organisations	4.04	Agree	0.82	0.056
Will donate money to marine conservation organisations	3.99	Agree	0.83	0.057
Will pay to assist organisations and governments conserve natural resources	3.98	Agree	0.90	0.062
Am interested in a career that focuses on marine conservation and marine sciences	3.97	Agree	1.24	0.086
Feel that I will pursue a career in science	3.90	Agree	1.27	0.087
Will pay to raise funds for marine conservation	3.90	Agree	0.90	0.062
Will participate in this volunteer programme again even if the price increases	3.33	Neutral	1.26	0.087

Scale of agreement: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree.

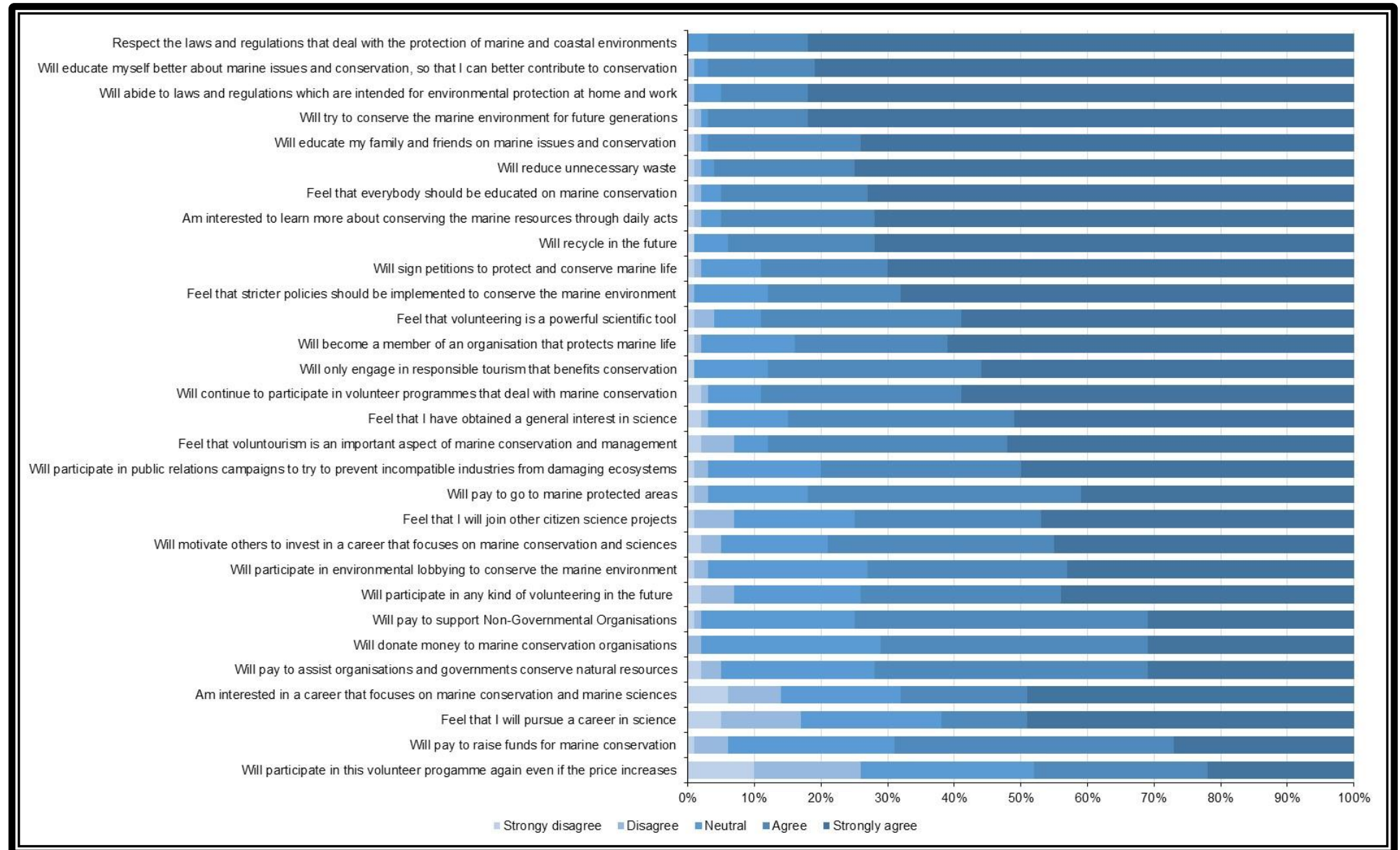


Figure 5.21: Attitude among marine wildlife voluntourists intercepted online

Source: Author's compilation

5.4.11. SPECIFIC ATTITUDES TOWARDS MARINE WILDLIFE VOLUNTOURISM

The respondents were asked to indicate specific attitudes towards MVT, by rating four items. Table 5.31 shows the response frequencies for categories in each item.

Table 5.31: Response frequencies of specific attitudes towards MVT among marine wildlife voluntourists intercepted online

Variable	Possible answers	%
If I have another opportunity to volunteer, I will:	A) Volunteer at the marine volunteer programme again	38
	B) Volunteer at a different marine volunteer programme	46
	C) Volunteer at a volunteer programme with a different focus	13
	D) Not volunteer again	3
If somebody asks me about the programme I will:	A) Encourage them to volunteer at the marine volunteer programme	83
	B) Advise them to volunteer at a different marine volunteer programme	15
	C) Tell them they should volunteer at a programme with a different focus	2
	D) Inform them that they should not volunteer	0
If the manager of the programme asks me what I think about the volunteer programme, I will:	A) Honestly answer the manager, by saying what I enjoyed and did not enjoy	95
	B) Complain to the manager about the negative things that I experienced	1
	C) Tell the manager about the positive things that I experienced	3
	D) Not give the manager any direct feedback	1
I will demand to speak to the manager of the programme to give the manager feedback, if:	A) My experience had been below standard	49
	B) My experience had been up to standard	7
	C) My experience had been above standard	6
	D) I would not demand to speak to the manager	38

The majority of the respondents had a positive attitude towards specific statements concerning MVT (Table 5.31). Half (46%) of the respondents indicated that they would volunteer at a different marine volunteer programme than the one they had already experienced. However, more than 80% would recommend their previous MVT experiences to others. Almost all the respondents (95%) indicated that, if the programme manager/s asked for feedback, they would honestly answer, and a half (49%) would demand to speak to the manager/s of an MVT programme if they felt that their experiences had been below standard.

5.5. COMPARISON BETWEEN THE CASE STUDY SITES AND ONLINE SURVEY

In this section, a comparison between marine wildlife voluntourists at the case study sites and marine wildlife voluntourists intercepted through the online survey is reported. The total sample of marine wildlife voluntourists intercepted through this study was 353. Table 5.32 provides a summary of the demographic profile of the marine wildlife voluntourists. It is evident that participants from the case study sites

tended to be younger and were mainly university students studying EBS, while participants in the online survey tended to be older and employed.

Table 5.32: Demographic profile of the marine wildlife voluntourists who participated in this study

Variable	Categories	Case study sites	Online survey	All	Pearson's χ^2	P
Gender (%)	Male	31	28	29	0.27	0.606
	Female	69	72	71		
Marital status (%)	Single	89	62	72	31.00	0.000***
	Married / relationship	9	32	23		
	Divorced / widow	2	6	5		
Origin (%)	Africa	12	8.5	9.5	97.50	0.000***
	Asia	3	5.5	4.5		
	Australia	5	8	6		
	Europe	47	48	49		
	North America	33	27.5	28.5		
	South America	0	2.5	2.5		
Education (%)	School	31	18	23	8.68	0.003**
	University	69	82	77		
Subject of study (%)	EBS	82	59	68	15.46	0.000***
	Other	18	41	32		
Occupation (%)	Student	56	28	39	27.55	0.000***
	Employed	36	56	48		
	Unemployed	8	16	13		
Profession (%)	Other	55	74	69	6.02	0.014*
	EBS	45	26	31		
Variable	Categories	Case study sites	Online survey	All	A) Levene's, B) Brown-Forsythe, C) Mann-Whitney U	
Age (y)	$\bar{x}$	29	37	34	A) F = 52.52, P = 0.000*** B) F = 30.69, P = 0.000*** C) U = 9782.00, P = 0.000***	
	Median	25	32	29		
	Min-max	18-68	19-81	18-81		
	SD	9.32	14.71	13.43		
	SE	0.782	1.018	0.717		

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

EBS = Environmental or biological sciences.

Table 5.33 shows the preferred types of tourism among marine wildlife voluntourists. The top three preferred forms of tourism were nature-based (90%), wildlife-based (89%) and water-based (83%). The least preferred types of tourism were sport-based (17%), party-based (9%) and shopping-based (5%). Cross-tabulation results show that participants in the online survey had a greater preference for beach-based, tropical and temperate locations compared to participants from the case study sites.

Table 5.33: Preferred types of tourism among marine wildlife voluntourists who participated in this study

Type of tourism	Case study sites (%)	Online survey (%)	All (%)	Pearson's χ^2	P
Nature-based	91	90	90	0.15	0.695
Wildlife-based	88	89	89	0.10	0.756
Water-based	83	83	83	0.00	0.969
Beach-based	60	71	66	4.40	0.036*
Mountain-based	49	48	48	0.00	0.963
Adventure-based	52	58	56	1.31	0.252
Sport-based	15	19	17	1.03	0.310
Food-based	26	29	28	0.47	0.495
Tropical location	56	71	65	8.33	0.004**
Temperate location	21	38	31	11.15	0.001***
Party-based	8	10	9	0.72	0.396
Shopping-based	4	6	5	0.37	0.540

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

Table 5.34 shows how the participants were introduced to VT. The case study sites had a greater number of people who were introduced to VT by their friends and teacher / school, while participants in the online survey were introduced to VT mainly through the general website or an organisation.

Table 5.34: Channels of introduction to VT among marine wildlife voluntourists who participated in this study

Type of introduction	Case study sites (%)	Online survey (%)	All (%)	Pearson's χ^2	P
Friend	64	11	6	3.61	0.058
Teacher / school	27	4	33	107.36	0.000***
General website	24	36	13	41.21	0.000***
Social networks	14	18	16	0.952	0.329
Organisation	15	22	31	5.35	0.021*
Family	3	8	19	3.06	0.080

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

Table 5.35 provides a summary of previous experience in MVT among the participants in this study. The online survey had 100% people with previous MVT experience because it exclusively targeted previous participants in MVT. The average duration of the MVT trip, which was around a month, was similar between the case study sites and the online survey, suggesting that this could be considered the standard average duration of an MVT trip.

Table 5.35: Previous MVT experience among marine wildlife voluntourists who participated in this study

Variable	Categories	Case study sites (%)	Online survey (%)	All (%)	Pearson's χ^2	P
Previous MVT experience (%)	No Yes	57 43	0 100	23 77	156.20	0.000***
Variable	Categories	Case study sites	Online survey	All	A) Levene's, B) Brown-Forsythe, C) Man-Whitney U	
Trip duration (days)	$\bar{x}$	34	45	41	A) F = 25.45, $P = 0.000$ *** B) F = 14.17, $P = 0.000$ *** C) U = 13705.5, $P = 0.742$	
	Median	30	28	30		
	Min-max	7-240	1-365	1-365		
	SD	29.87	57.07	48.06		
	SE	2.534	4.035	2.606		

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

Figure 5.22 and Figure 5.23 illustrate the conclusive demographic profile of the marine wildlife voluntourists from the case study sites and the online survey.

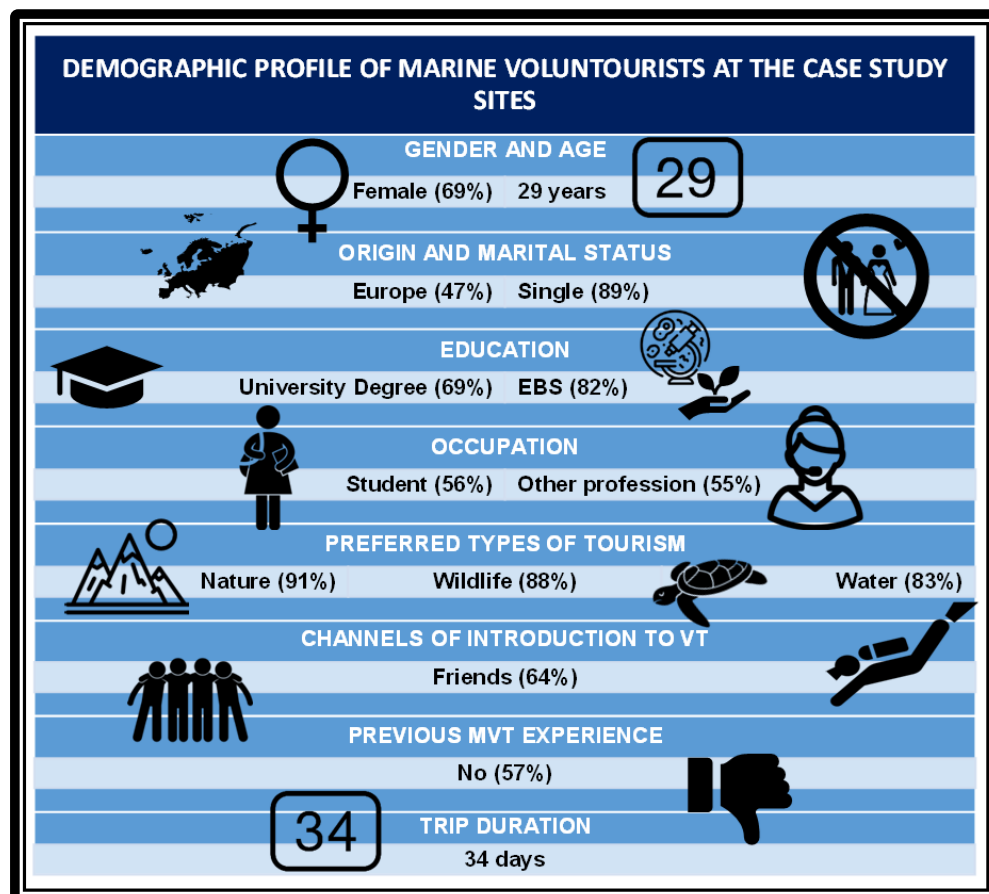


Figure 5.22: Infographic of the demographic profile of marine wildlife voluntourists at the case study sites

Source: Author's compilation

EBS = Environmental or biological sciences.

The majority of the people who volunteered at the case study sites (South Africa, Mozambique and Madagascar) were female and, on average, 29 years old. They originated mainly from Europe and were single. Most of them had a university degree in EBS and were still studying, possibly at the postgraduate level. They preferred nature, wildlife and water-based tourism. They were introduced to VT through their friends. About half of them had previous MVT experience and had an average trip duration of 34 days.

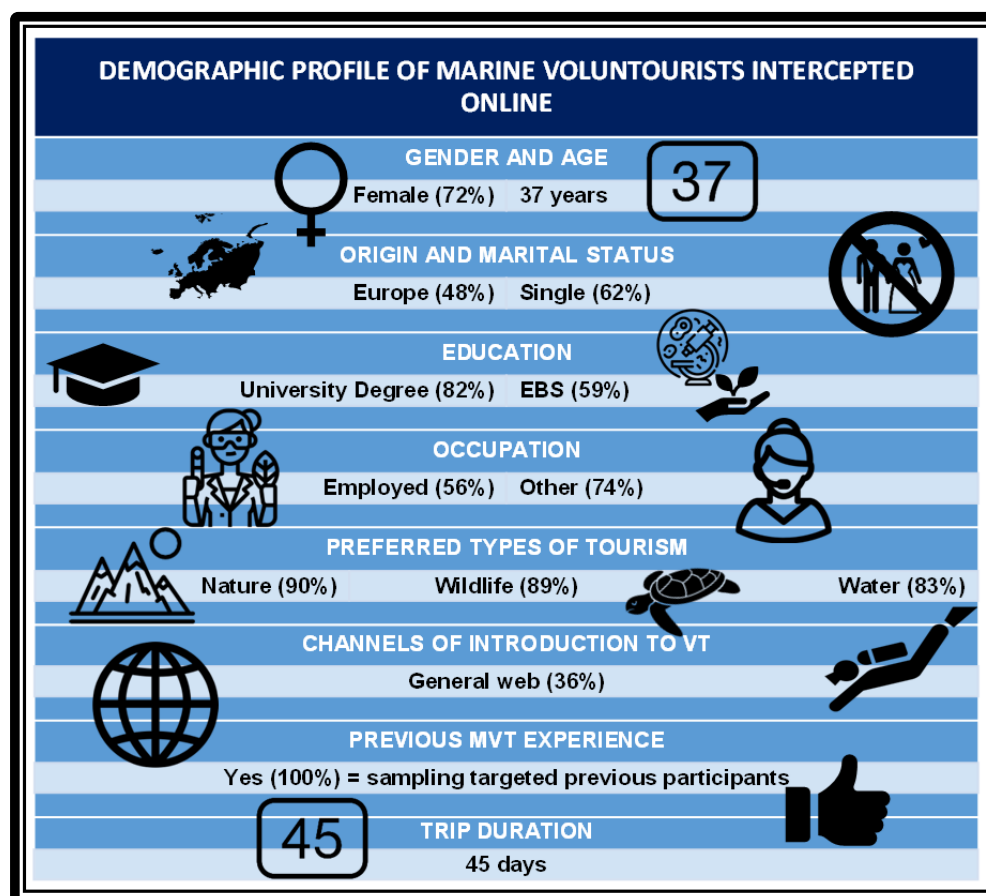


Figure 5.23: Infographic of the demographic profile of marine wildlife voluntourists from the online survey

Source: Author's compilation

EBS = Environmental or biological sciences.

From Figure 5.23 it can be seen that the majority of the voluntourists intercepted online were female and, on average, 37 years old. They originated mainly from Europe and were single. Most of them had a university degree in EBS and were employed in other professions. They preferred nature, wildlife and water-based tourism. They were

introduced to VT through the general website. They had an average trip duration of 45 days.

Table 5.36 shows significantly different motivations to participate in MVT between marine wildlife voluntourists at the case study sites and marine wildlife voluntourists intercepted online. Specifically, marine conservation and marine issues were slightly more important to the respondents from the online survey compared to those at the case study sites. Learning about marine life, gaining important skills, meeting and interacting with marine scientists, MVT being a chance of a lifetime, exploring career options, experiencing local traditions and cultures, making new friends, and working through own personal problems were slightly more important to the respondents at the case study sites compared to those from the online survey.

Table 5.36: ANOVA results for significantly different motivations to participate in MVT between marine wildlife voluntourists at the case study sites and marine wildlife voluntourists intercepted online

I participated in marine wildlife voluntourism because:	$\bar{x}$ Case study sites	$\bar{x}$ Online survey	$\bar{x}$ All	Average level	ANOVA F	ANOVA P	Effect size (Cohen's d)
Marine conservation and marine issues are very close to my heart	4.65	4.78	4.73	Very important	4.308	0.039*	0.22**
It is an opportunity to learn about marine life	4.77	4.64	4.70	Very important	4.233	0.040*	0.23**
It provides me with an opportunity to gain important skills	4.57	4.35	4.44	Important	5.507	0.019*	0.26**
It is an opportunity to meet and interact with marine scientists	4.49	4.23	4.34	Important	7.005	0.008**	0.29**
Marine volunteering is a chance of a lifetime	4.27	3.99	4.10	Important	6.185	0.013*	0.27**
It is an opportunity to explore career options	4.13	3.66	3.85	Important	10.232	0.002**	0.35**
I want to experience the local traditions and cultures	4.08	3.56	3.77	Important	18.613	0.000***	0.48***
It is an opportunity to make new friends with similar interests	3.71	3.35	3.49	Important	8.856	0.003**	0.33**
It helps me to work through my personal problems	2.78	2.36	2.53	Neutral	8.78	0.003**	0.32**

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

Effect sizes are categorised as **small (0.2), ***medium (0.5), ****large (0.8).

People at the case study sites may have felt slightly more motivated as a result of still being involved in MVT at the time of the study, compared to participants in the online survey who were asked to recall past experiences. Notably, all effect sizes except one were small, indicating that differences in motivations were ultimately negligible. The only motivation item with moderate effect size was experiencing local traditions and cultures. This item was different probably due to the case study sites being in Africa, where local cultures and traditions may represent an important attraction compared to other MVT locations.

Table 5.37 shows significantly different preferences in MVT between marine wildlife voluntourists at the case study sites and marine wildlife voluntourists intercepted online. Specifically, hands-on experience with marine life, activities like animal tagging and monitoring, and diving opportunities were more favoured at the case study sites compared to the online survey. The respondents from the case study sites were primarily students who studied EBS, which could be a reason why they favoured these components as a way to gain more skills to add to the curriculum. However, in this case effect sizes were small, indicating that differences in preferences were negligible.

Table 5.37: ANOVA results for significantly different preferences in MVT between marine wildlife voluntourists at the case study sites and marine wildlife voluntourists intercepted online

I prefer to volunteer at a programme, that:	$\bar{x}$ Case study sites	$\bar{x}$ Online survey	$\bar{x}$ All	Average level	ANOVA F	ANOVA P	Effect size (Cohen's d)
Provides hands-on experience with different marine life	4.59	4.29	4.41	Important	11.09	0.001** *	0.37**
Includes activities like animal tagging and monitoring	4.21	4.00	4.08	Important	4.213	0.041*	0.22**
Provides diving opportunities	4.15	3.86	3.98	Important	5.615	0.018*	0.26**

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

Effect sizes are categorised as **small (0.2), ***medium (0.5), ****large (0.8).

Table 5.38 shows significantly different expectations towards MVT between marine wildlife voluntourists at the case study sites and marine wildlife voluntourists intercepted online. Compared to the online survey, respondents from the case study sites had greater expectations towards training, new knowledge about marine life and conservation (the only item with moderate effect size), interaction with marine life,

sufficient equipment for research, group meetings, diving opportunities, beautiful destination, list of add-on marine experiences, comfortable accommodation, and good food. These expectations may have been greater due to the people at the case study sites being younger and desirous of gaining new experience and skills. Or due to them being still involved in MVT at the time of the study as opposed to the participants in the online survey, who had to respond based on the memory of previous experiences and expectations. It is also possible that, as they gained more experience, participants in the online survey reduced certain expectations towards MVT.

Table 5.38: ANOVA results for significantly different expectations towards MVT between marine wildlife voluntourists at the case study sites and marine wildlife voluntourists intercepted online

My expectations for participating in marine wildlife voluntourism included:	$\bar{x}$ Case study sites	$\bar{x}$ Online survey	$\bar{x}$ All	Average level	ANOVA F	ANOVA P	Effect size (Cohen's d)
Good quality training on different thing	4.60	4.38	4.47	Very important	8.07	0.005**	0.32**
Brand new knowledge about marine life and conservation	4.49	4.12	4.27	Important	16.12	0.000***	0.45***
Plenty of interactions with marine life	4.43	4.10	4.24	Important	12.486	0.000***	0.39**
Availability of sufficient equipment for research	4.08	3.89	3.97	Important	4.034	0.045*	0.22**
Group meetings / pre-trip briefings	3.92	3.67	3.77	Important	4.602	0.033*	0.24**
Plenty of diving	3.92	3.54	3.69	Important	8.475	0.004**	0.32**
Impressive natural beauty at the destination	3.75	3.53	3.62	Important	4.657	0.032*	0.23**
A list of pre-trip / post-trip add-on marine experience	3.78	3.45	3.59	Important	8.356	0.004**	0.32**
Comfortable accommodation facilities	3.31	2.98	3.11	Neutral	8.881	0.003**	0.32**
Good quality food	3.28	2.97	3.09	Neutral	7.824	0.005**	0.30**

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

Effect sizes are categorised as **small (0.2), ***medium (0.5), ****large (0.8).

Table 5.39 shows significantly different elements of satisfaction with MVT between marine wildlife voluntourists at the case study sites and marine wildlife voluntourists intercepted online. Compared to the online survey, respondents from the case study sites were more satisfied with the interactions with marine life and local communities, people met, locations visited, overall quality of the MVT programme, guidance by the coordinators, communication, training and orientation received, data collected,

recognition received, equipment and technology available, accommodation, free time, and food. Effect sizes were small to moderate.

Table 5.39: ANOVA results for significantly different elements of satisfaction with MVT between marine wildlife voluntourists at the case study sites and marine wildlife voluntourists intercepted online

Indicate your level of satisfaction with the following aspects of your experience as a marine voluntourist:	$\bar{x}$ Case study sites	$\bar{x}$ Online survey	$\bar{x}$ All	Average level	ANOVA F	ANOVA P	Effect size (Cohen's d)
The interactions I had with marine life	4.68	4.51	4.58	Totally satisfied	4.102	0.044*	0.22**
The people that I have met	4.63	4.45	4.52	Totally satisfied	5.849	0.016*	0.27**
The location and the places I managed to see	4.68	4.35	4.48	Totally satisfied	16.073	0.000***	0.45***
The overall quality of the volunteer programme	4.54	4.20	4.34	Satisfied	15.136	0.000***	0.43***
The guidance by the coordinators	4.51	4.20	4.33	Satisfied	11.218	0.001***	0.37**
The communication between staff and voluntourists	4.44	4.10	4.24	Satisfied	10.874	0.001***	0.37**
The training received	4.45	4.08	4.23	Satisfied	18.368	0.000***	0.48***
The orientation received	4.30	4.00	4.12	Satisfied	10.119	0.002**	0.35**
The data collected by us, the voluntourists	4.23	4.02	4.11	Satisfied	3.93	0.048*	0.22**
The recognition given to me by staff for the job that I have done	4.30	3.97	4.10	Satisfied	11.128	0.001***	0.37**
The interactions I had with the local community	4.27	3.95	4.08	Satisfied	9.167	0.003**	0.33**
The organisation of the programme	4.29	3.91	4.06	Satisfied	13.174	0.000***	0.41***
The infrastructure of the volunteer programme	4.38	3.84	4.06	Satisfied	30.325	0.000***	0.61***
The overall outreach of this volunteer project	4.18	3.96	4.05	Satisfied	5.072	0.025*	0.25**
The equipment and tools that were provided to me	4.25	3.87	4.03	Satisfied	14.726	0.000***	0.42***
The accommodation	4.46	3.68	3.99	Satisfied	57.78	0.000***	0.85***
The free time that I had available to explore	4.20	3.81	3.96	Satisfied	12.844	0.000***	0.39**
The food	4.23	3.63	3.87	Satisfied	25.202	0.000***	0.55***
The technology available	3.97	3.67	3.79	Satisfied	9.132	0.003**	0.33**

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

Effect sizes are categorised as **small (0.2), ***medium (0.5), ****large (0.8).

Respondents at the case study sites completed the survey towards the end of their trip, with the MVT experience still fresh in their mind, whereas participants in the online survey completed the survey sometime after their trip. This could be a reason why

satisfaction was greater at the case study sites. It is also possible that participants in the online survey had reduced their satisfaction with certain aspects of MVT with increasing experience.

Table 5.40 shows significantly different perceptions of the ethical conduct of MVT organisations between marine wildlife voluntourists at the case study sites and marine wildlife voluntourists intercepted online. Treatment of staff and voluntourists, and personal conduct of staff and voluntourists received a higher rating at the case study sites compared to the online survey, with small to moderate effect sizes. Similarly to the satisfaction items, participants in the online survey may have provided lower perception scores due to greater experience, or due to having based their evaluations on the memory of past experiences, as opposed to the voluntourists at the case study sites who had just completed their experience in MVT.

Table 5.40: ANOVA results for significantly different perceptions of the ethical conduct of MVT organisations between marine wildlife voluntourists at the case study sites and marine wildlife voluntourists intercepted online

I feel that the programme/s I worked with acted according to ethical considerations with regards to:	$\bar{x}$ Case study sites	$\bar{x}$ Online survey	$\bar{x}$ All	Average level	ANOVA F	ANOVA P	Effect size (Cohen's d)
Treatment of staff	4.51	4.29	4.38	Agree	6.471	0.011**	0.28**
Treatment of voluntourists	4.54	4.27	4.38	Agree	9.65	0.002**	0.35**
Personal conduct of staff and voluntourists	4.58	4.22	4.37	Agree	17.584	0.000***	0.47***

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

Effect sizes are categorised as **small (0.2), ***medium (0.5), ****large (0.8).

Table 5.41 shows significantly different attitudes towards environmental conservation and management, environmental responsibility, education, science, and MVT between marine wildlife voluntourists at the case study sites and marine wildlife voluntourists intercepted online. Respondents from the online survey had a stronger attitude towards compliance with rules and regulations of environmental protection, and towards becoming a member of an organisation protecting marine life. Respondents from the case study sites had a stronger attitude towards a career in marine conservation and marine science. Effect sizes were small, but it could be suggested that being older and more experienced, respondents from the online survey

had grown stronger attitudes towards protecting the environment and marine life. Respondents from the case study sites were younger students, which could be a reason why they had a stronger attitude towards a career in marine conservation and marine science.

Table 5.41: ANOVA results for significantly different attitudes between marine wildlife voluntourists at the case study sites and marine wildlife voluntourists intercepted online

Based on my experience as a marine voluntourist, I:	$\bar{x}$ Case study sites	$\bar{x}$ Online survey	$\bar{x}$ All	Average level	ANOVA F	ANOVA P	Effect size (Cohen's d)
Will abide to laws and regulations which are intended for environmental protection at home and work	4.63	4.78	4.72	Strongly agree	5.499	0.020*	0.25**
Will become a member of an organisation that protects marine life	4.20	4.44	4.34	Agree	7.07	0.008**	0.29**
Am interested in a career that focuses on marine conservation and marine sciences	4.30	3.97	4.10	Agree	6.973	0.009**	0.29**

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

Effect sizes are categorised as **small (0.2), ***medium (0.5), ****large (0.8).

Table 5.42 shows significantly different attitudes towards MVT between marine wildlife voluntourists at the case study sites and marine wildlife voluntourists intercepted online. Cross-tabulation results show that respondents from the online survey were more likely to volunteer at new MVT programmes and recommend new MVT programmes to others, compared to respondents from the case study sites who would be more inclined to volunteer at the same MVT programmes and recommend them to others. This difference may be due to participants in the online survey having more experience, thus preferring to explore new possibilities in MVT rather than returning to the same MVT programme.

Table 5.42: Response frequencies of specific attitudes towards MVT with significant differences between marine wildlife voluntourists at the case study sites and marine wildlife voluntourists intercepted online

Variable	Answers	Case study sites (%)	Online survey (%)	All (%)	Pearson's χ^2	P
If I have another opportunity to volunteer, I will:	A) Volunteer the same programme/s again	50	38	43	12.24	**0.006
	B) Volunteer at a different marine volunteer programme	30	46	39		
	C) Volunteer at a volunteer programme with a different focus	19	13	16		
	D) Not volunteer again	1	3	2		
If somebody asks me about the programme/s I participated in, I will:	A) Encourage them to volunteer at this / these volunteer programme/s	96	83	88	14.05	***0.000
	B) Advise them to volunteer at a different marine volunteer programme	3	15	10		
	C) Tell them they should volunteer at a programme with a different focus	1	2	2		
	D) Inform them that they should not volunteer	0	0	0		
If the manager/s of the programme/s I participated in asked me what I thought about my experience, I would:	A) Honestly answer the manager/s, by saying what I enjoyed and did not enjoy	93	95	95	3.24	0.356
	B) Complain to the manager/s about the negative things that I experienced	0	1	0.5		
	C) Tell the manager/s about the positive things that I experienced	6	3	4		
	D) Not give the manager/s any direct feedback	1	1	0.5		
I would demand to speak to the manager/s of a programme I participated in to give the manager/s feedback, if:	A) My experience had been below standard	37	49	44	7.09	0.069
	B) My experience had been up to standard	13	7	10		
	C) My experience had been above standard	9	6	7		
	D) I would not demand to speak to the manager/s	41	38	39		

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

5.6. EXPLORATORY RESULTS FOR MARINE WILDLIFE VOLUNTOURISTS

This section reports on the exploratory factor analysis (EFA), confirmatory exploratory factor analysis (CEFA), and reliability test results for the Likert-scale questions contained in the survey administered to the marine wildlife voluntourists who participated in this study (case study sites and online survey). This section is divided into six headings: 1) motivations to participate in MVT; 2) preferences in MVT; 3) expectations towards MVT; 4) satisfaction with MVT; 5) perceived ethical conduct of the MVT organisation; and 6) attitudes. While EFAs were originally performed on all batteries of items in the survey targeting marine wildlife voluntourists, CEFAs were ultimately selected and reported for all but two batteries of items. These were expectations towards MVT and perceived ethical conduct of the MVT organisation. A priori factors were selected for CEFAs on motivations, preferences, satisfaction, and attitudes, based on the literature reports for MVT as well as marine wildlife and nature-based tourism (Brondo, 2015:1414; Donnelly *et al.* 2014:1237; Gray *et al.* 2017:200; Johnson *et al.* 2014:235; Polus & Bidder, 2016:309; Strzelecka *et al.* 2017:422; Vann-Sander *et al.* 2016:82; Weaver, 2015:683).

Based on Kaiser's criterion, only those factors with an Eigenvalue greater than 1.0 were considered important during factor analysis (Field, 2018:688; Pallant, 2010:192). According to Field (2018:688), an explained variance value higher than 60% is sufficient, although a variance value higher than 50% is also acceptable. Pallant (2010:194) indicated that items within a factor must have a loading value above 0.3 to be accepted as contributing to that factor. Reliability coefficients (Cronbach alpha α) and inter-item correlations were calculated to verify the internal consistency of factors (Pallant, 2010:100). According to Field (2018:709) and Pallant (2010:100) α values above 0.7 are considered satisfactory, although also values above 0.5 may be acceptable. The mean inter-item correlation within a factor ideally would range between 0.2 and 0.4 (Briggs & Cheek, 1986:106), or between 0.15 and 0.55 (Clark & Watson, 1995:316).

5.6.1. MOTIVATIONS TO PARTICIPATE IN MARINE WILDLIFE VOLUNTOURISM

An EFA was first performed on the 26 items that characterised motivations to participate in MVT. After examining the extracted factors and underlying items resulting from the EFA, it was decided that the factors did not relate to established

constructs in the literature. A CEFA was thus performed according to predetermined constructs from the literature. Four factors were identified that motivated voluntourists to participate in MVT: 1) ecocentric; 2) personal development; 3) personal well-being; and 4) social values. These factors had Eigenvalues greater than 1.0 and each explained between 45% and 53% of the variance in the data (Table 5.43), which was deemed acceptable. All factors had strong internal consistency with α values ranging between 0.75 and 0.85. The factors had a mean inter-item correlation ranging between 0.35 and 0.44, which is considered acceptable. Factor loadings were well above the cut-off value of 0.3 (Pallant, 2010:104) (Table 5.44).

Table 5.43: Eigenvalues, total variance explained, α , inter-item correlations and mean factor scores for factors underlying motivations to participate in MVT

Factors	MOT1: Ecocentric	MOT2: Personal development	MOT3: Personal well-being	MOT4: Social values
Eigenvalue	4.060	2.661	3.135	2.691
% Total Variance Explained	50.750	53.213	44.792	44.858
Cronbach alpha (α)	0.851	0.765	0.793	0.749
Mean inter-item correlation	0.437	0.414	0.360	0.346
Mean factor score*	4.57	4.38	3.49	3.33
SD of mean factor score	0.50	0.67	0.77	0.78
SE of mean factor score	0.027	0.036	0.041	0.041

SD = Standard deviation, SE = Standard error.

* Based on scale of importance: 1 = not at all important, 2 = not important, 3 = neutral, 4 = important, and 5 = very important.

Table 5.44: Confirmatory exploratory factor analysis on motivation to participate in MVT including factor loadings

Factors:	MOT1: Ecocentric	MOT2: Personal development	MOT3: Personal well- being	MOT4: Social values
I participated in marine wildlife voluntourism because:				
I want to contribute to marine conservation	-0.714			
I want to contribute to animal protection and welfare	-0.555			
Marine conservation and marine issues are very close to my heart	-0.781			
I want to feel part of a marine conservation community	-0.737			
I want to be a part of solving marine issues	-0.806			
I want to contribute to the successful management of marine areas	-0.753			
I want to give something back to the community and environment	-0.654			
I am compassionate towards marine animals in need	-0.667			
It is an opportunity to learn about marine life		-0.568		
It is an opportunity to explore career options		-0.790		
It is an opportunity to interact with marine life		-0.697		
It is an opportunity to meet and interact with marine scientists		-0.797		
It provides me with an opportunity to gain important skills		-0.770		
It is a good escape from my daily life			-0.672	
It helps me to work through my personal problems			-0.818	
It helps me feel less lonely			-0.793	
It makes me feel important and useful			-0.752	
Marine volunteering is a chance of a lifetime			-0.553	
It is a fulfilling experience			-0.481	
It makes the tourism experience more meaningful			-0.532	
My family and friends partake in volunteering programmes				-0.682
It is part of my society's traditions and / or culture				-0.732
It is an opportunity to make new friends with similar interests				-0.768
It is fun				-0.618
I want to experience the local traditions and cultures				-0.622
I wanted to be somewhere new				-0.577

The factor **ecocentric** involved the voluntourists wanting to help marine wildlife, contribute to marine conservation, and give back to a worthy cause (Brondo, 2015:1414; Campbell & Smith, 2005:183; Gray *et al.* 2017:200). The Eigenvalue for this factor was 4.06 with a total explained variance of 51%. The α value was 0.85 and the mean inter-item correlation was 0.44. This factor had the highest mean score, 4.57, thus it was the most important factor motivating the respondents to participate in MVT. The second motivation factor, **personal development**, focused on gaining practical skills and experience (Brondo, 2015:1414; Campbell & Smith, 2005:183; Gray *et al.* 2017:200). The Eigenvalue for this factor was 2.66 with a total explained variance of 53%. The α value was 0.77 and the mean inter-item correlation was 0.41. This factor was the second most important motivation to participate in MVT among the respondents, with a mean score of 4.38.

The third motivation factor, **personal well-being**, was centred on the leisure aspect of MVT as well as personal fulfilment and psychological health (Clary *et al.* 1998:1517; Chen & Chen, 2011:435; Lo & Lee, 2011:326). The Eigenvalue for this factor was 3.14 with a total explained variance of 45%. The α value was 0.79 and the mean inter-item correlation was 0.36. This factor was the second last important motivator to participate in MVT among the respondents, with a mean score of 3.49. The fourth and final motivation factor, with the lowest mean score (3.33), was **social values**, which involved valuing social relationships in the context of the MVT experience (Clary *et al.* 1998:1517). The Eigenvalue for this factor was 2.69 with a total explained variance of 45%. The α value was 0.75 and the mean inter-item correlation was 0.35. In summary, the respondents gave importance to ecocentric and personal development motivations to have an MVT experience, while they were, on average, neutral about personal well-being and social values as motivators to participate in MVT.

5.6.2. PREFERENCES IN MARINE WILDLIFE VOLUNTOURISM

An EFA was first performed on the seven items that characterised preferences in MVT. After examining the extracted factors and underlying items resulting from the EFA, it was decided that the factors did not relate to established constructs in the literature. A CEFA was thus performed according to predetermined constructs from the literature. Two factors were identified that the respondents preferred in MVT: 1) ecocentric; and 2) activities. These factors had Eigenvalues greater than 1.0 and explained 51-55% of

the total variance in the data (Table 5.45), which was deemed acceptable. Both factors had sufficient internal consistency. The factors had a mean inter-item correlation ranging between 0.32 and 0.35, which is considered acceptable. Factor loadings were well above the cut-off value of 0.3 (Pallant, 2010:104) (Table 5.46).

Table 5.45: Eigenvalues, total variance explained, α , inter-item correlations and mean factor scores for factors underlying preferences in MVT

Factors	PREF1: Ecocentric	PREF2: Activities
Eigenvalue	2.058	1.643
% Total Variance Explained	51.447	54.751
Cronbach alpha (α)	0.655	0.548
Mean inter-item correlation	0.346	0.318
Mean factor score*	4.45	4.16
SD of mean factor score	0.53	0.72
SE of mean factor score	0.028	0.038

SD = Standard deviation, SE = Standard error.

* Based on scale of importance: 1 = not at all important, 2 = not important, 3 = neutral, 4 = important, and 5 = very important.

The factor **ecocentric** involved the voluntourists preferring MVT programmes that focus on assisting marine wildlife, contributing to marine conservation, and giving back to a worthy cause (Brondo, 2015:1414; Campbell & Smith, 2005:183; Gray *et al.* 2017:200). This factor had the highest mean score of 4.45. The Eigenvalue for this factor was 2.06 with a total explained variance of 52%. The α value was 0.66 and the mean inter-item correlation was 0.35. The second preference factor was **activities**, which referred to activities preferred by voluntourists. These included practical and scientific activities, like animal tagging and scuba diving (Grimm & Needham, 2012:488). The Eigenvalue for this factor was 1.64 with a total explained variance of 55%. The α value was 0.55 and the mean inter-item correlation was 0.318. This factor was also important but not as much as ecocentric preferences in MVT. In summary, when it came to preferences in MVT, the respondents prioritised programmes with strong ecocentric tendencies and placed activities second to that.

Table 5.46: Confirmatory exploratory factor analysis on preferences in MVT including factor loadings

Factors:	PREF1: Ecocentric	PREF2: Activities
I prefer to volunteer at a programme, that:		
Helps marine life that is suffering	-0.484	
Contributes tangibly to the conservation of the environment	-0.779	
Works with local marine and coastal managers	-0.833	
Allows me to participate in scientific research	-0.723	
Includes activities like animal tagging and monitoring		0.801
Provides hands-on experience with different marine life		0.822
Provides diving opportunities		0.570

5.6.3. EXPECTATIONS TOWARDS MARINE WILDLIFE VOLUNTOURISM

An EFA was performed on the 16 items that characterised expectations towards MVT. After examining the extracted factors and underlying items resulting from the EFA, it was decided that the factors related to established constructs in the literature, and therefore a CEFA was not performed. Three expectations factors were identified: 1) overall programme quality; 2) detailed information; and 3) quality destination. These factors had Eigenvalues greater than 1.0, but only one factor explained 34% of the total variance in the data, while the remaining two explained only 9-11% of the variation (Table 5.47). All three factors had very good reliability. The factors had a mean inter-item correlation ranging between 0.34 and 0.49, which is considered acceptable. Factor loadings were well above the cut-off value of 0.3 (Pallant, 2010:104) (Table 5.48).

Table 5.47: Eigenvalues, total variance explained, α , inter-item correlations and mean factor scores for factors underlying expectations towards MVT

Factors	EXP1: Overall programme quality	EXP2: Detailed information	EXP3: Quality destination
Eigenvalue	1.468	5.491	1.824
% Total Variance Explained	9.175	34.320	11.399
Cronbach alpha (α)	0.738	0.848	0.742
Mean inter-item correlation	0.434	0.490	0.339
Mean factor score*	4.29	3.74	3.51
SD of mean factor score	0.60	0.78	0.69
SE of mean factor score	0.032	0.041	0.037

SD = Standard deviation, SE = Standard error.

* Based on scale of importance: 1 = not at all important, 2 = not important, 3 = neutral, 4 = important, and 5 = very important.

Table 5.48: Exploratory factor analysis on expectations towards MVT including factor loadings

Factors:	EXP1: Overall programme quality	EXP2: Detailed information	EXP3: Quality destination
My expectations for participating in marine wildlife voluntourism included:			
Availability of sufficient equipment for research	0.658		
Good coordinator's expertise	0.628		
Brand new knowledge about marine life and conservation	0.630		
Good quality training on different things	0.759		
A suggested packing list		0.750	
A detailed programme of the activities to be offered		0.731	
A list of do's and don'ts		0.804	
Materials related to marine life, conservation and management at the destination		0.553	
Group meetings / pre-trip briefings		0.587	
A list of pre-trip / post-trip add-on marine experiences		0.668	
Impressive natural beauty at the destination			0.695
A clean environment			0.679
Plenty of interactions with marine life			0.495
Plenty of diving			0.493
Good quality food			0.667
Comfortable accommodation facilities			0.685

The factor **overall programme quality** revolved around the educational quality of the MVT programme, organisation, and training expected by the voluntourists when participating in MVT (Donnelly *et al.* 2014:1237; Johnson *et al.* 2014:235). This factor, which had an Eigenvalue of 1.47, was the factor with the highest mean score (4.29), although the total explained variance was only 9%. The α value was 0.74 and the mean inter-item correlation was 0.43. The second most important factor, with a mean score of 3.74, was **detailed information**, which revolved around information that the voluntourists expected before, during and after their trip (Ballantyne *et al.* 2007:367; Strzelecka *et al.* 2017:422). The Eigenvalue for this factor was 5.49 and the total explained variance was the highest (34%). The α value was 0.85 and the mean inter-item correlation was 0.49. The final expectation factor, with the lowest mean score (3.51) was **quality destination**, which focused on the quality of the destination and facilities that the respondents expected when participating in MVT (Wood & Coghlan, 2008:14). The Eigenvalue for this factor was 1.82 with a total explained variance of 11%. The α value was 0.74 and the mean inter-item correlation was 0.34. In summary, the participants in this study most expected good quality MVT programmes, placing detailed information second and being, on average, neutral to the quality of the destination.

5.6.4. SATISFACTION WITH MARINE WILDLIFE VOLUNTOURISM

An EFA was first performed on the 25 items that characterised satisfaction with MVT. After examining the extracted factors and underlying items resulting from the EFA, it was decided that the factors did not relate to established constructs in the literature. A CEFA was thus performed according to predetermined constructs from the literature, which also partly reflected constructs determined from the expectations towards MVT (5.6.3). Three satisfaction factors were identified: 1) destination and interactions; 2) information and education; and 3) overall programme quality. These factors had Eigenvalues greater than 1.0 and explained between 47% and 60% of the total variance in the data (Table 5.49), which was deemed acceptable. All three factors had very good internal consistency. The factors had a mean inter-item correlation ranging between 0.41 and 0.57, which is considered acceptable. Factor loadings were well above the cut-off value of 0.3 (Pallant, 2010:104) (Table 5.50).

Table 5.49: Eigenvalues, total variance explained, α , inter-item correlations and mean factor scores for factors underlying satisfaction with MVT

Factors	SAT1: Destination and interactions	SAT2: Information and education	SAT3: Overall programme quality
Eigenvalue	3.766	3.519	6.624
% Total Variance Explained	47.073	58.657	60.223
Cronbach alpha (α)	0.835	0.853	0.932
Mean inter-item correlation	0.410	0.513	0.566
Mean factor score*	4.26	4.18	4.15
SD of mean factor score	0.62	0.66	0.69
SE of mean factor score	0.033	0.035	0.037

SD = Standard deviation, SE = Standard error.

* Based on scale of satisfaction: 1 = totally dissatisfied, 2 = dissatisfied, 3 = neutral, 4 = satisfied, and 5 = totally satisfied.

In summary, the participants in this study were satisfied with all three factors, as these had very similar scores. These factors reflected, in part, the expectation factors described under 5.6.3. **Destination and interactions** was the factor with the highest mean score, 4.26. This factor was centred on the overall setting of the participants' experience during their trip, from accommodation and the free time available to the people and marine species encountered (Andersen & Miller, 2006:111). The Eigenvalue for this factor was 3.77 with a total explained variance of 47%. The α value was 0.84 and the mean inter-item correlation was 0.41. The second factor, with a mean score of 4.18, was **information and education**, which mainly involved positive learning outcomes for the participants after their trip (Ballantyne *et al.* 2007:367). The Eigenvalue for this factor was 3.52 with a total explained variance of 59%. The α value was 0.85 and the mean inter-item correlation was 0.51. **Overall programme quality** was the third factor, with a mean score of 4.15. It focused on the activities in which the voluntourists participated, as well as the organisation of the MVT programme and the training received (Donnelly *et al.* 2014:1237; Johnson *et al.* 2014:235). The Eigenvalue for this factor was 6.62 with a total explained variance of 60%. The α value was 0.93 and the mean inter-item correlation was 0.57.

Table 5.50: Confirmatory exploratory factor analysis on satisfaction with MVT including factor loadings

Factors: Indicate your level of satisfaction with the following aspects of your experience as a marine voluntourist:	SAT1: Destination and interactions	SAT2: Information and education	SAT3: Overall programme quality
The people that I have met	-0.635		
The interactions I had with marine life	-0.608		
The marine species I had contact with	-0.577		
The accommodation	-0.772		
The food	-0.742		
The free time that I had available to explore	-0.698		
The location and the places I managed to see	-0.760		
The interactions I had with the local community	-0.670		
The education received on the different marine species		-0.784	
The information received on marine issues and conservation		-0.789	
The project's webpage / social media		-0.662	
The overall outreach of this volunteer project		-0.804	
The communication between staff and voluntourists		-0.743	
The orientation received		-0.803	
The guidance by the coordinators			-0.812
The technology available			-0.676
The overall quality of the volunteer programme			-0.811
The overall success of the project			-0.751
The data collected by us, the voluntourists			-0.764
The training received			-0.831
My job assignment and my performance			-0.764
The recognition given to me by staff for the job that I have done			-0.742
The organisation of the programme			-0.864
The equipment and tools that were provided to me			-0.795
The infrastructure of the volunteer programme			-0.708

5.6.5. PERCEIVED ETHICAL CONDUCT OF THE MARINE WILDLIFE VOLUNTOURISM ORGANISATION

An EFA was performed on the eight items that characterised the perceived ethical conduct of the MVT organisation. A single factor was extracted and a CEFA was not performed. The extracted factor had an Eigenvalue greater than 1.0 and explained 57% of the total variance in the data (Table 5.51), which was deemed acceptable. It had very good reliability, with an α value of 0.89. The factor had a mean inter-item correlation of 0.511, which is considered acceptable. Factor loadings were well above the cut-off value of 0.3 (Pallant, 2010:104) (Table 5.52). The mean score for this factor was 4.42, meaning that, on average, the participants perceived the MVT organisations they visited as acting according to ethical standards under various categories. These went from the handling of marine life to the treatment of voluntourists and staff, and compliance with local rules and regulations at the destination. All such elements are considered important aspects of the codes of conduct and best practices that VT and specifically MVT companies ought to abide by (Brondo, 2019:592; Ong *et al.* 2014:680; Roques *et al.* 2018:382).

Table 5.51: Eigenvalues, total variance explained, α , inter-item correlations and mean factor scores for factors underlying perceived ethical conduct of the MVT organisation

Factor	ETH1: Ethical conduct of the MVT organisation
Eigenvalue	4.531
% Total Variance Explained	56.641
Cronbach alpha (α)	0.886
Mean inter-item correlation	0.511
Mean factor score*	4.42
SD of mean factor score	0.59
SE of mean factor score	0.032

SD = Standard deviation, SE = Standard error.

* Based on scale of agreement: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree.

Table 5.52: Exploratory factor analysis on the perceived ethical conduct of the MVT organisation including factor loadings

Factor:	
I feel that the programme/s I worked with acted according to ethical considerations with regards to:	ETH1: Ethical conduct of the MVT organisation
Handling of marine life	-0.676
Treatment of staff	-0.765
Treatment of voluntourists	-0.796
Personal conduct of staff and voluntourists	-0.817
Conservation of the environment	-0.801
Community engagement	-0.717
Pro-environmental practices	-0.717
Compliance with local rules and regulations pertaining to the marine environment	-0.718

5.6.6. ATTITUDES

An EFA was first performed on the 29 items that characterised the voluntourists' attitudes following their experience in MVT. After examining the extracted factors and underlying items resulting from the EFA, it was decided that the factors did not relate to established constructs in the literature. A CEFA was thus performed according to predetermined constructs from the literature. Seven factors were identified that characterised the attitudes of the voluntourists: 1) education; 2) environment; 3) compliance and advocacy; 4) volunteering; 5) CS; 6) career choices; and 7) paying for conservation. These factors had Eigenvalues greater than 1.0 and explained between 45% and 72% of the total variance in the data (Table 5.53), which was deemed acceptable. All factors had good internal consistency. The factors had a mean inter-item correlation ranging between 0.369 and 0.608, which is considered acceptable. Factor loadings were well above the cut-off value of 0.3 (Pallant, 2010:104) (Table 5.54).

Education involved participants' positive attitudes towards their and others' education on marine conservation (Donnelly *et al.* 2014:1237; Johnson *et al.* 2014:235). The Eigenvalue for the factor was 2.17 with a total explained variance of 72%. The α value was 0.80 and the mean inter-item correlation was 0.59. This factor had the highest mean score of 4.70.

Table 5.53: Eigenvalues, total variance explained, α , inter-item correlations and mean factor scores for factors underlying attitudes

Factors	ATT1: Education	ATT2: Environment	ATT3: Compliance and advocacy	ATT4: Volunteering	ATT5: Citizen science	ATT6: Career choices	ATT7: Paying for conservation
Eigenvalue	2.167	3.379	3.156	1.761	1.932	2.106	3.290
% Total Variance Explained	72.243	67.579	45.082	58.688	64.395	70.194	65.806
Cronbach alpha (α)	0.804	0.851	0.794	0.614	0.717	0.787	0.866
Mean inter- item correlation	0.585	0.608	0.369	0.380	0.467	0.563	0.582
Mean factor score*	4.70	4.63	4.46	4.27	4.25	4.13	3.88
SD of mean factor score	0.48	0.50	0.50	0.77	0.69	0.92	0.70
SE of mean factor score	0.023	0.027	0.027	0.041	0.037	0.049	0.038

SD = Standard deviation, SE = Standard error.

* Based on scale of agreement: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree.

The factor with the second highest mean score, 4.63, was **Environment**. This factor revolved around desiring to foster personal environmental consciousness and acquire a more positive behaviour towards marine issues while participating in tourism (Alexander, 2012a:779; Barbieri *et al.* 2012:509; Broad & Jenkins, 2009:72; Brown & Morrison, 2003:73; Coghlan & Gooch, 2011:713; Mcgehee & Santos, 2005:760; Mcgehee, 2012:101; Mostafanezhad, 2013:150; Weaver, 2015:683). The Eigenvalue for the factor was 3.38 with a total explained variance of 68%. The α value was 0.85 and the mean inter-item correlation was 0.61. **Compliance and advocacy** was the factor with the third-highest mean score, 4.46. This factor involved participants' desire to better comply with marine conservation norms and participate as advocates and opinion leaders in marine conservation matters (Alexander, 2012b:119; Barbieri *et al.* 2012:509; Coghlan & Gooch, 2011:713; Jansujwicz *et al.* 2013:1369; Johnson *et al.* 2014:235; Wearing, 2003:3; Wickens, 2011:42; Zahra & McIntosh, 2007:115). The Eigenvalue for this factor was 3.16 and the total explained variance was 45%. The α value was 0.79 and the mean inter-item correlation was 0.37.

Table 5.54: Confirmatory exploratory factor analysis on attitudes including factor loadings

Factors:	ATT1: Education	ATT2: Environment	ATT3: Compliance and advocacy	ATT4: Volunteering	ATT5: Citizen science	ATT6: Career choices	ATT7: Paying for conservation
Based on my experience as a marine voluntourist, I:							
Feel that everybody should be educated on marine conservation	-0.820						
Will educate my family and friends on marine issues and conservation	-0.867						
Will educate myself better about marine issues and conservation, so that I can better contribute to conservation	-0.863						
Will only engage in responsible tourism that benefits conservation		-0.420					
Will recycle in the future		-0.876					
Will reduce unnecessary waste		-0.922					
Am interested to learn more about conserving the marine resources through daily acts		-0.889					
Will try to conserve the marine environment for future generations		-0.892					
Respect the laws and regulations that deal with the protection of marine and coastal environments			-0.535				
Will abide to laws and regulations which are intended for environmental protection at home and work			-0.607				
Feel that stricter policies should be implemented to conserve the marine environment			-0.517				
Will sign petitions to protect and conserve marine life			-0.682				
Will become a member of an organisation that protects marine life			-0.784				
Will participate in public relations campaigns to try to prevent incompatible industries from damaging ecosystems			-0.774				
Will participate in environmental lobbying to conserve the marine environment			-0.746				

Factors:	ATT1: Education	ATT2: Environment	ATT3: Compliance and advocacy	ATT4: Volunteering	ATT5: Citizen science	ATT6: Career choices	ATT7: Paying for conservation
Based on my experience as a marine voluntourist, I:							
Will participate in this volunteer programme again even if the price increases				-0.693			
Will continue to participate in volunteer programmes that deal with marine conservation				-0.835			
Will participate in any kind of volunteering in the future				-0.763			
Feel that I have obtained a general interest in science					-0.778		
Feel that volunteering is a powerful scientific tool					-0.852		
Feel that I will join other citizen science projects					-0.775		
Feel that I will pursue a career in science						0.849	
Am interested in a career that focuses on marine conservation and marine sciences						0.913	
Will motivate others to invest in a career that focuses on marine conservation and sciences						0.743	
Will donate money to marine conservation organisations							-0.682
Will pay to go to marine protected areas							-0.674
Will pay to raise funds for marine conservation							-0.866
Will pay to support non-governmental organisations							-0.905
Will pay to assist organisations and governments conserve natural resources							-0.896

Volunteering was the factor with the fourth highest mean score, 4.27. This factor focused on participants' desire to volunteer around marine conservation in future, including loyalty to known MVT programmes (Polus & Bidder, 2016:309). The Eigenvalue for the factor was 1.76 with a total explained variance of 59%. The α value was 0.61 and the mean inter-item correlation was 0.38. **CS** had an Eigenvalue of 1.93 with a total explained variance of 64%. The α value for this factor was 0.72 and the mean inter-item correlation was 0.47. This factor, which had a mean score of 4.25, focused on participants' interest in, and willingness to contribute to, science in the future (Donnelly *et al.* 2014:1237; Johnson *et al.* 2014:235; Vann-Sander *et al.* 2016:82). With a mean score of 4.13, the factor **Career choices** focused on the participants' desire to pursue a career in marine conservation and / or science (Hicks, 2016:80; Stebbins, 1992:20). The Eigenvalue for this factor was 2.11 with a total explained variance of 70%. The α value was 0.79 and the mean inter-item correlation was 0.56.

The final factor was **Paying for conservation**. This factor focused on the attitude of the voluntourists to financially invest in conservation (Ardoin *et al.* 2015:838; Cárdenas & Lew, 2016:2; La Manna *et al.* 2020:351; Lew, 2015:1). The Eigenvalue for this factor was 3.29 with a total variance explained of 66%. The α value was 0.87 and the mean inter-item correlation was 0.58. This factor was the only one with a mean score below 4.00 (3.88). In summary, attitude factors mostly received high scores, especially attitudes concerning personal environmental awareness and pro-environmental behaviour. Possible future participation in volunteering and scientific activities, as well as scientific career prospects, were still important, while the participants were less inclined to pay to contribute to marine conservation.

5.7. RELATIONSHIPS AND VARIATION AMONG FACTORS

Table 5.55 displays the results of Spearman's rank-order correlations (r_s) investigating unique relationships between the factors from the EFA and CEFA described in 5.6.

Table 5.55: Spearman correlations (r_s) between factors extracted

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 MOT1	1.00																			
2 MOT2	0.57	1.00																		
3 MOT3	0.39	0.41	1.00																	
4 MOT4	0.30	0.38	0.63	1.00																
5 PREF1	0.03	-0.01	0.05	-0.06	1.00															
6 PREF2	0.05	-0.03	-0.02	-0.09	0.56	1.00														
7 EXP1	0.03	-0.07	-0.04	-0.06	0.55	0.47	1.00													
8 EXP2	0.12	0.04	0.02	0.01	0.39	0.34	0.50	1.00												
9 EXP3	0.06	-0.09	-0.03	-0.09	0.28	0.49	0.39	0.38	1.00											
10 SAT1	0.04	-0.07	0.03	0.02	0.29	0.26	0.23	0.24	0.21	1.00										
11 SAT2	0.03	-0.06	-0.04	-0.03	0.37	0.29	0.31	0.24	0.15	0.67	1.00									
12 SAT3	0.02	-0.09	-0.05	-0.02	0.35	0.29	0.30	0.22	0.14	0.75	0.87	1.00								
13 ETH1	0.00	-0.06	0.04	0.08	0.27	0.18	0.15	0.13	0.07	0.54	0.64	0.65	1.00							
14 ATT1	-0.01	-0.12	0.00	-0.03	0.28	0.17	0.19	0.12	0.09	0.24	0.26	0.21	0.32	1.00						
15 ATT2	0.07	-0.03	0.05	0.01	0.27	0.19	0.09	0.13	0.08	0.23	0.27	0.26	0.37	0.53	1.00					
16 ATT3	0.00	-0.07	0.00	-0.02	0.37	0.19	0.21	0.22	0.09	0.24	0.29	0.29	0.36	0.56	0.53	1.00				
17 ATT4	0.04	-0.05	0.05	-0.03	0.26	0.23	0.14	0.18	0.16	0.18	0.29	0.26	0.35	0.34	0.35	0.39	1.00			
18 ATT5	0.05	-0.04	0.01	-0.04	0.44	0.39	0.40	0.25	0.17	0.31	0.41	0.37	0.35	0.44	0.44	0.44	0.44	1.00		
19 ATT6	-0.02	-0.05	-0.03	-0.09	0.41	0.36	0.32	0.18	0.16	0.27	0.31	0.28	0.18	0.43	0.33	0.37	0.35	0.66	1.00	
20 ATT7	0.03	-0.04	0.01	0.00	0.39	0.25	0.22	0.21	0.18	0.31	0.37	0.36	0.39	0.37	0.45	0.51	0.44	0.36	0.29	1.00

Bold values indicate statistical significance at $P \leq 0.05$.

There was a strong positive correlation between the factors in each category of questions. Specifically, motivation factors were all positively correlated, so were the preference, expectation, satisfaction, and attitude factors. There were also positive correlations between factors from different question categories, with some exceptions. Specifically, motivations to participate in MVT did not have a significant correlation with any other factor. Additionally, expectations towards MVT had some weak correlations, especially with the perceived ethical conduct of the MVT organisation, and attitudes towards education and the environment following the MVT trip.

Correlations were also performed between factors and the sociodemographic data of the marine wildlife voluntourists who participated in this study (Table 5.56). Variables including gender, age, education, profession and previous MVT experience had significant correlations with some factors.

Table 5.56: Spearman correlations (r_s) between factors extracted and sociodemographic data of the marine wildlife voluntourists who participated in the study

Variables	Gender (0 = male, 1 = female)	Age (years, continuous)	Education (0 = school, 1 = university)	Subject (0 = other, 1 = EBS)	Profession (0 = other, 1 = EBS)	Previous volunteering experience (0 = no, 1 = yes)	Trip duration (days, continuous)
MOT1	-0.01	-0.07	-0.03	0.08	0.03	0.13	0.00
MOT2	-0.06	0.12	0.07	-0.01	0.04	0.25	-0.06
MOT3	-0.02	-0.02	-0.05	0.05	-0.06	0.22	0.06
MOT4	-0.04	0.14	0.07	-0.07	0.04	0.22	0.07
PREF1	-0.01	-0.17	-0.15	0.14	-0.02	-0.01	0.12
PREF2	-0.09	-0.22	-0.10	0.28	0.12	-0.09	0.10
EXP1	-0.03	-0.21	-0.16	0.19	0.07	-0.08	0.14
EXP2	-0.10	-0.14	-0.11	0.09	-0.11	-0.09	0.03
EXP3	-0.08	-0.21	-0.17	0.08	0.04	-0.20	0.06
SAT1	-0.03	-0.34	-0.22	0.26	0.11	-0.22	0.13
SAT2	-0.02	-0.21	-0.13	0.15	0.02	-0.13	0.03
SAT3	-0.06	-0.23	-0.17	0.20	0.05	-0.16	0.04
ETH1	0.02	-0.19	-0.23	0.02	-0.02	-0.11	-0.07
ATT1	0.23	-0.17	-0.03	0.11	-0.07	0.01	0.07
ATT2	0.18	-0.17	-0.07	0.05	-0.15	0.00	0.05
ATT3	0.10	-0.10	-0.06	0.01	-0.09	0.10	0.04
ATT4	0.08	-0.16	-0.11	-0.02	-0.18	-0.01	-0.05
ATT5	0.14	-0.34	-0.17	0.37	0.09	-0.04	0.11
ATT6	0.02	-0.24	-0.06	0.43	0.16	0.01	0.06
ATT7	0.01	-0.09	-0.11	-0.04	-0.08	0.01	0.06

Bold values indicate statistical significance at $P \leq 0.05$.

Specifically, respondents who were younger and without higher education, together with those who had received higher education in EBS, had higher preferences for activities and higher expectations towards MVT programme quality but were also more satisfied with their MVT experience. Additionally, they had more positive attitudes towards CS as well as science and conservation career choices following their trip. Respondents who were younger and without higher education had more ecocentric preferences in MVT and had higher expectations towards MVT destination quality as well as having better perceptions of the ethical conduct of MVT organisations. Younger respondents had more positive attitudes towards education and the environment, especially females, as well as more positive attitudes towards volunteering following their trip. Respondents who did not have a profession in EBS had more positive attitudes towards the environment and volunteering following their trip, while those with a profession in EBS had more positive attitudes towards science and conservation career choices.

Finally, respondents with previous MVT experience had stronger motivations to participate in MVT based on personal development, personal well-being and social reasons. Those without any previous MVT experience had higher expectations towards MVT programme quality but were also more satisfied with it as well as the destination of their trip.

ANOVA and post-hoc tests show that nine factors had significantly different average scores between the case study sites in Southern Africa, with medium to large practical effect sizes (Cohen's *d*) (Table 5.57).

Table 5.57: ANOVA results and effect sizes comparing average factor scores between the case study sites in Southern Africa

Factors (SA n = 59, MZ n = 40, MD n = 43)	$\bar{x}$ SA	$\bar{x}$ MZ	$\bar{x}$ MD	$\bar{x}$ All	ANOVA F	ANOVA P	Post hoc (Tukey HSD)			Effect size (Cohen's d)		
							SA & MZ	SA & MD	MZ & MD	SA & MZ	SA & MD	MZ & MD
MOT1 Ecocentric	4.56	4.43	4.42	4.49	1.14	0.322	0.45	0.38	0.99	0.24**	0.29**	0.02
MOT2 Personal development	3.87	4.11	4.34	4.08	5.56	0.005**	0.22	0.00**	0.30	0.33**	0.67***	0.33**
MOT3 Personal well-being	3.23	3.25	3.14	3.21	0.28	0.756	0.99	0.81	0.77	0.02	0.13	0.15
MOT4 Social values	3.08	3.26	3.01	3.11	1.21	0.300	0.49	0.88	0.28	0.24**	0.10	0.33**
PREF1 Ecocentric	4.61	4.39	4.37	4.48	2.88	0.059	0.14	0.08	0.98	0.47***	0.39**	0.03
PREF2 Activities	4.41	4.22	4.29	4.32	1.46	0.236	0.22	0.53	0.85	0.35**	0.21	0.12
EXP1 Overall programme quality	4.61	4.23	4.35	4.42	7.32	0.001***	0.00***	0.03*	0.50	0.77***	0.53***	0.21**
EXP2 Detailed information	3.89	3.78	3.77	3.83	0.47	0.628	0.73	0.67	0.99	0.16	0.17	0.02
EXP3 Quality destination	3.66	3.66	3.76	3.69	0.38	0.688	1.00	0.72	0.75	0.00	0.15	0.18
SAT1 Destination and interaction	4.62	4.36	4.37	4.47	4.57	0.012**	0.03*	0.03*	0.99	0.57***	0.50***	0.01
SAT2 Information and education	4.53	4.10	4.17	4.30	8.19	0.000***	0.00***	0.01**	0.86	0.75***	0.65***	0.10
SAT3 Overall programme quality	4.57	4.12	4.21	4.33	8.80	0.000***	0.00***	0.01**	0.77	0.80***	0.65***	0.13
ETH1 Ethical conduct of the MVT organisation	4.69	4.40	4.39	4.51	6.40	0.002**	0.01**	0.01**	0.99	0.58***	0.65***	0.02
ATT1 Education	4.85	4.63	4.49	4.68	6.64	0.002**	0.08	0.00***	0.43	0.54***	0.67***	0.23**
ATT2 Environment	4.70	4.63	4.52	4.62	1.95	0.146	0.72	0.12	0.53	0.17	0.38**	0.22**
ATT3 Compliance and advocacy	4.51	4.32	4.30	4.39	2.65	0.074	0.17	0.10	0.98	0.36**	0.42***	0.04
ATT4 Volunteering	4.42	4.25	4.15	4.29	1.88	0.157	0.48	0.14	0.79	0.22**	0.41***	0.14
ATT5 Citizen science	4.61	4.06	4.13	4.31	13.11	0.000***	0.00***	0.00***	0.82	0.86***	0.91***	0.12
ATT6 Career choices	4.50	4.08	4.05	4.24	5.07	0.008**	0.03*	0.02*	0.99	0.49***	0.65***	0.03
ATT7 Paying for conservation	3.93	3.78	3.80	3.85	0.61	0.546	0.58	0.67	0.99	0.19	0.18	0.03

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

Effect sizes are categorised as **small (0.2), ***medium (0.5), ****large (0.8).

SA = South Africa, MZ = Mozambique, MD = Madagascar.

On the one hand, respondents in Madagascar were significantly more motivated to participate in MVT by the desire for personal development than those in South Africa. On the other hand, respondents in South Africa were driven by higher ecocentric preferences towards MVT compared to Madagascar and Mozambique. These respondents were also characterised by higher expectations towards MVT programme quality but also greater satisfaction with their MVT experience, as well as better perceptions of the ethical conduct of the MVT organisation. Finally, they had significantly more positive attitudes towards education, CS, and science and conservation career choices following their trip. These results confirm what was reported under 5.2 concerning the standalone case participants from the South African case study site (shark MVT).

ANOVA and post-hoc tests show that 11 factors, as reported in Table 5.58, had significantly different average scores between the case study sites and the online survey, although only for six of them the practical effect sizes were moderate to large. On the one hand, respondents from the online survey were significantly more motivated to participate in MVT compared to the respondents from the case study sites, although the practical effect size for ecocentric motivations was small. On the other hand, respondents from the case study sites had significantly higher expectations towards a quality destination, but were also more satisfied, especially with the destination and the MVT programme quality. It must be noted that these differences may largely depend on the time the survey was taken. Respondents from the case study sites completed the survey at the end of their trip, whereas those from the online survey did so a while after their trip.

Table 5.58: ANOVA and effect sizes comparing average factor scores between the case study sites and the online survey

Factors (Case study n = 142, Online n = 211)	$\bar{x}$ Case study sites	$\bar{x}$ Online survey	$\bar{x}$ All	ANOVA F	ANOVA P	Effect size (Cohen's d)
MOT1 Ecocentric	4.49	4.63	4.57	7.76	0.006**	0.30**
MOT2 Personal development	4.08	4.58	4.38	54.26	0.000***	0.78***
MOT3 Personal well-being	3.21	3.68	3.49	35.39	0.000***	0.64***
MOT4 Social values	3.11	3.48	3.33	20.30	0.000***	0.49***
PREF1 Ecocentric	4.48	4.43	4.45	0.56	0.455	0.08
PREF2 Activities	4.32	4.05	4.16	12.21	0.001***	0.39**
EXP1 Overall programme quality	4.42	4.21	4.29	11.25	0.001***	0.37**
EXP2 Detailed information	3.83	3.68	3.74	2.98	0.086	0.19
EXP3 Quality destination	3.69	3.39	3.51	16.88	0.000***	0.45***
SAT1 Destination and interaction	4.47	4.11	4.26	30.60	0.000***	0.61***
SAT2 Information and education	4.30	4.10	4.18	8.04	0.005**	0.31**
SAT3 Overall programme quality	4.33	4.02	4.15	18.05	0.000***	0.47***
ETH1 Ethical conduct of the MVT organisation	4.51	4.35	4.42	6.81	0.009**	0.29**
ATT1 Education	4.68	4.72	4.70	0.83	0.362	0.10
ATT2 Environment	4.62	4.64	4.63	0.09	0.765	0.03
ATT3 Compliance and advocacy	4.39	4.50	4.46	3.83	0.051	0.21**
ATT4 Volunteering	4.29	4.25	4.27	0.20	0.653	0.05
ATT5 Citizen science	4.31	4.20	4.25	1.92	0.167	0.15
ATT6 Career choices	4.24	4.06	4.13	3.53	0.061	0.21**
ATT7 Paying for conservation	3.85	3.90	3.88	0.55	0.459	0.08

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

Effect sizes are categorised as **small (0.2), ***medium (0.5), ****large (0.8).

5.8. RESULTS FROM THE CLUSTER ANALYSIS

To provide a better understanding of the segmentation of the MVT market in Southern Africa in comparison with other MVT markets, cluster analysis was performed on the data from the case study sites and the online survey. This analysis enables one to divide a market according to similar characteristics (Tan *et al.* 2018:487). It is a tool used for businesses to adjust and better communicate to the needs, values and wants of the different target markets, but it can also be used to steer tourism and destination management strategies (Tan *et al.* 2018:487).

A hierarchical cluster analysis was used to investigate the natural structure of the data by using Ward's method with squared Euclidean distances. According to Shalizi (2009:1), Ward's method is a criterion applied in hierarchical cluster analysis to merge

clusters with the smallest distances while keeping the sum of squares growth small. Cluster analysis divides the data into meaningful and useful groups or clusters (Tan *et al.* 2018:487). A cluster is a compilation of data objects that are similar to one another but different from the data objects in the other clusters (Tan *et al.* 2018:490). Hierarchical cluster analysis indicates where the objects are joined together hierarchically, with the closest being most similar and the furthest being most different (Greenacre, 2008:1).

For comparative purposes, two cluster analyses were performed, one for the case study sites and one for the online survey. The respondents were segmented based on the factors identified in 5.6. Clusters emerging from each analysis were then compared according to factor scores and sociodemographic parameters. The two main cluster analyses results were finally compared between the case study sites and the online survey. The next section discusses the cluster analysis for the case study sites. Thereafter, the cluster analysis for the online survey is discussed, and finally, the clusters for the case study sites and online survey are compared.

5.8.1. CLUSTER ANALYSIS FOR THE CASE STUDY SITES

Figure 5.24 provides a tree diagram of the cluster analysis for the case study sites (n = 142). A three-cluster solution was selected as the most discriminatory. Cluster 2 was the largest cluster with 66 respondents, followed by cluster 1, with 55 respondents, and cluster 3 which was the smallest with 21 respondents.

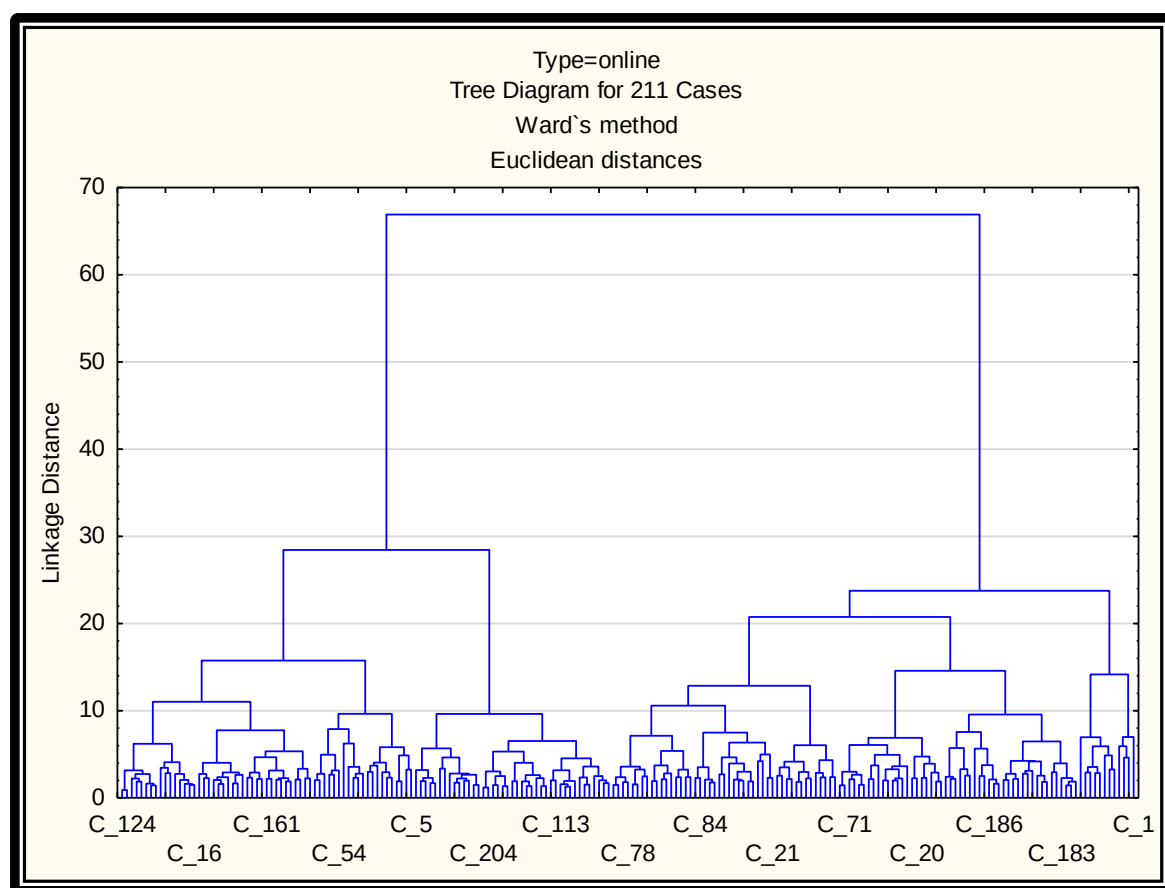


Figure 5.24: Three-cluster solution: Ward's method with squared Euclidean distance measures for the cases studies

Source: Author's compilation

Chi-square (χ^2) tests for categorical variables, and one-way ANOVA or Brown-Forsythe and Welch's tests with practical effect sizes (Cohen's d) for continuous variables, were used to identify any significant differences between the three clusters according to the sociodemographic profile of the participants. There was a statistically significant difference in the subject of study between the three clusters (Table 5.59). For clusters 1 and 2, the majority of respondents had studied EBS. Cluster 3 had similar proportions of respondents who had or had not studied EBS.

Table 5.59: Chi-square (χ^2) test comparing the case study sites clusters according to categorical sociodemographic variables

Variable	Clusters			(χ^2)	P
	Cluster 1 %	Cluster 2 %	Cluster 3 %		
Gender					
Male	35	24	43	3.11	0.21
Female	65	76	57		
Marital status					
Single	91	89	80	3.32	0.51
Married / relationship	9	8	15		
Divorced / widow	0	3	5		
Education					
School	25	39	19	4.37	0.11
University	75	61	81		
Subject of study					
Other	17	11	45	7.22	0.03*
EBS	83	89	55		
Occupation					
Student	53	65	33	6.95	0.14
Employed	38	29	52		
Unemployed	9	6	14		
Profession					
Other	63	55	67	0.74	0.69
EBS	37	45	33		
Previous volunteering experience					
Yes	78	76	67	1.10	0.58
No	22	24	33		
Previous marine volunteering experience					
Yes	38	44	52	1.30	0.52
No	62	56	48		

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

EBS = Environmental or biological sciences.

Age was significantly different between clusters (Table 5.60). Cluster 2 had the youngest with people in their mid-twenties, followed by cluster 1 with people towards their thirties, and cluster 3 with people in their mid-thirties. Spending per day during the MVT trip was also significantly different between clusters. Cluster 3 spent the most money per day (an average of over \$130), followed by cluster 2 (average of over \$100), and cluster 1 (average of under \$100 per day). Moderate effect sizes also show that trip duration differed between clusters (Table 5.60). People from cluster 2 had their trip lasting a month on average, while people from cluster 1 were travelling for about 40 days and those from cluster 3 just over three weeks.

Table 5.60: Results of ANOVA, Brown-Forsythe test, Welch's test and Cohen's *d* comparing the case study sites clusters according to continuous sociodemographic variables

Aspects	Cluster1	Cluster2	Cluster3	ANOVA <i>P</i>	Cohen's <i>d</i>		
	$\bar{x}$	$\bar{x}$	$\bar{x}$		1&2	1&3	2&3
Age (y)	28.35	26.48	36.86	^a 0.001***	0.23**	0.78***	1.05****
Time involved in volunteering (months)	56.44	40.68	44.00	0.433	0.03	0.02	0.01
Trip duration (days)	39.15	32.98	24.48	^a 0.116	0.19	0.45***	0.46***
Spending per day (\$)	92.53	111.85	134.90	^a 0.043*	0.03	0.07	0.03

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

Effect sizes are categorised as **small (0.2), ***medium (0.5), ****large (0.8).

^a Significant levels for variables were reported based on Brown-Forsythe and Welch's test rather than ANOVA, as the assumption of homogeneity of variance was violated (Levene's test of homogeneity of variances).

From Table 5.61, it is clear that factor scores differed between clusters. In summary, cluster 2 distinguished itself for the highest scores, most around or above 4 on average on a scale from 1 to 5, as opposed to cluster 3 which had the lowest, most below 4 on average. Cluster 1 tended to be similar to cluster two in most respects, with some exceptions. On the one hand, this cluster had similar motivations, preferences and expectations to cluster 2. On the other hand, concerning satisfaction with the MVT experience and the perceived ethical conduct of the MVT organisation, cluster 1 became more like cluster 3. Finally, although most attitude scores were significantly different between all three clusters, for attitudes towards volunteering, career choices, and paying for conservation, cluster 1 was more like cluster 3 as it provided scores that were below 4 on average.

Table 5.61: Results of ANOVA, Brown-Forsythe test, Welch's test and Cohen's *d* comparing the case study sites clusters according to factors

Factors	Cluster1	Cluster2	Cluster3	ANOVA <i>P</i>	Cohen's <i>d</i>		
	$\bar{x}$	$\bar{x}$	$\bar{x}$		1&2	1&3	2&3
MOT1 Ecocentric	4.53	4.78	3.82	^a 0.000***	0.74****	1.27****	1.78****
MOT2 Personal development	4.55	4.75	3.70	^a 0.000***	0.49***	1.48****	1.81****
MOT3 Personal well-being	3.56	3.78	2.88	0.000***	0.32**	0.93****	1.21****
MOT4 Social values	3.43	3.63	3.04	0.005**	0.28**	0.57***	0.85****
PREF1 Ecocentric	4.44	4.77	3.67	^a 0.000***	1.00****	1.21****	1.83****
PREF2 Activities	4.33	4.52	3.67	0.000***	0.38**	1.21****	1.61****
EXP1 Overall programme quality	4.37	4.65	3.87	^a 0.000***	0.71***	0.83****	1.39****
EXP2 Detailed information	3.71	4.06	3.40	0.000***	0.52***	0.45***	1.03****
EXP3 Quality destination	3.75	3.74	3.37	0.042*	0.02	0.68***	0.62***
SAT1 Destination and interaction	4.34	4.72	4.03	^a 0.000***	0.84****	0.62***	1.81****
SAT2 Information and education	4.13	4.61	3.78	0.000***	0.97****	0.57***	1.53****
SAT3 Overall programme quality	4.11	4.68	3.81	^a 0.000***	1.18****	0.49***	1.66****
ETH1 Ethical conduct of the MVT organisation	4.30	4.83	4.08	^a 0.000***	1.38****	0.42***	1.66****
ATT1 Education	4.56	4.91	4.22	^a 0.000***	0.88****	0.52***	1.18****
ATT2 Environment	4.50	4.88	4.13	^a 0.000***	1.10****	0.71***	1.75****
ATT3 Compliance and advocacy	4.28	4.68	3.78	0.000***	1.02****	1.16****	2.18****
ATT4 Volunteering	3.73	4.39	3.21	0.000***	1.28****	0.86****	2.07****
ATT5 Citizen science	4.15	4.82	3.52	^a 0.000***	1.91****	1.28****	2.94****
ATT6 Career choices	3.99	4.74	3.06	^a 0.000***	1.37****	1.28****	2.72****
ATT7 Paying for conservation	3.75	4.42	3.05	0.000***	1.25****	1.25****	2.61****

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

Effect sizes are categorised as **small (0.2), ***medium (0.5), ****large (0.8).

^a Significant levels for variables were reported based on Brown-Forsythe and Welch's test rather than ANOVA, as the assumption of homogeneity of variance was violated (Levene's test of homogeneity of variances).

In conclusion, the three clusters were distinguished as follows: Cluster 2 – “**young enthusiasts**”. This cluster was the largest, youngest, had a background in EBS, and yielded the highest average factor scores. Cluster 1 – “**mature voluntourists**”. This cluster was second largest, had a background in EBS but was older, took longer MVT trips and spent less money per day compared to cluster 2. While it shared similar motivations, preferences and expectations to cluster 2, cluster 1 was less satisfied and had less propensity to volunteer, pursue a career in science and pay for conservation compared to cluster two. Cluster 3 – “**neutral elders**”. This cluster was the smallest, oldest, had a higher proportion of people who did not study EBS, took the shortest MVT trips but spent the most money per day. This cluster yielded the lowest factor scores.

5.8.2. CLUSTER ANALYSIS FOR THE ONLINE SURVEY

Figure 5.25 provides a tree diagram of the cluster analysis for the online survey (n = 211). A three-cluster solution was selected as the most discriminatory. Cluster 2 was the largest cluster with 105 respondents, followed by cluster 1, with 58 respondents, and cluster 3, which was the smallest with 48 respondents.

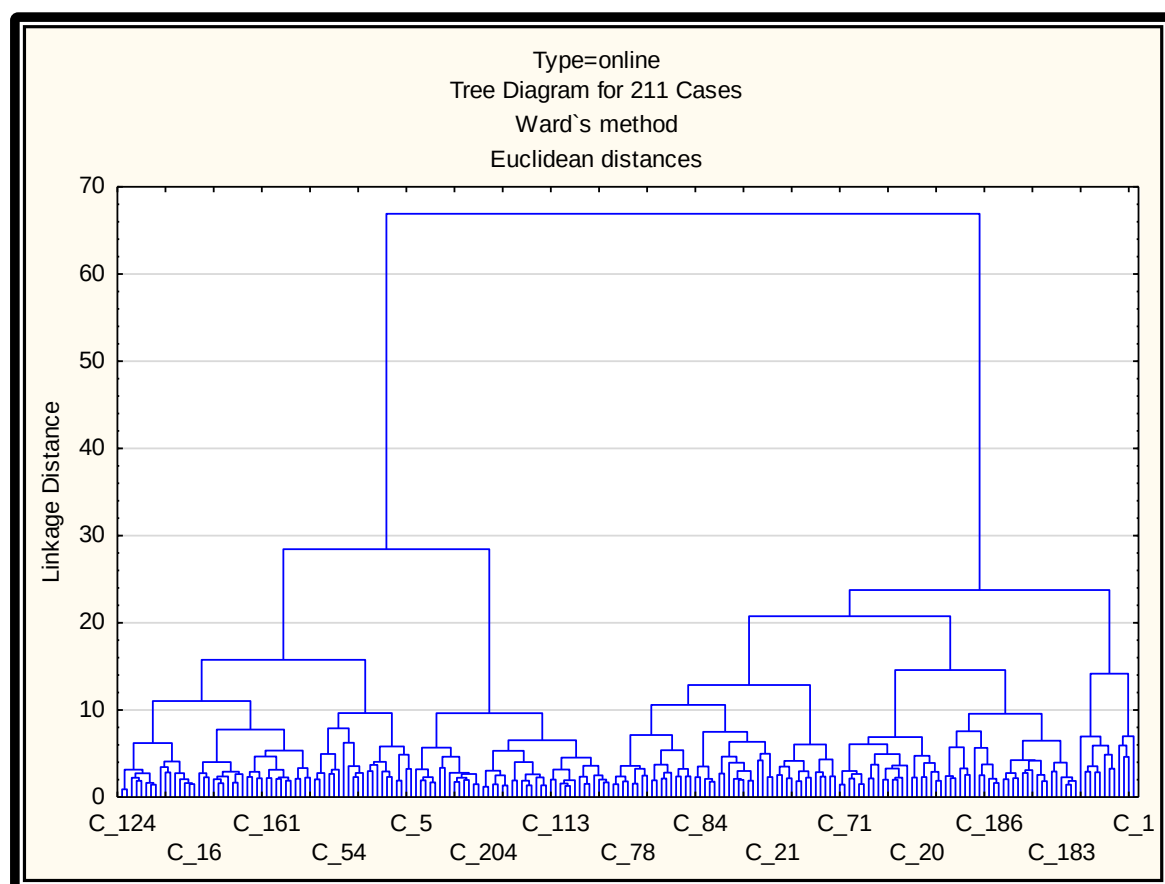


Figure 5.25: Three-cluster solution: Ward's method with squared Euclidean distance measures for the online survey

Source: Author's compilation

Chi-square (χ^2) tests for categorical variables, and one-way ANOVA or Brown-Forsythe and Welch's tests with practical effect sizes (Cohen's d) for continuous variables, were used to identify any significant differences between the three clusters according to the sociodemographic profile of the participants. There was a statistically significant difference in the subject of study between the three clusters (Table 5.62). For cluster 2, the majority of respondents had studied EBS. Cluster 1 had similar proportions of respondents who had studied or had not studied EBS. For cluster 3, the majority of respondents had not studied EBS.

Table 5.62: Chi-square (χ^2) test comparing the online survey clusters according to categorical sociodemographic variables

Variable	Clusters			(χ^2)	P
	Cluster 1 %	Cluster 2 %	Cluster 3 %		
Gender					
Male	29	30	23	0.96	0.62
Female	71	70	77		
Marital status					
Single	57	70	50	8.50	0.07
Married / relationship	38	27	38		
Divorced / widow	5	4	12		
Education					
School	14	18	21	0.95	0.62
University	86	82	79		
Subjects					
Other	47	26	65	16.60	0.00***
EBS	53	74	35		
Occupation					
Student	19	36	21	7.22	0.12
Employed	62	50	60		
Unemployed	19	13	19		
Profession					
Other	67	73	85	3.44	0.18
EBS	33	27	15		

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

EBS = Environmental or biological sciences.

Age was also significantly different between clusters (Table 5.63). Cluster 2 was the youngest with people in their early thirties, followed by cluster 1 and cluster 3 with people in their early forties. Although no statistically significant difference was encountered, cluster 1 had participated in MVT 15 times on average, as opposed to cluster 3 (five times) and cluster 2 (11 times).

Table 5.63: Results of ANOVA, Brown-Forsythe test, Welch's test and Cohen's *d* comparing the online survey clusters according to continuous sociodemographic variables

Aspects	Cluster1 $\bar{x}$	Cluster2 $\bar{x}$	Cluster3 $\bar{x}$	ANOVA <i>P</i>	Cohen's <i>d</i>		
					1&2	1&2	1&2
Age (y)	41.26	32.24	42.62	^a 0.000***	0.67***	0.08	0.72***
Times participated in MVT	15.49	11.48	5.00	0.627	0.01	0.02	0.02
Average MVT trip duration (days)	57.00	43.66	36.28	0.179	0.22**	0.32**	0.14

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

Effect sizes are categorised as **small (0.2), ***medium (0.5), ****large (0.8).

^a Significant levels for variables were reported based on Brown-Forsythe and Welch's test rather than ANOVA because the assumption of homogeneity of variance was violated (Levene's test of homogeneity of variances).

From Table 5.64, it is evident that factor scores differed between clusters. Cluster 2 distinguished itself for the highest scores of motivation, preferences, expectations and attitudes, most around or above 4 on average on a scale from 1 to 5, as opposed to cluster 1, which had the lowest scores, most below 4 on average. Cluster 3 tended to be similar to cluster 1 concerning motivations, preferences and expectations except for ecocentric motivations and preferences, which were always high. The same cluster presented the highest scores of satisfaction and perceived ethical conduct of the MVT organisation. Concerning attitude, cluster 3 was mostly similar to cluster 2.

Table 5.64: Results of ANOVA, Brown-Forsythe test, Welch's test and Cohen's *d* comparing online survey clusters according to factors

Factors	Cluster1	Cluster2	Cluster3	ANOVA <i>P</i>	Cohen's <i>d</i>		
	$\bar{x}$	$\bar{x}$	$\bar{x}$		1&2	1&3	2&3
MOT1 Ecocentric	4.25	4.78	4.60	^a 0.000***	1.04****	0.66***	0.59***
MOT2 Personal development	3.77	4.69	4.03	^a 0.000***	1.41****	0.37**	1.40****
MOT3 Personal well-being	2.86	3.82	3.35	0.000***	1.50****	0.72***	0.72***
MOT4 Social values	2.76	3.59	3.06	0.000***	1.15****	0.43***	0.75***
PREF1 Ecocentric	4.07	4.70	4.30	^a 0.000***	1.32****	0.45***	1.04****
PREF2 Activities	3.60	4.47	3.68	0.000***	1.30****	0.11	1.19****
EXP1 Overall programme quality	3.92	4.48	3.95	^a 0.000***	0.93****	0.04	0.97****
EXP2 Detailed information	3.19	4.03	3.50	0.000***	1.14****	0.39**	0.71***
EXP3 Quality destination	3.13	3.72	2.97	0.000***	0.91****	0.25**	1.29****
SAT1 Destination and interaction	3.63	4.29	4.32	^a 0.000***	1.11****	1.08****	0.05
SAT2 Information and education	3.46	4.30	4.43	0.000***	1.39****	1.69****	0.26**
SAT3 Overall programme quality	3.34	4.21	4.43	0.000***	1.40****	1.93****	0.42***
ETH1 Ethical conduct of the MVT organisation	3.89	4.41	4.76	^a 0.000***	0.81****	1.51****	0.81****
ATT1 Education	4.45	4.83	4.83	^a 0.000***	0.80****	0.83****	0.00
ATT2 Environment	4.43	4.82	4.61	^a 0.000***	0.97****	0.43***	0.44***
ATT3 Compliance and advocacy	4.12	4.65	4.62	0.000***	1.16****	1.05****	0.08
ATT4 Volunteering	3.27	4.20	4.19	0.000***	1.20****	1.27****	0.02
ATT5 Citizen science	3.70	4.63	4.34	^a 0.000***	1.50****	0.93****	0.54***
ATT6 Career choices	3.43	4.53	3.54	^a 0.000***	1.26****	0.12	1.37****
ATT7 Paying for conservation	3.54	4.24	4.13	0.000***	1.15****	0.97****	0.17

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

Effect sizes are categorised as **small (0.2), ***medium (0.5), ****large (0.8).

^a Significant levels for variables were reported based on Brown-Forsythe and Welch's test rather than ANOVA because the assumption of homogeneity of variance was violated (Levene's test of homogeneity of variances).

In conclusion, the three clusters were distinguished as follows:) Cluster 2 – “**young enthusiasts**”. This cluster was the largest, youngest, mainly had a background in EBS, had participated in MVT as many as 11 times on average, and yielded the highest or second-highest average factor scores. Cluster 1 – “**neutral elders**”. This cluster was second largest, was older and had a higher proportion of people who did not study EBS compared to cluster two, and was the one with the most MVT experience (15 times on average). It yielded the lowest average factor scores. Cluster 3 – “**satisfied elders**”. This cluster was the smallest, as old as cluster one, characterised by people who did not study EBS, and with the least previous MVT experience (five trips on average). It was similar to cluster two in terms of factor scores, but prioritised ecocentric motivations and preferences and yielded the highest scores for satisfaction and perceived ethical conduct of the MVT organisation.

5.8.3. COMPARING CLUSTERS BETWEEN THE CASE STUDY SITES AND ONLINE SURVEY

Figure 5.26 graphically illustrates the clusters that emerged for the case study sites and in the online survey. The clustering for the two carries an important difference. Specifically, participants in the online survey were intercepted with the intent of reaching people who had previous experience in MVT. This resulted in the sample having more experience compared to marine wildlife voluntourists reached at the case study sites, some of whom had never participated in volunteering or MVT before. This element likely influenced at least some of the differences in the clusters between the case study sites and the online survey.

Despite this important difference, patterns of similarity emerged between the case study sites and the online survey. The clusters named - “**young enthusiasts**” tended to be very much alike. These clusters were the largest, youngest and had a background in EBS. Average factor scores for these clusters were also very high if not highest compared to other clusters. Clusters named “**neutral elders**” were demographically similar and yielded the lowest factor scores despite having much experience in volunteering and MVT. The clusters were different in size, as the one at the case study sites was the smallest while the one for the online survey was the second largest.

Cluster 1 from the case study sites, which was named “**mature voluntourists**”, and cluster 3 from the online survey, named “**satisfied elders**”, were not similar, except for the level of maturity and sophistication shown by these clusters. The former cluster had a background in EBS, much volunteering experience, and tended to be more committed to the MVT experience in terms of time, also spending less per day. While presenting very high factor scores, this group was seemingly not as enthusiastic as the “**young enthusiasts**” group, possibly as a result of growing expectations with increasing experience. Participants in the latter cluster were much older (in their forties). While having the least background in EBS and the least MVT experience, they still had a decent level of experience with an average of five previous MVT trips lasting more than a month on average. The sophistication of this small group was characterised by how they tended to prioritise ecocentric motivations and preferences in MVT, which may have been a result of their age.

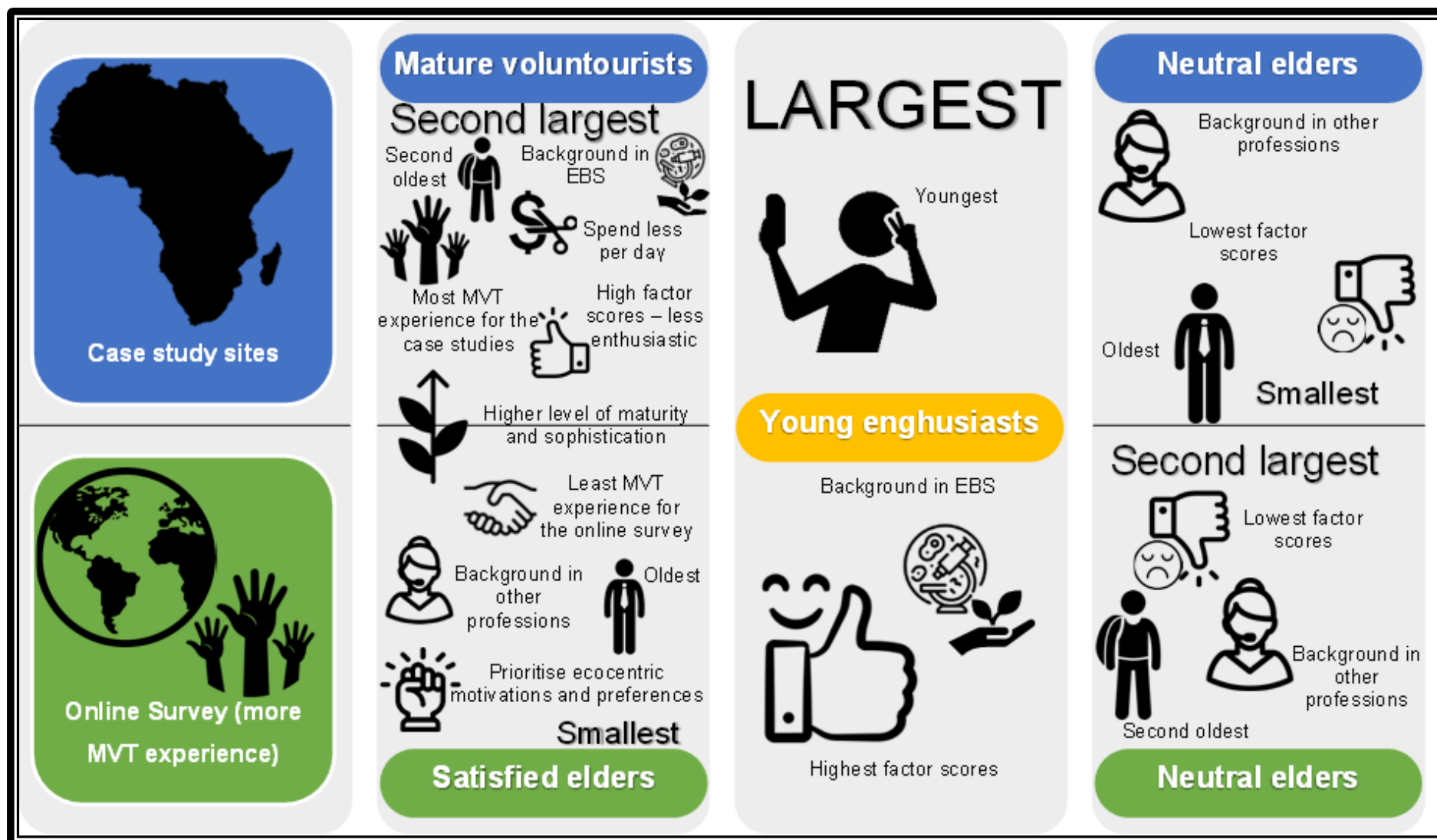


Figure 5.26: Infographic of the three clusters identified for the case study sites and online survey

Source: Author's compilation

5.9. RESULTS FROM STRUCTURAL EQUATION MODELLING

The data collected in this study from the marine wildlife voluntourists, both at the case study sites and the online survey, were pooled together to test a series of theoretical models containing multiple hypotheses via SEM. According to Pallant (2010:104), SEM is a technique used to test several models concerning the interrelationships among a set of variables. SEM allows one to evaluate the significance of each independent variable in the models, test the overall fitness of the model to the data, and compare alternative models (Pallant, 2010:104). Merging the data sets (case study sites and online survey) could be contested. However, it was considered appropriate here as a means to enlarge the database and strengthen the final results of the SEM, which tested relevant hypotheses for the management of MVT in general and not exclusively in the context of the Southern African case study sites. The Analysis of Moment Structure (AMOS) was used to test the models (using the maximum likelihood estimation technique as recommended by Olsson *et al.* 2000:557) and perform SEM.

The models and hypotheses formulated here were based on the influential role, in the marine environment and wildlife tourism, of travel motivations and expectations on various outcome variables such as satisfaction and environmental attitudes, as well as the role of satisfaction itself (see Chapter 3). These influences can be significant in the context of MVT. For example, certain types of motivations to participate in MVT may have significant positive influences on satisfaction or attitude towards the environment or volunteering in future. Similarly, satisfaction may play a role in affecting attitudes, including a mediating role between motivations or expectations and attitudes. Expectations may play the opposite role of motivations on satisfaction, with higher expectations resulting in lower levels of satisfaction. Perceived ethical conduct of the MVT organisation can be considered partly similar to satisfaction with MVT and as a construct, it may be influenced by motivations and expectations. It may influence attitudes, or it may mediate the relationship between motivations or expectations and attitudes.

Based on the literature (Chapter 3), several theoretical models were developed and tested. Ultimately eight models were selected, including the following independent constructs: motivation to participate in MVT and expectations towards MVT. These

were hypothesised to influence three dependent constructs: satisfaction with MVT, perceived ethical conduct of the MVT organisation and attitudes of the participants. It was also postulated that satisfaction with MVT and perceived ethical conduct of the MVT organisation mediated the effect of motivation to participate in MVT and expectations towards MVT on attitudes. Reliability tests showed that motivations, expectations, satisfaction and attitudes had internal consistency as constructs, and this was considered while performing SEM. Perceived ethical conduct of the MVT organisation constituted a single factor. The two factors for preferences in MVT were not included in the models for two reasons. First, the factors had low reliability coefficients (α) below 0.7 (PREF1: ecocentric = 0.655 and PREF2: activities = 0.548). Second, being preference factors similar to motivations to participate in MVT, they were considered redundant. Removing these factors from the models did not result in a relevant drop in the % variance explained (Squared Multiple Correlation) by the models.

Figures 5.27-5.34 depict the theoretical models tested in this study. The first four models (Figures 5.27-5.30 in blue – models 1-4) tested the influence of each factor in the independent constructs motivations and expectations on the dependent constructs satisfaction, perceived ethical conduct of the MVT organisation, and attitudes. No mediation effect was considered in these four models. The second four models (Figures 5.31-5.34 in green – models 5-8), tested mediation effects of satisfaction and perceived ethical conduct of the MVT organisation, and test the influence of the independent constructs as a whole, and not underlying factors, on the dependent constructs. The hypotheses within each model were as follows:

Figure 5.27, Model 1:

- H1.** Motivations to participate in MVT significantly influenced satisfaction with MVT.
- H2.** Motivations to participate in MVT significantly influenced attitudes.
- H3.** Satisfaction with MVT significantly influenced attitudes.

Figure 5.28, Model 2:

- H4.** Expectations towards MVT significantly influenced satisfaction with MVT.
- H5.** Expectations towards MVT significantly influenced attitudes.
- H6.** Satisfaction with MVT significantly influenced attitudes.

Figure 5.29, Model 3:

H7. Motivations to participate in MVT significantly influenced the perceived ethical conduct of the MVT organisation.

H8. Motivations to participate in MVT significantly influenced attitudes.

H9. Perceived ethical conduct of the MVT organisation significantly influenced attitudes.

Figure 5.30, Model 4:

H10. Expectations towards MVT significantly influenced the perceived ethical conduct of the MVT organisation.

H11. Expectations towards MVT significantly influenced attitudes.

H12. Perceived ethical conduct of the MVT organisation significantly influenced attitudes.

Figure 5.31, Model 5:

H13. Motivations to participate in MVT significantly influenced satisfaction.

H14. Motivations to participate in MVT significantly influenced attitudes.

H15. Satisfaction with MVT mediated the relationship between motivations to participate in MVT and attitudes.

Figure 5.32, Model 6:

H16. Expectations towards MVT significantly influenced satisfaction.

H17. Expectations towards MVT significantly influenced attitudes.

H18. Satisfaction with MVT mediated the relationship between expectations towards MVT and attitudes.

Figure 5.33, Model 7:

H19. Motivations to participate in MVT significantly influenced the perceived ethical conduct of the MVT organisation.

H20. Motivations to participate in MVT significantly influenced attitudes.

H21. The perceived ethical conduct of the MVT organisation mediated the relationship between motivations to participate in MVT and attitudes.

Figure 5.34, Model 8:

H22. Expectations towards MVT significantly influenced the perceived ethical conduct of the MVT organisation.

H23. Expectations towards MVT significantly influenced attitudes.

H24. Perceived ethical conduct of the MVT organisation mediated the relationship between expectations towards MVT and attitudes.

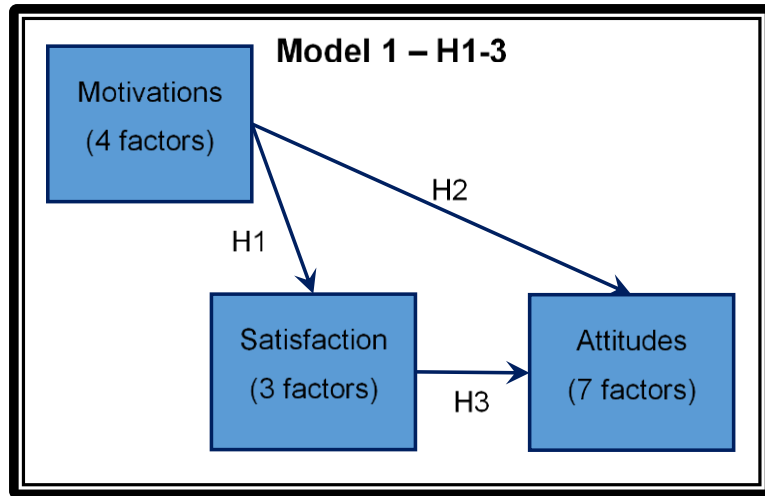


Figure 5.27: Model 1 with hypotheses 1-3

Source: Author's compilation

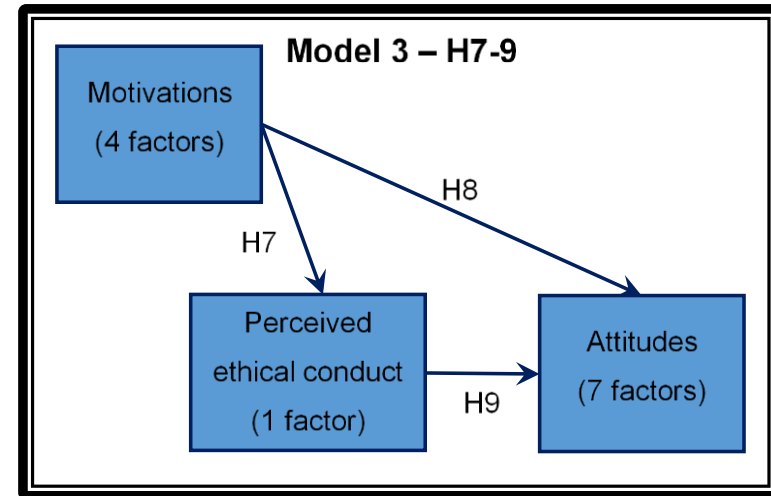


Figure 5.29: Model 3 with hypotheses 7-9

Source: Author's compilation

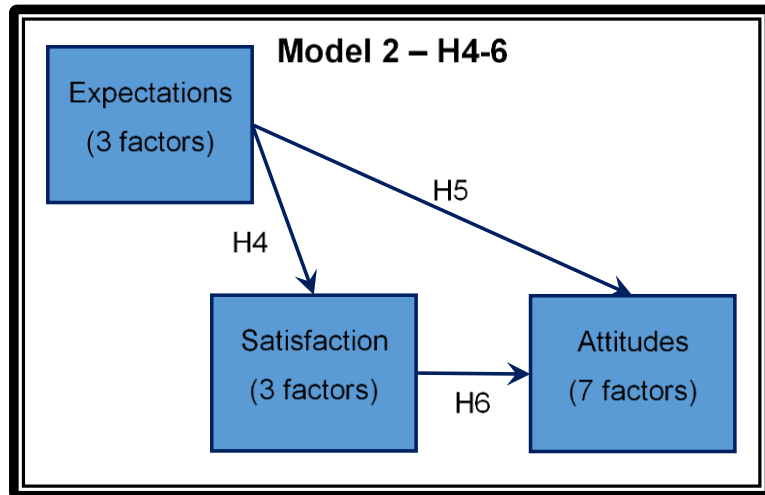


Figure 5.28: Model 2 with hypotheses 4-6

Source: Author's compilation

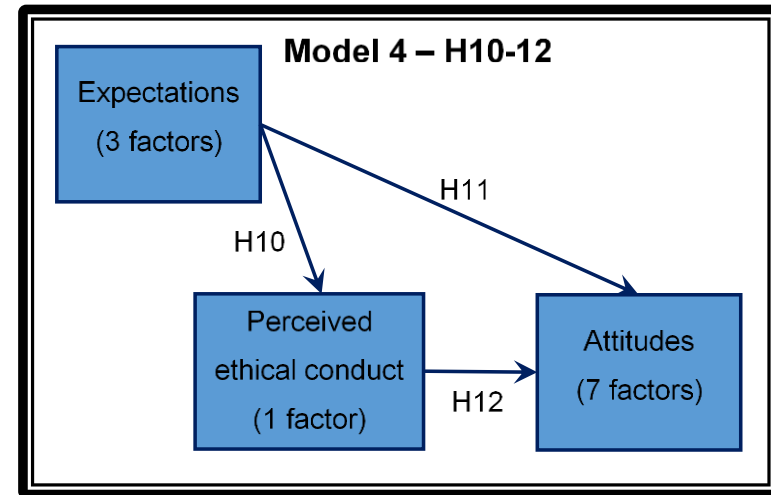


Figure 5.30: Model 4 with hypotheses 10-12

Source: Author's compilation

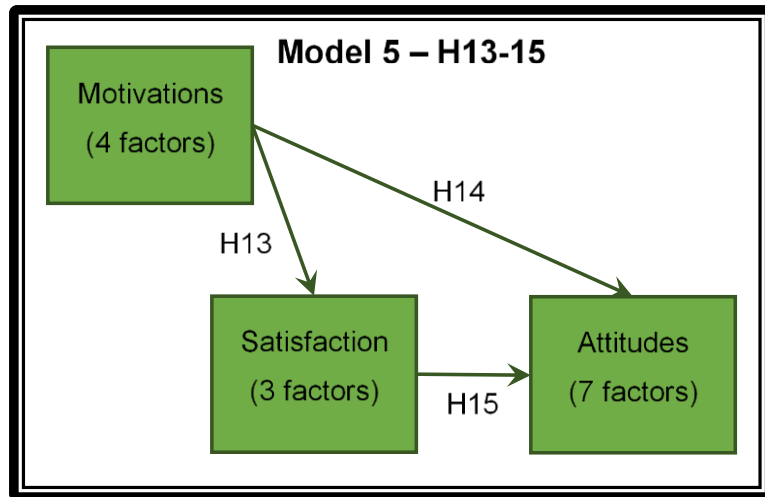


Figure 5.31: Model 5 with hypotheses 13-15

Source: Author's compilation

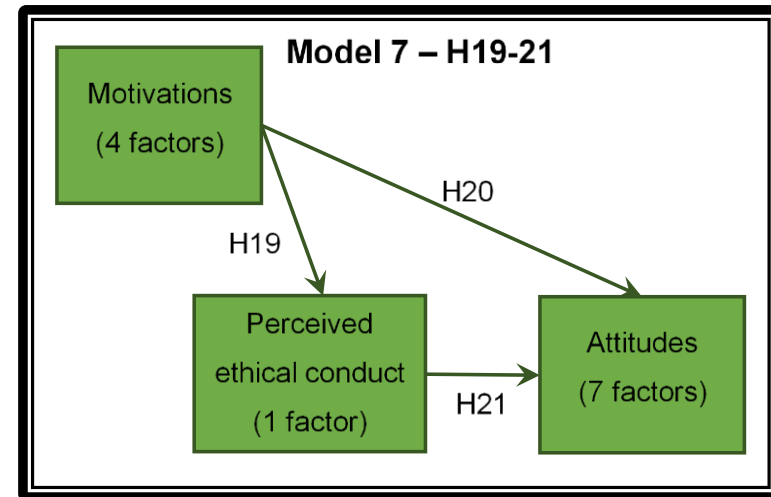


Figure 5.33: Model 7 with hypotheses 19-21

Source: Author's compilation

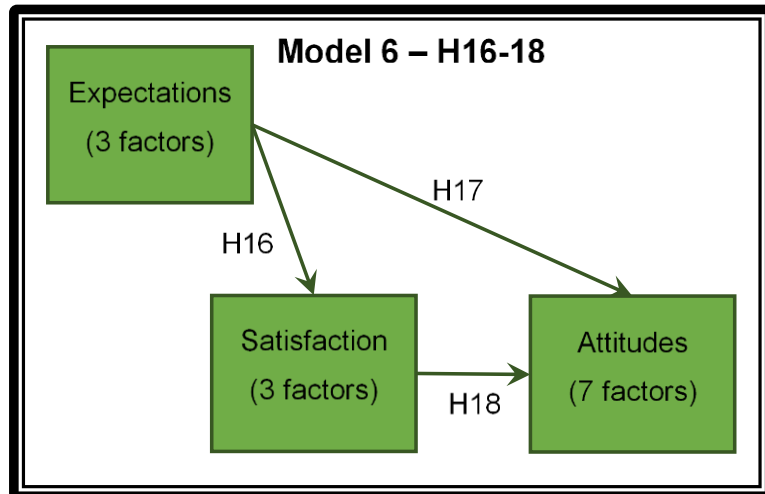


Figure 5.32: Model 6 with hypotheses 16-18

Source: Author's compilation

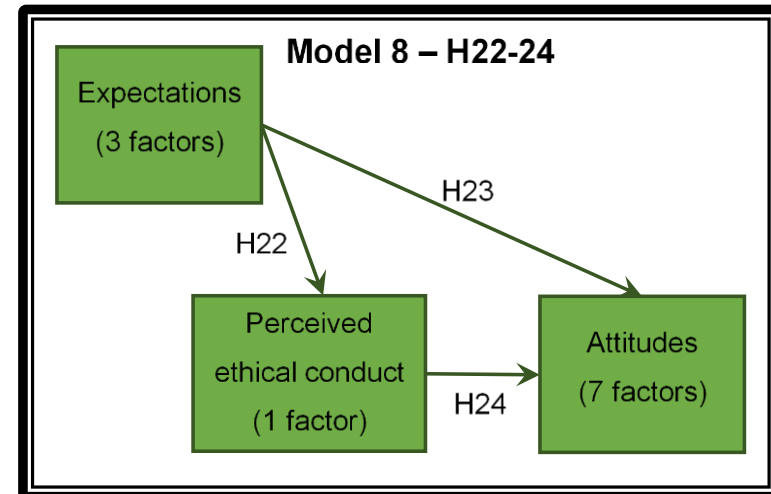


Figure 5.34: Model 8 with hypotheses 22-24

Source: Author's compilation

Table 5.65 shows the total percentage variance in the data explained by models 1-8, as well as the models' goodness of fit. It can be seen that, in general, models that focused on motivation as an independent variable tended to explain higher total percentage variance in the data compared to models that focused on the influence of expectation. Models that included the perceived ethical conduct of the MVT organisation also explained higher total percentage variance in the data compared to models that focused on satisfaction. Thus, motivations and perceived ethical conduct of the MVT organisation seemingly played an important role in explaining data variation.

Table 5.65: Total % variance explained and goodness of fit values for SEM testing models 1-8

	% Variance explained	Chi-square (χ^2)/df	CFI	RMSEA
Model 1	56	3.764	0.741	0.089
Model 2	32	3.615	0.814	0.086
Model 3	62	3.472	0.727	0.084
Model 4	41	3.435	0.785	0.083
Model 5	57	6.745	0.830	0.128
Model 6	32	4.519	0.894	0.100
Model 7	64	5.641	0.785	0.115
Model 8	42	4.655	0.826	0.102

CFI = Comparative fit index, RMSEA = Root mean square error of approximation.

Overall, the models that did not include mediation effects (models 1-4) had a good fit, while those that included mediation effects (models 5-8) only had a satisfactory fit. The chi-square (χ^2) divided by the degrees of freedom was within the recommended limits of 2.00 and 5.00 (Tabachnick & Fidell, 2007:20; Wheaton, Muthen, Alwin & Summers, 1977:84) in all cases except for models 5 and 7. The comparative fit index (CFI) was close to 0.95 in all instances, suggesting a satisfactory fit (Hu & Bentler, 1999:1). Finally, the root mean square error of approximation (RMSEA) was always lower than the cut-off limit of 0.10 for models 1-4, as recommended (Blunch, 2008:20), while it reached or just exceeded this value in models 5-8. According to the standardised β -coefficients displayed in Table 5.66, for models 1-4 it is evident that all hypotheses were either partly or fully confirmed except for H7 and H10, which were fully disconfirmed.

Table 5.66: Standardised regression weights (β -coefficients) for estimated structural models testing models 1–4.

			Regression weights (β)	P
Model 1				
H1				
MOT1 ecocentric	→	SAT	-0.003	0.975
MOT2: Personal development	→	SAT	0.246	0.021*
MOT3: Personal well-being	→	SAT	0.134	0.131
MOT4: Social values	→	SAT	0.143	0.171
H2				
MOT1 ecocentric	→	ATT	0.484	***
MOT2: Personal development	→	ATT	0.160	0.093
MOT3: Personal well-being	→	ATT	0.103	0.186
MOT4: Social values	→	ATT	-0.048	0.595
H3				
SAT	→	ATT	0.253	***
Model 2				
H4				
EXP1: Overall programme quality	→	SAT	0.228	0.012**
EXP2: Detailed information	→	SAT	0.063	0.504
EXP3: Quality destination	→	SAT	0.008	0.909
H5				
EXP1: Overall programme quality	→	ATT	0.348	***
EXP2: Detailed information	→	ATT	0.006	0.949
EXP3: Quality destination	→	ATT	-0.004	0.957
H6				
SAT	→	ATT	0.356	***
Model 3				
H7				
MOT1 ecocentric	→	ETH	0.176	0.077
MOT2: Personal development	→	ETH	-0.015	0.893
MOT3: Personal well-being	→	ETH	0.054	0.570
MOT4: Social values	→	ETH	0.168	0.139
H8				
MOT1 ecocentric	→	ATT	0.428	***
MOT2: Personal development	→	ATT	0.218	0.017*
MOT3: Personal well-being	→	ATT	0.116	0.121
MOT4: Social values	→	ATT	-0.070	0.425
H9				
ETH	→	ATT	0.357	***
Model 4				
H10				
EXP1: Overall programme quality	→	ETH	0.079	0.404
EXP2: Detailed information	→	ETH	0.037	0.710
EXP3: Quality destination	→	ETH	0.030	0.690
H11				
EXP1: Overall programme quality	→	ATT	0.387	***
EXP2: Detailed information	→	ATT	0.013	0.884
EXP3: Quality destination	→	ATT	-0.015	0.820

H12				
ETH	→	ATT	0.469	***

*Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.*

MOT = motivation to participate in MVT, SAT = satisfaction with MVT, ATT = attitudes, EXP = expectations towards MVT, ETH = perceived ethical conduct of the MVT organisation.

In general, the following conclusions can be drawn from models 1-4: 1) personal development motivations had a significant positive influence on satisfaction; 2) ecocentric motivations, personal development motivations and satisfaction had a significant positive influence on attitudes; 3) expectations towards the overall MVT programme quality had a significant positive influence on satisfaction and attitudes; 4) perceived ethical conduct of the MVT organisation had a significant positive influence on attitudes; and 5) motivations and expectations in MVT did not have a significant influence on the perceived ethical conduct of the MVT organisation. For models 5-8, all hypotheses were confirmed, as well as partial mediation effects (Table 5.67).

Table 5.67: Standardised regression weights (β -coefficients) for estimated structural models testing models 5–8.

Regression weights (β)				P
Model 5				
H13				
MOT	→	SAT	0.448	***
H14				
MOT	→	ATT	0.677	***
H15 (Standardised Indirect Effect = 0.068, 9.12% partial mediation)				
SAT	→	ATT	0.152	0.007**
Model 6				
H16				
EXP	→	SAT	0.298	***
H17				
EXP	→	ATT	0.361	***
H18 (Standardised Indirect Effect = 0.103, 22.2% partial mediation)				
SAT	→	ATT	0.346	***
Model 7				
H19				
MOT	→	ETH	0.321	***
H20				
MOT	→	ATT	0.649	***
H21 (Standardised Indirect Effect = 0.098, 13.1% partial mediation)				
ETH	→	ATT	0.304	***
Model 8				
H22				
EXP	→	ETH	0.139	0.036*
H23				
EXP	→	ATT	0.398	***
H24 (Standardised Indirect Effect = 0.064, 13.9% partial mediation)				
ETH	→	ATT	0.460	***

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

MOT = motivation to participate in MVT, SAT = satisfaction with MVT, ATT = attitudes, EXP = expectations towards MVT, ETH = perceived ethical conduct of the MVT organisation.

Specifically, all the hypothesised influences in the models were positive. From these results, it can be concluded that motivations and expectations were important constructs positively influencing satisfaction, the perceived ethical conduct of the MVT organisation and the attitudes of the participants. Additionally, both satisfaction and perceived ethical conduct of the MVT organisation partially mediated the relationship between motivations and attitudes, and expectations and attitudes.

5.10. DETERMINANTS OF SATISFACTION AND ATTITUDE

After performing SEM, the researcher explored the determinants of single factors constituting composite dependent constructs, satisfaction (three factors) and attitude (seven factors). For this purpose, a stepwise backward multiple regression analysis was performed. Stepwise regression is a method of multiple regression where predictor variables are captured in a model based on a statistical criterion (Field, 2016:723). In backward stepwise regressions, the predictors in the model are assessed to determine which one should be removed; the regressions start with all the predictors and those that contribute the least are removed in a stepwise manner (Field, 2016:723).

There were ten dependent variables (scaled variables), thus ten regression models. Perceived ethical conduct of the MVT organisation was a construct characterised by a single factor, and thus was not included as a dependent variable in the models, but was not excluded and was incorporated as an independent variable. This regression analysis made it possible to include sociodemographic variables as independent variables. Table 5.68 lists the independent and dependent variables used in the regression models. Only variables that displayed significant r_s with the dependent variables were included as independent variables in the models. Variance inflation factors (VIF) were calculated to check for multicollinearity between the independent variables, and whether this would affect the results of the regression analysis in a way that it could not be performed. VIF values were all below the cut-off value of 5, which excluded multicollinearity (Tabachnick & Fidell, 2007:20).

Table 5.68: Questions and coding for the variables used in the models

Question description	Coding
Gender	0 = male, 1 = female
Education	0 = school, 1 = university
Subject of study	0 = other, 1 = Environmental or biological sciences
Profession	0 = other, 1 = Environmental or biological sciences
Age	Open question
Previous MVT experiences	0 = no, 1 = yes
Trip duration	Open question
MOT1: Ecocentric	Categorical: 1 = not at all important, 5 = very important
MOT2: Personal development	Categorical: 1 = not at all important, 5 = very important
MOT3: Personal well-being	Categorical: 1 = not at all important, 5 = very important
MOT4: Social values	Categorical: 1 = not at all important, 5 = very important
PREF1: Ecocentric	Categorical: 1 = not at all important, 5 = very important
PREF2: Activities	Categorical: 1 = not at all important, 5 = very important
EXP1: Overall programme quality	Categorical: 1 = not at all important, 5 = very important
EXP2: Detailed information	Categorical: 1 = not at all important, 5 = very important
EXP3: Quality destination	Categorical: 1 = not at all important, 5 = very important
SAT1: Destination and interactions	Categorical: 1 = totally dissatisfied, 5 = totally satisfied
SAT2: Information and education	Categorical: 1 = totally dissatisfied, 5 = totally satisfied
SAT3: Overall programme quality	Categorical: 1 = totally dissatisfied, 5 = totally satisfied
ETH1: Ethical conduct of the MVT organisation	Categorical: 1 = strongly disagree, 5 = strongly agree
ATT1: Education	Categorical: 1 = strongly disagree, 5 = strongly agree
ATT2: Environment	Categorical: 1 = strongly disagree, 5 = strongly agree
ATT3: Compliance and advocacy	Categorical: 1 = strongly disagree, 5 = strongly agree
ATT4: Volunteering	Categorical: 1 = strongly disagree, 5 = strongly agree
ATT5: Citizen Science	Categorical: 1 = strongly disagree, 5 = strongly agree
ATT6: Career choices	Categorical: 1 = strongly disagree, 5 = strongly agree
ATT7: Paying for conservation	Categorical: 1 = strongly disagree, 5 = strongly agree

Table 5.69 shows the R Square (R^2) and the adjusted R^2 for the regression models. R^2 gives the proportion of variance in satisfaction and attitude that was explained by the predictors included in the models. According to Tabachnick and Fidell (2007:20), an R^2 of 25% or larger can be considered practically significant. The adjusted R^2 , which should be as close as possible to the R^2 , indicates the amount of variance in the outcome that would be reported if the model was derived from the population from which the sample was taken (Field, 2016:723). It also takes into consideration the number of explanatory variables in the model, indicating how well a regression model generalises. Table 5.69 shows that the R^2 was very high for most of the models, and the adjusted R^2 was similar to the R^2 , which means that the models explained a large variation in the data. The only model with a medium R^2 and adjusted R^2 was model 10.

Table 5.69: R^2 and adjusted R^2 for the models 1-10

Models	Dependant variable	R^2 (%)	Adjusted R^2 (%)
Model 1	SAT1: Destination and interactions	33	32
Model 2	SAT2: Information and education	47	46
Model 3	SAT3: Overall programme quality	48	47
Model 4	ATT1: Education	29	27
Model 5	ATT2: Environment	26	25
Model 6	ATT3: Compliance and advocacy	30	29
Model 7	ATT4: Volunteering	34	32
Model 8	ATT5: Citizen science	38	37
Model 9	ATT6: Career choices	48	47
Model 10	ATT7: Paying for conservation	23	22

R^2 and Adjusted R^2 are categorised as small (1%); medium (10%); large (25%).

Table 5.70 shows the results of ANOVAs investigating whether the overall models were significant predictors of the outcome (dependent) variables, which was the case in all instances.

Table 5.70: ANOVA results for the stepwise backward regression models 1-10

Models	Dependant variable	df Regression	df Residual	ANOVA F	ANOVA P
Model 1	SAT1: Destination and interactions	5	253	25.108	0.000***
Model 2	SAT2: Information and education	4	254	55.235	0.000***
Model 3	SAT3: Overall programme quality	4	254	57.777	0.000***
Model 4	ATT1: Education	6	344	22.892	0.000***
Model 5	ATT2: Environment	4	251	22.152	0.000***
Model 6	ATT3: Compliance and advocacy	3	349	49.034	0.000***
Model 7	ATT4: Volunteering	4	252	31.704	0.000***
Model 8	ATT5: Citizen science	5	253	30.924	0.000***
Model 9	ATT6: Career choices	2	185	84.996	0.000***
Model 10	ATT7: Paying for conservation	3	334	32.548	0.000***

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

Table 5.71 shows the regression coefficients for model 1, which had satisfaction with the destination and interactions (SAT1) as the dependent variable. This was significantly positively determined by studying EBS, motivations to participate in MVT for personal well-being, and positive perceptions of the ethical conduct of the MVT organisation. It was significantly negatively determined by previous experiences in MVT.

Table 5.71: Results of the stepwise backward regression model 1

	Unstandardised Coefficients		Standardised Coefficients β	t statistic	P
	B	SE			
(Constant)	1.811	0.316		5.734	0.000***
Subject of study	0.200	0.078	0.152	2.573	0.011**
Previous MVT experiences	-0.234	0.080	-0.154	-2.908	0.004**
MOT2: Personal development	0.109	0.059	0.119	1.839	0.067
MOT3: Personal well-being	0.170	0.048	0.209	3.562	0.000***
ETH1: Ethical conduct of the MVT organisation	0.320	0.054	0.317	5.886	0.000***

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

Tables 5.72 and 5.73 show the regression coefficients for models 2 and 3, which had satisfaction with information and education, and satisfaction with overall MVT programme quality, as dependent variables. These were significantly positively determined by motivations to participate in MVT for personal development and personal well-being, and positive perceptions of the ethical conduct of the MVT organisation. Satisfaction with information and education was also positively determined by expectations towards detailed information.

Table 5.72: Results of the stepwise backward regression model 2

	Unstandardised Coefficients		Standardised Coefficients β	t statistic	P
	B	SE			
(Constant)	0.213	0.281		0.756	0.450
MOT2: Personal development	0.144	0.050	0.150	2.865	0.005**
MOT3: Personal well-being	0.135	0.046	0.156	2.960	0.003**
EXP2: Detailed information	0.082	0.041	0.098	1.976	0.049*
ETH1: Ethical conduct of the MVT organisation	0.579	0.051	0.542	11.382	0.000***

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

Table 5.73: Results of the stepwise backward regression model 3

	Unstandardised Coefficients		Standardised Coefficients β	t statistic	P
	B	SE			
(Constant)	0.135	0.284		0.474	0.636
Subject of study	0.154	0.076	0.105	2.024	0.044*
MOT2: Personal development	0.145	0.058	0.144	2.518	0.012**
MOT3: Personal well-being	0.164	0.047	0.181	3.502	0.001***
ETH1: Ethical conduct of the MVT organisation	0.608	0.053	0.544	11.550	0.000***

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

Table 5.74 shows the regression coefficients for model 4, which had attitude towards education as the dependent variable. Gender and age were significant determinants of this attitude. Specifically, females and younger tourists had a more positive attitude towards education. Additionally, this attitude was determined positively by ecocentric motivations to participate in MVT, ecocentric preferences in MVT, and positive perceptions of the ethical conduct of the MVT organisation. It was determined negatively by social motivations to participate in MVT.

Table 5.74: Results of the stepwise backward regression model 4

	Unstandardised Coefficients		Standardised Coefficients β	t statistic	P
	B	SE			
(Constant)	2.393	0.260		9.215	0.000***
Gender	0.126	0.049	0.120	2.580	0.010**
Age	-0.005	0.002	-0.132	-2.794	0.005**
MOT1: Ecocentric	0.269	0.059	0.280	4.554	0.000***
MOT4: Social values	-0.104	0.031	-0.169	-3.377	0.001***
PREF1: Ecocentric	0.171	0.055	0.191	3.118	0.002**
ETH1: Ethical conduct of the MVT organisation	0.166	0.039	0.205	4.295	0.000***

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

Table 5.75 shows the regression coefficients for model 5, which had attitude towards the environment as the dependent variable. Age was a significant determinant. Specifically, younger tourists had a more positive attitude towards the environment. This attitude was also determined positively by ecocentric motivations to participate in MVT and positive perceptions of the ethical conduct of the MVT organisation. It was determined negatively by social motivations to participate in MVT.

Table 5.75: Results of the stepwise backward regression model 5

	Unstandardised Coefficients		Standardised Coefficients β	t statistic	P
	B	SE			
(Constant)	2.367	0.321		7.382	0.000***
Age	-0.007	0.002	-0.182	-3.282	0.001***
MOT1: Ecocentric	0.387	0.063	0.364	6.153	0.000***
MOT4: Social values	-0.080	0.039	-0.121	-2.046	0.042*
ETH1: Ethical conduct of the MVT organisation	0.228	0.049	0.264	4.686	0.000***

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

Table 5.76 shows the regression coefficients for model 6, which had attitude towards compliance and advocacy as the dependent variable. This attitude was determined positively by ecocentric motivations to participate in MVT, ecocentric preferences in MVT, and positive perceptions of the ethical conduct of the MVT organisation.

Table 5.76: Results of the stepwise backward regression model 6

	Unstandardised Coefficients		Standardised Coefficients	t statistic	P
	B	SE	β		
(Constant)	1.523	0.247		6.168	0.000***
MOT1: Ecocentric	0.365	0.059	0.366	6.146	0.000***
PREF1: Ecocentric	0.134	0.055	0.144	2.419	0.016*
ETH1: Ethical conduct of the MVT organisation	0.151	0.039	0.179	3.875	0.000***

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

Table 5.77 shows the regression coefficients for model 7, which had attitude towards volunteering as the dependent variable. Notably, not having a profession in the EBS positively influenced this attitude. Additionally, ecocentric motivations to participate in MVT, expectations towards detailed information, and positive perceptions of the ethical conduct of the MVT organisation, positively determined attitude towards volunteering.

Table 5.77: Results of the stepwise backward regression model 7

	Unstandardised Coefficients		Standardised Coefficients	t statistic	P
	B	SE	β		
(Constant)	-0.234	0.416		-0.563	0.574
Profession	-0.199	0.083	-0.123	-2.382	0.018*
MOT1: Ecocentric	0.370	0.087	0.245	4.237	0.000***
EXP2: Detailed information	0.134	0.054	0.140	2.501	0.013**
ETH1: Ethical conduct of the MVT organisation	0.473	0.065	0.385	7.261	0.000***

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

Table 5.78 shows the regression coefficients for model 8, which had attitude towards CS as the dependent variable. Gender was a significant determinant, with females being more inclined to participate. This attitude was also determined positively by ecocentric motivations to participate in MVT, but also motivations for personal development and personal well-being, as well as positive perceptions of the ethical conduct of the MVT organisation.

Table 5.78: Results of the stepwise backward regression model 8

	Unstandardised Coefficients		Standardised Coefficients β	t statistic	P
	B	SE			
(Constant)	0.191	0.372		0.513	0.608
Gender	0.225	0.074	0.151	3.036	0.003**
MOT1: Ecocentric	0.207	0.089	0.147	2.337	0.020*
MOT2: Personal development	0.305	0.066	0.297	4.616	0.000***
MOT3: Personal well-being	0.149	0.052	0.162	2.880	0.004**
ETH1: Ethical conduct of the MVT organisation	0.266	0.059	0.234	4.497	0.000***

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

Table 5.79 shows the regression coefficients for model 9, which had attitude towards career choices as the dependent variable. Understandably, having a background in EBS, and motivations to participate in MVT for personal development, were significant positive determinants of this attitude.

Table 5.79: Results of the stepwise backward regression model 9

	Unstandardised Coefficients		Standardised Coefficients β	t statistic	P
	B	SE			
(Constant)	0.931	0.302		3.079	0.002**
Subject of study	0.510	0.116	0.269	4.395	0.000***
MOT2: Personal development	0.648	0.076	0.518	8.484	0.000***

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

Table 5.80 shows the regression coefficients for model 10, which had attitude towards paying for conservation as the dependent variable. The only determinants of this variable were ecocentric motivations to participate in MVT, ecocentric preferences in MVT, and positive perceptions of the ethical conduct of the MVT organisation.

Table 5.80: Results of the stepwise backward regression model 10

	Unstandardised Coefficients		Standardised Coefficients β	t statistic	P
	B	SE			
(Constant)	0.394	0.368		1.069	0.286
MOT1: Ecocentric	0.392	0.089	0.283	4.400	0.000***
PREF1: Ecocentric	0.173	0.083	0.133	2.078	0.038*
ETH1: Ethical conduct of the MVT organisation	0.239	0.058	0.204	4.101	0.000***

Statistically significant differences: * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$.

The main conclusion from the regression models (see Figure 5.35) is that specific variables ultimately determined the dependent variables under consideration, with some variables playing a central role. Firstly, in all but one case (attitude towards career choices), the perceived ethical conduct of the MVT organisation was a significant positive determinant of satisfaction and attitude factors. Secondly, motivations to participate in MVT for personal development and personal well-being were crucial positive determinants of satisfaction factors, which centred on destination quality, information and education quality, and overall MVT programme quality. Thirdly, ecocentric motivations, sometimes accompanied by ecocentric preferences in MVT, were key positive determinants of all but one (attitude towards career choices) attitude factors. Instead, motivations to participate in MVT for social reasons had a negative influence on attitudes towards education and the environment. Lastly, various satisfaction and attitude factors tended to be determined by variables that would be expected to be influential. For example, satisfaction with information and education was determined by expectations towards detailed information; or attitude towards career choices was determined by having studied EBS and participating in MVT for personal development purposes.

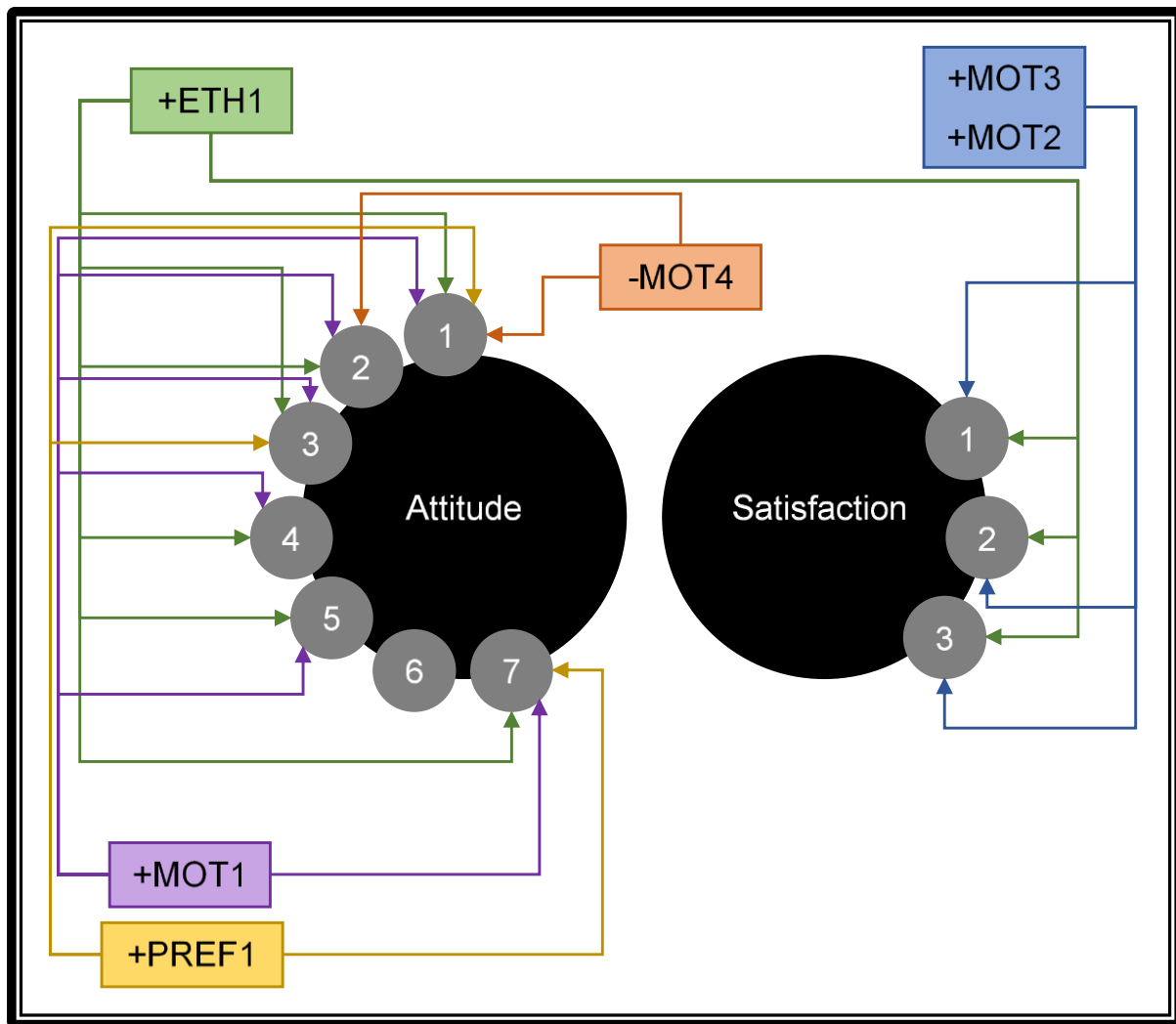


Figure 5.35: Conceptual diagram on the determinants of satisfaction and attitude

Source: Author's compilation

5.11. CONCLUSION

The purpose of this chapter was to achieve objective 3, by presenting and describing the scientific results aimed at breaking down the structure of MVT in Southern Africa, including an in-depth analysis of both demand and supply sides at the three case study sites (South Africa, Mozambique and Madagascar). The results of this study assisted in filling the gaps that were identified in the literature on MVT in Southern Africa and around the globe. Firstly, the descriptive results of the voluntourists in Southern Africa and around the globe were closely related, with a few minor differences (such as occupation, age, previous MVT experience, and channel of introduction). Overall, the voluntourists were mostly females that originated from Europe, had a background in EBS, preferred ecotourism that focuses on nature, wildlife and water-based activities, and had an average trip duration of around a month.

Secondly, the qualitative results for the supply side indicated that the staff were mostly male, between the age of 30 and late 40, originated from the country where the organisations are based, possess higher education qualifications or experience in marine conservation, and have worked in the establishments for some time. The qualitative results for the supply side further revealed that the business model canvas and key characteristics of the case study sites were similar to that found in the literature. Thirdly, the exploratory results showed that there were a variety of factors that influenced the motivations, preferences, expectations, satisfaction, perceived ethical conduct of the MVT organisation, and attitudes of the voluntourists. The majority of these factors also had unique positive correlation relationships with each other.

Fourthly, the cluster analysis indicated that voluntourists could be grouped into four different clusters, young enthusiasts, neutral elders, mature voluntourists and satisfied elders. Fifthly, all the hypotheses were confirmed in the eight models that were tested through the SEM. Meaning that motivations and expectations positively influenced satisfaction, the perceived ethical conduct of the MVT organisation and attitudes of the participants. Satisfaction and perceived ethical conduct of the MVT organisation also partially mediated the relationship between motivations and attitudes, and expectations and attitudes. Finally, from the regression models, it can be seen that specific variables ultimately determined the dependent variables under consideration, with some variables playing a central role. These results will be discussed in the next chapter.

CHAPTER 6: DISCUSSION OF EMPIRICAL RESULTS

"Unless we stop the degradation of our oceans, marine ecological systems will begin collapsing and when enough of them fail, the oceans will die, and if the oceans die, then civilization collapses and we all die"

~ Paul Watson

6.1. INTRODUCTION

This study aimed to assess marine wildlife voluntourism (MVT) in Southern Africa from a supply and demand perspective. This chapter aimed to achieve Objective 3, which focused on the discussion of the empirical research (see Chapter 5) assessing MVT in Southern Africa. This was done with the aid of the relevant academic literature, which was used to assist the elaboration and interpretation of the results. This chapter is divided into eight sections: 1) marine wildlife voluntourists at the case study sites; 2) supply side of MVT; 3) comparison between the case study sites and online survey; 4) exploratory results for marine wildlife voluntourists; 5) relationships and variation among factors; 6) results from the cluster analysis; 7) results from the structural equation modelling (SEM); and 8) determinants of satisfaction and attitude. A conclusion section follows. While the present chapter focuses on the interpretation of the findings, the next chapter is centred on the implications of the research and future recommendations for research, method and practice.

6.2. MARINE WILDLIFE VOLUNTOURISTS AT THE CASE STUDY SITES

In some respects, the demographic profile of the marine wildlife voluntourists at all three case study sites was generally similar, with participants being mainly young, single and female with a university degree in environmental or biological sciences (EBS). These demographic results are in line with some from the literature. Previous studies found that voluntourists travelling to Southern Africa to participate in marine volunteering were mostly females in their twenties (Olivier *et al.* 2015:91; Roques *et al.* 2018:384). According to Collins and Tisdell (2002:133), females are more motivated to travel abroad for leisure activities. Roques *et al.* (2018:386) added that females may be more inclined to join organised volunteer tourism or voluntourism (VT) programmes for a variety of reasons, such as to feel safer or to participate in ecocentric activities. Taylor *et al.* (2019:113) indicated that female voluntourists are more inclined to educate family and friends, raise awareness of conservation matters, speak out on social media, and start an organisation after a conservation VT trip. VT provides

women with an opportunity to participate in transformational activities (Adkins, 2016:28).

According to Lough *et al.* (2018:8) and Shum *et al.* (2021:1), the majority of the tourists who participate in VT programmes have a university degree of some sort. Bekkers *et al.* (2016:553) indicated that people with a higher education level are more likely to participate in VT programmes. Sandiford (2017:4) also found that tourists participating in conservation tourism have different university degrees, from social sciences to EBS. According to Mendes *et al.* (2019:11), higher education is associated with environmental concerns, since people who obtained a university degree are more exposed to information and are better able to understand and analyse it. This may partly explain the choice of MVT programmes by this group. Coghlan (2006:229) added that conservation voluntourists who studied EBS are more experienced compared to voluntourists who did not (Coghlan, 2006:229). This indicates that people who study EBS are likely to repeat their experience. Certain VT programmes often require voluntourists to have a university degree or a professional skillset (Lough & Tiessen, 2018:108). Silvertown *et al.* (2013:133) indicated that voluntourists participate in a VT programme to learn new skills relevant to their field of study. Jones (2011:1) added that voluntourists participate in MVT to obtain skills and experience that could prepare them for the global labour market and can influence their global awareness. This suggests that MVT may be an activity both requiring some prior experience and offering the development of skills, which makes MVT versatile as a tourism offering.

Two differences between the case study sites were the origin and the age of the voluntourists. The majority of the marine wildlife voluntourists in the South African case study originated from North America, whereas most of the marine wildlife voluntourists in the other two case study sites originated from Europe. These differences have also been encountered in previous literature revolving around VT, MVT or marine tourism (MT) at the case study sites. Olivier *et al.* (2015:91) found that the majority of voluntourists travelling to South Africa tended to originate from North America. Roques *et al.* (2018:384) indicated that the majority of voluntourists travelling to Mozambique tended to originate from Europe. Christie and Crompton (2003:25) and Ziegler *et al.*

(2021:31) found that tourists travelling to Madagascar for ecotourism and marine wildlife tourism (MWT) tended to originate from Europe.

The average age of the respondents at the South African and Madagascar case study sites was the late twenties, whereas in Mozambique it was the early thirties (see 5.2.1). Previous research has found that voluntourists tend to be below 35 years of age, which supports, in part, the reliability of the findings in this study (Lepp, 2008:86; Shum *et al.*, 2021:1; Sin, 2009:480; Zahra, 2011:90). Averages reported for this study, however, do not exclude the way that MVT caters for different age groups, as demonstrated for Mozambique which reported the highest one, as well as other research showing that MVT could also attract an older demographic (Bradford & Israel, 2004:1). From the interviews with the voluntourists at the Mozambique case study site, it is evident that they chose Mozambique as an MVT destination due to the programme schedule not being too activity-packed and energy-demanding, and where tourism would feature alongside volunteering for marine wildlife. For example, one participant indicated that, at her age, she wanted to participate in a programme that is not too much work and where she would be able to relax more (combining leisure and VT). Another participant indicated that she wanted a programme where she could volunteer and also spend time on her work (employment). From this, it can be seen that the older voluntourists wanted a more relaxed VT experience either for leisure or personal reasons.

With regards to the preferred forms of tourism, the participants had a high preference for ecotourism that focuses on nature, wildlife and water-based activities (see 5.2.2). This is understandable, given that the participants engaged in MVT and thus would be expected to favour tourism revolving around nature, the coast, the water, and wildlife. The literature also shows that there is a strong link between nature-based and wildlife-based tourism activities and furthering tourism experience in volunteering. As stated by Ellis (2003b:45), the increased demand for VT can be a consequence of increased demand for educational learning, environmental activities and wildlife tourism. Additionally, the conservation-related education and information received during MWT activities tend to enhance the voluntourists' support for the protection of marine areas and marine life (Zeppel & Muloin, 2013:115), which could lead to an interest in MVT.

Brewis *et al.* (2010:5) indicated that university students in the UK were mostly introduced to VT through their teacher / school or friends and family. This confirms the results of this research (see 5.2.3), indicating that marine wildlife voluntourists tended to be introduced to VT through their friends and teacher / school. Gage and Thapa (2012:414), found that university students in the United States of America (USA) were mostly introduced to VT through their families. MWT can have a large impact on a person's attitude and behaviour towards conservation, as tourists can show greater awareness of marine life and marine issues and want to share the acquired knowledge with others (Apps *et al.* 2018:108; Goldberg *et al.* 2018:248; Zeppel & Muloin, 2013:115). In the case of this study, the influence of friends and teachers, who can be role models, was seemingly stronger on the participants and possibly a result of this desire to share. Martin *et al.* (2016:500) indicated that social norms have a significant impact on a person's behavioural intention to participate in citizen science (CS). Social pressure usually comes from an important person in one's life, such as friends and family (Martin *et al.* 2016:500). A study conducted by Abrahamse and Steg (2013:1773) on the influence of social norms on conservation behaviour also indicated that social norms could influence one's intention to have stronger conservation behaviour and participate in similar activities, such as recycling, reducing the use of plastic and participating in VT

The majority of the marine wildlife voluntourists at all three case study sites had previous volunteering experience in marine conservation (see 5.2.4), a result that has been encountered in other research by Olivier *et al.* (2015:92) and Shum *et al.* (2021:1). These authors found that the majority of voluntourists travelling to South Africa to participate in a marine conservation volunteering programme had previous volunteering experience in marine conservation activities. On the other hand, Van Tonder *et al.* (2017:10) found that most of the voluntourists travelling to South Africa for wildlife conservation may not have previous experience in this field. Generally, previous experience in activities such as conservation and CS, whether or not as part of tourism, is an important element to consider for MVT management and ensuring that their activities are valid and scientifically sound (Silvertown *et al.* 2013:127). Voluntourists with none or limited experience could also take longer to accomplish a task, compared to experienced voluntourists (Buesching & Newman, 2005:20; Foster-Smith & Evans, 2003:199; Newman *et al.* 2003:189). Programmes attracting these

types of voluntourists would need to take extra care to ensure proper training and scientific rigour in the planned activities. The results of this study suggest that the MVT programmes tend to attract people who have had a “taste” of volunteering, which could also imply an easier approach to training. However, this does not exclude such programmes also offering opportunities to develop one’s skills, as demonstrated by results on motivations to participate in MVT (which are discussed further later in this chapter).

In this study, the average duration of MVT trips was 34 days, with Mozambique having the shortest trip duration (29 days) and Madagascar the longest (37 days). Researchers have found that voluntourists who participate in conservation VT in South Africa could stay between two and ten weeks (Alexander, 2012b:121; Van Tonder *et al.* 2017:10), in Honduras four to eight weeks (Brondo, 2015:1412), and in Thailand four months (Broad, 2003:66). These estimates indicate that the duration of MVT trips can be considerable and that lengthy trips are often necessary, given the many activities programmed during such trips and the complexity of some of the tasks, such as data collection.

The results of this study concerning the cost of MVT trips and daily spending (see 5.2.5) are in line with some of the research described in Appendix 1. For example, Bath-Rosenfeld (2014:9) found that a two-week conservation-focused volunteer programme can cost \$150.00 to \$5,195.00. An average of \$1,965.51 – \$5,068.71 can be spent for conservation trips in South Africa (Alexander, 2012b:121; Van Tonder *et al.* 2017:10). Gray *et al.* (2017:203) found that the cost of a six-week turtle volunteer programme in Belize (excluding flights) was \$2,921.36 – \$3,258.44. The cost of the volunteer programmes depends on location, accommodation and other facilities and services (Bath-Rosenfeld, 2014:9). Accommodation and food can make up a significant part of the funds that the voluntourists pay for a volunteer programme (Bath-Rosenfeld, 2014:4). A VT trip can cost more than a normal tourism trip to the same destination (Wearing, 2001:20). VT usually attracts western travellers or young travellers from a wealthy background (Heath, 2007:89; Scheyvens, 2002:108) and it is believed that voluntourists spend more and stay longer than general tourists (Govender & Rogerson, 2010:3). According to Grimm and Needham (2011:17), many voluntourists feel comfortable organising a volunteer trip through a reputable and

licensed organisation, even when the costs are high. However, certain voluntourists want to know why the expenses are high and what the organisation does with their funds, asking for transparency (Coren & Gray, 2012:222).

VT organisations believe that VT can result in potential profit and financial benefits from the foreign exchange (Govender & Rogerson, 2010:3). Coghlan (2006:225) stated that volunteer organisations want to attract voluntourists who have the time and money to support conservation projects, which would result in long-term support and donations. According to Bath-Rosenfeld (2014:9), voluntourists are willing to pay for a conservation cause, and the VT organisations depend on these funds to ensure that their projects continue to grow. In other words, VT organisations attract voluntourists with the time and money to contribute to conservation to obtain the necessary funds to continue with a given project.

The average spending on the MVT programme per day at the cases studies was, on average, \$108, with the marine wildlife voluntourists from the South African case study site spending the most per day (\$123) and those from the Madagascar case study site the least (\$81). Based on correlations in this study, the results also suggest that those with higher education spent less per day, and those longer involved in VT spent more per day. The former correlation may depend on how participants in Madagascar spent less money and why. The MVT organisation working in Madagascar strived to reduce the travel costs of the voluntourists (C. Cerrano, personal communication). The latter correlation finds confirmation in research showing that experience in volunteering is positively related to spending in VT (Heath, 2007:89; Popova, 2017:75). The fact that the Madagascar organisation lowers the costs for the voluntourists may still have resulted in some important differences in their experiences compared to the remaining organisations investigated. For example, some participants stated that they would have appreciated more “tourism-like” activities and community engagement. These tourists may have been happier to spend additional money on MVT provided that these experiences were offered.

The results of this study about travel motivations, which were a mixture of ecocentric and egocentric, are partly aligned with the literature - a more thorough discussion of motivation constructs in VT and MVT is provided later in this chapter. Marine wildlife

voluntourists at all three case study sites (see 5.2.6) were motivated to participate in marine wildlife conservation efforts, and enhance personal knowledge and skills development. More personal reasons, such as feeling less lonely, feeling more important, or family traditions and ties to MVT were less relevant. Previous research has found that people participate in VT to make a difference, explore new places, gain research experience and support conservation efforts (Brondo, 2015:1414; Campbell & Smith, 2005:183; Goffredo *et al.* 2010:2170; Gray *et al.* 2017:200; Keese, 2011:257). The results of this study highlight the importance of MVT programmes being centred on conservation, training and proper science, as these ultimately represent the reasons why tourists seek these programmes in the first place.

Marine wildlife voluntourists at all three case study sites (see 5.2.7) tended to prioritise hands-on experiences with marine wildlife that would contribute tangibly to conservation and have a scientific value. This result, which mirrors motivations to participate in MVT, is also found in the literature. For example, Wood and Zeppel (2008:362) described that voluntourists prefer to participate in an MVT programme that allows them to discover new things, scuba dive, improve their education, and socialise or have fun. Ellis (2003b:46) found that voluntourists prefer to participate in an MVT programme to contribute to conservation and science. The number of people that volunteer to contribute to marine conservation issues and assist with data collection is increasing (Anderson *et al.* 2017:589). Voluntourists could contribute significantly to conservation and science, through assisting with marine research, contributing to the monitoring of marine areas (including protected ones) and spreading awareness (Thiel *et al.* 2014:299). Once again, the results of this study support the idea that it is essential for MVT organisations to enhance the conservation and scientific aspect of their programmes, to attract more voluntourists to participate.

Marine wildlife voluntourists from all three case study sites (see 5.2.8) had high expectations towards the acquisition of marine scientific knowledge and training, and interactions with marine wildlife. The quality of accommodation and food at the destination was less important. According to Fallon (2008:242), it is essential to understand the expectations of voluntourists, as it can be useful in understanding voluntourists' evaluation of their trip. Voluntourists' expectations can be used to design a product that would meet and exceed their expectations and result in an increase in

satisfaction (Coghlan, 2007:267; Hammersley, 2014:855). Previous research has found that voluntourists have different expectations, focusing on their trip attributes, creating positive change in their lives, increasing knowledge and skills, and enhancing self-awareness (Andereck *et al.* 2011:130; Bailey & Russell, 2010:352; Lepp, 2008:86; McDonald & Wilson, 2013:105; Zahra & McIntosh, 2007:115). In this case, expectations tended to focus on personal development (of knowledge and skills) and a professional, quality experience. This result is probably partly related to the nature of the experiences offered by the organisations studied, which focused on training, research and interactions with nature and wildlife. It is important to note that here, just as with preferences, the marine wildlife voluntourists counted on truly scientific experiences (Anderson *et al.* 2017:589; Ellis, 2003b:46; Thiel *et al.* 2014:299; Wood & Zeppel, 2008:362).

The marine wildlife voluntourists at all three case study sites (see 5.2.9) were highly satisfied with their experience, particularly the destination and people, interactions with marine life, education and training received, and the quality of the MVT programme. As later discussed in this chapter, satisfaction was also significantly positively influenced by the high motivation scores of the voluntourists. Han *et al.* (2019:556) indicated that voluntourists with higher motivation scores tend to be more satisfied with the VT experience, with a focus on the overall image of VT, the activities, and trust in the MVT organisation. Previous research has also found that the satisfaction levels of voluntourists are impacted by the social interaction between hosts and guests, a transformational experience, quality of the overall experience, and time dedicated to volunteer and other tourism activities (Barbieri *et al.* 2012:513; McIntosh & Zahra, 2007:541; Pizam *et al.* 2000:395). Satisfaction amongst marine wildlife voluntourists remains essential to understand, investigate and improve, as increased satisfaction would enhance the voluntourists' motivation, future commitment, and behavioural intention towards MVT and the specific MVT project (Polus & Bidder, 2016:309).

With regards to the perceived ethical conduct of the MVT organisation, marine wildlife voluntourists at all three case study sites (see 5.2.10) strongly agreed that the MVT organisations they visited acted in an ethically sound manner. This result is confirmed in research on tourists' perceptions of the conduct of MWT organisations in Southern Africa (Rocha *et al.* 2020:5), although other research has highlighted that MWT may

not always be carried out according to ethical standards (Gaitree & Ian, 2015:70). Codes of conduct are essential for any MVT organisation, as these ensure that ethical MVT takes place (Richards *et al.* 2015:200), and assist towards the planning, implementation, and management of marine environments through MVT (Jansujwicz *et al.* 2013:1369; Roques *et al.* 2018:387).

Marine wildlife voluntourists at all three case study sites (see 5.2.11) showed strong positive attitudes towards conservation, education and environmental responsibility, while attitude towards participating in MVT in future, especially given increasing trip costs, was more neutral. These findings are aligned with various others from the literature. For example, Schänzel and McIntosh (2000:36) indicated that education and interpretation programmes at nature-based tourism destinations have a strong impact on the voluntourists' attitude and behaviour concerning conservation as well as other aspects. Educational programmes in MVT can create emotional affinity towards the marine species involved, changing the attitudes of the voluntourists towards marine conservation issues (Andersen & Miller, 2006:111). MVT can improve the attitude of voluntourists towards marine science by increasing their knowledge, scientific thinking, and social learning (Donnelly *et al.* 2014:1237; Johnson *et al.* 2014:235; Vann-Sander *et al.* 2016:82).

With regards to the willingness to pay more money for MVT, Bhandari and Heshmati (2010:620) stated that this is influenced by socio-economic characteristics, perception towards conservation, and visit characteristics. For example, they found that older voluntourists with higher education and income level were more willing to pay more money for VT, whereas younger respondents with lower education and income level were not so willing to pay. On the other hand, previous literature on conservation tourism found that tourists are willing to pay an increased fee if the money is channelled towards conservation efforts (Casey & Schuhmann, 2018:5; Casey *et al.* 2010:557; Lopes & Villasante, 2018:1; Murphy *et al.* 2018:1; Roberts *et al.* 2017:1353; Thur, 2010:63). With regards to the results of the current study, neutrality towards paying an increased fee for MVT could be due to age (relatively young) and occupation (mainly students). Perception towards paying an increased fee could change with ageing and economic status (Bhandari & Heshmati, 2010:620). This could be seen in

the results, where the Mozambique voluntourists, who were older, were more likely to pay an increased fee compared to the rest.

The marine wildlife voluntourists at all three case study sites (see 5.2.12) provided positive feedback concerning their experience and possible future volunteering at the MVT programme. Previous research has found that providing the tourists with a memorable experience would result in positive post-purchase behaviour (Hung *et al.* 2016:763; Zhang *et al.* 2018:326). This could include loyalty, repeat visits and word of mouth (Ding & Tseng, 2015:994; Kim *et al.* 2016:1213; Sharma & Sahni, 2017:1136). Lynch (2000:1) indicated that repeat voluntourists are essential in managing volunteer programmes. The organisation, activities offered, and people involved are crucial to ensure repeat voluntourists (Forster, 2001:1). According to Ellis (2003a:75), the volunteer programme needs to be carefully managed and designed to ensure that constant feedback is received from the voluntourists.

6.2.1. SPECIFIC DIFFERENCES BETWEEN THE CASE STUDY SITES

There were some noteworthy differences in the main data between the case study sites, which are discussed as follows. While all participants in this study were highly motivated to participate in MVT, scores were highest in Madagascar and lowest in Mozambique. According to Kantabutra *et al.* (2019:87), demographic variables such as income, age and gender could influence the motivation of tourists. In the case of this study, previous VT experience influenced motivation (see 5.7 and Table 5.56), and there may have been other factors potentially determining motivation and ultimately differences between the case study sites. Age, for example, could have had a greater influence than previous VT experience. The participants were older in Mozambique and younger in Madagascar; this age difference may have resulted in different levels of enthusiasm towards the MVT activities. Leonard and Onyx (2009:329) indicated that older voluntourists tend to be less motivated to participate in VT activities. Thus, the results of this study emphasise the importance of understanding motivations to participate in MVT and differences between programmes and tourists, to attract suitable voluntourists for specific programmes, provide the voluntourists with a satisfactory experience, and enhance the use of voluntourists to help conserve the marine environment (Carlton & Jacobson, 2012:42; Coghlan & Fennell, 2009:377).

Participants at the South African case study provided the highest preferences scores, compared to the remaining case study sites. Wood (2010:453) found that previous experience, age and gender could influence the preferences of marine wildlife voluntourists. Marine wildlife voluntourists usually have higher education or study in higher education and are interested in marine research (Wood & Zeppel, 2008:350). Lyons *et al.* (2012:361) indicated that voluntourists could participate in VT activities either for university credits, VT vacation or part of a gap year or overseas experience. In the case of this study, higher preference scores in South Africa were possibly due to age or because the case study site had the highest number of participants studying EBS (see 5.7 and Table 5.56). These people were younger, had a scientific background and participation in the MVT programme probably contributed credits towards their degree (as it emerged from the interviews with the voluntourists). Hence the reason that their preferences were the highest.

The marine wildlife voluntourists at the South African case study site tended to have higher expectations compared to the marine wildlife voluntourists at the other case study sites, with tourists in Mozambique providing the lowest scores. Previous authors found that sociodemographic factors, such as age and education level could impact the expectation of voluntourists (Cheung & Jim, 2013:182; Kantabutra *et al.* 2019:87). Expectations may also increase with experience in volunteering (Alexander, 2012a:793; Coghlan, 2007:267). As in the case of preferences, differences in expectations between the case study sites were possibly due to age, the EBS background, and the lower experience in marine conservation volunteering among tourists in South Africa, as opposed to Mozambique where tourists were older, employed and more experienced in marine conservation volunteering (see 5.7 and Table 5.56). The younger participants in South Africa could have held higher expectations due to the importance of the MVT activity potentially helping them with their skills and experience advancement which, in turn, could contribute towards their curriculum and their career development. Voluntourists in Mozambique, on the other hand, could have seen the MVT experience merely as a tourism experience and a way to engage in positive activities towards conservation, focusing less on expectations towards the programme but more on the experience as a whole.

Despite satisfaction being always relatively high for all the case study sites, scores were highest in South Africa and lowest in Mozambique, similarly to the other variables. The marine wildlife voluntourists at the South African case study site may have been more satisfied because they were young and enthusiastic. Polus and Bidder (2016:309) found that older voluntourists tend to be less satisfied after their experience compared to younger voluntourists. Other factors such as hospitality, level of skill training, orientation, challenges, adventure, the favourable image of the organisation, and the presence of scientists could also be reasons why the satisfaction of marine wildlife voluntourists is high (Jaapar *et al.* 2017:538; Wood & Coghlan, 2008:14). It must be noted that the organisations at the South African case study site offered MVT activities revolving around great white sharks, which are a charismatic species and highly sought after as part of tourism, study and research activities (Apps *et al.* 2016:231; Huveneers *et al.* 2017:665). The marine wildlife voluntourists from the Mozambique case study site also had more previous marine conservation volunteering experiences compared to the marine wildlife voluntourists from the South African case study site. As for expectations, this could have slightly negatively influenced their satisfaction rate (Wood & Coghlan, 2008:14).

All the case study sites received high scores with regards to the perceived ethical conduct of the MVT organisations. The marine wildlife voluntourists in South Africa provided the highest scores, which were influenced by their high satisfaction and excitement. On the one hand, some scholars have criticised VT for not being an ethical form of tourism, and have indicated that VT organisations may be profit-driven, overpromising benefits, harming the destinations, and creating voluntourist dissatisfaction (Benson & Henderson, 2011:405; Crossley, 2012:235; Simpson, 2004b:681; Smith & Font, 2014:942; Tomazos & Cooper, 2012:405). On the other hand, other authors have indicated that VT, if done ethically, could alleviate poverty, assist with the restoration of the environment and result in quality science when revolving around scientific activities (Goodwin, 2011:20; Wearing, 2001:34). Ethical roundedness could be achieved if the VT organisation takes responsibility for managing its products and operations and encourages voluntourists to take the necessary steps for it to become sustainable (Goodwin, 2011:20). VT organisations need to have and market their voluntary codes of practice and regulations, which would echo their ethical approach (Mdee & Emmott, 2008:191; Ong *et al.* 2013:72).

This would impact potential future VT and the return of voluntourists (Smith & Font, 2014:942). From the current study, it can be seen that the voluntourists were satisfied with the ethical conduct of the organisations they visited. Given the central role of the ethical conduct of the organisation in shaping other attitudes (as discussed later in this chapter), it is essential to study this theme in-depth, especially since it remains a highly debated one (Burrai & Hannam, 2018:90; Butcher, 2015:71; Self, Self & Bell-Haynes, 2010:111; Smith & Font, 2014:942).

Marine wildlife voluntourists in South Africa also provided the highest attitude scores in comparison to the remaining case study sites. This is possibly due to these voluntourists being young and excited people studying EBS. This could have resulted in the strengthening of positive attitudes post-MVT. Han *et al.* (2017:905) indicated that young conservation tourists tend to be more concerned about the environment and prone to have positive pro-environmental behaviours. Previous research has found that when participating in VT activities, voluntourists gain an increased concern for the human impact on the environment, and a positive attitude towards natural resources, the natural environment, protection of the environment, animals in the natural environment, CS, and raising awareness (Peter *et al.* 2019:10; Toomey & Domroese, 2013:54). With regards to the willingness to pay more money for MVT, the voluntourists at the Mozambique case study site had the highest attitude. This could be due to them being older compared to the voluntourists at the other case study sites. Literature indicates that older tourists may be more willing to pay more money for VT compared to younger ones, possibly due to economic viability (Bhandari & Heshmati, 2010:620; Casey & Schuhmann, 2018:5).

6.3. SUPPLY SIDE OF MARINE WILDLIFE VOLUNTOURISM

From 5.3, it can be seen that the profile of the staff that were interviewed at the three case study sites was slightly different. In general, however, this profile matched what has been described in other research looking at the structure of MWT establishments, characterised by people who are older than the voluntourists, possess higher education qualifications or experience in marine conservation and have worked in the establishments for some time (Benson & Henderson, 2011:410; Gray & Campbell, 2007:467; Kohler *et al.* 2016:439; Lester *et al.* 2017:237; Wingit *et al.* 2017:52).

Staff interviewed at the South African case study site were in their thirties and the staff from the other two case study sites were in their forties. This could be due to the South African case study site employing some past voluntourists (see 5.3.1) who may consequently be younger compared to other organisation members. At any rate, interviewed staff were older compared to the voluntourists, thus possessing experience and knowledge to share with them (Bhandari & Heshmati, 2010:620). The staff from the Madagascar case study site originated from Europe and the staff from the other two case study sites were mainly from Africa. This is understandable, as the Madagascar organisation is Europe-based and the other two are Africa-based. From this, it can be suggested that some MVT organisations try to employ local staff to work for their establishments (Barbieri *et al.* 2012:509; Clifton & Benson, 2006:238; Gray & Campbell, 2007:463) while trying to attract international tourists to participate in their programmes (Heath, 2007:89; Scheyvens, 2002:108).

It is also known, however, that some western organisations may establish themselves in developed areas and employ people from overseas, which could result in economic leakage (Clifton & Benson, 2006:238; Daldeniz & Hampton, 2011:30; Guttentag, 2009:537; Simpson, 2004b:681; Wearing, 2001:146). Employing local people would reduce this risk and ensure that some money does not leak out of the economy but rather stays and benefits the local community (Wearing, 2001:5). The objective of hiring local staff to coordinate VT activities may be partly hindered by limited local capacity, that is, people having the necessary skills and qualifications to manage and run the organisation and activities (Wearing, 2001:146).

The business model canvas and key characteristics for the organisations at the three case study sites were similar to the business model canvas of MVT described in the literature and the content analysis of web-based information reported in Chapter 3 (see 3.3.2, 5.3.2 and 5.3.3). According to Rusu (2016:168), the business model is essential to an organisation. It explains the procedure of how the organisation produces value and how it captures the value as profit (Kohler *et al.* 2016:439). Cirjevskis (2019:2) stated that business models in the tourism industry are seldom discussed in the literature, and Benson and Henderson (2011:406) indicated that there is a gap in the information that has been published on the business and the organisational activities that drive VT projects, more specifically MVT programmes.

The results on the business model canvas of the organisations selected for this study hopefully contribute towards a better understanding of the structure and operational management of MVT programmes.

Tourism organisations, educational institutions, government organisations, research centres and NGOs were key partners of organisations at the case study sites and are also recurrent in the available literature (Clemmons, 2013; Wearing, 2001:12; Wingit *et al.* 2017:52). This is understandable, for example, organisations use accommodation facilities to accommodate the voluntourists, attract voluntourists from educational institutions, such as universities, work with governmental organisations, such as marine protected areas (MPAs) to collect data, and collaborate with scientists at research centres and NGOs. Partnerships and collaborations have the potential to create pathways between stakeholders who can assist with the sharing of information and provide support for effective marine resource management (Bramwell & Lane, 2000:1; Cater & Cater, 2007:1; Pattengill-Semmens & Semmens, 2003:43; Rees *et al.* 2010:868).

All the case study sites supported the tourism industry in one way or another, either through purchasing products and services or enhancing diving tourism. According to Pompurová *et al.* (2018:3), VT organisations play an essential role in the tourism industry. They are seen as an opportunity to create new and positive values and activities for the tourists and local communities (Lyons & Wearing, 2008:3). McGehee and Andereck (2009:42) indicated that VT contributes to the economy, brings money into a community and reduces leakage through voluntourists staying in locally owned and operated accommodation establishments, eating at local restaurants, and purchasing local products.

The importance of key partners to the organisations at the case study sites is echoed in the results of the questionnaire survey to the voluntourists. For instance, these were satisfied with the services provided by the MVT organisations, including local external providers with which the organisations collaborated. The experience at locally owned accommodation and restaurants have an impact on the satisfaction of the voluntourists (McGehee & Andereck, 2009:42; Wood & Coghlan, 2008:14). The voluntourists also indicated that they were mainly introduced to VT through education stakeholders and

institutions, which may have included those with which the organisations collaborated, as per previous research by Brewis *et al.* (2010:5). These authors showed that universities play a role in introducing tourists to VT and also represent collaborating partners with VT organisations. The voluntourists in this study were motivated to contribute to marine conservation, protection and welfare. These goals were aligned with those of the studied MVT organisations that, in turn, may align theirs with collaborating governance entities such as MPAs (Bennett & Dearden, 2014:96; Vercammen *et al.* 2019:1565). Last, working with marine scientists and participating in scientific research were part of the motivation and expectations from voluntourists in this study. It is therefore essential for organisations to collaborate with research centres and NGOs, to ensure that voluntourists could continue to participate in sound scientific research (Anderson *et al.* 2017:589; Ellis, 2003b:46; Thiel *et al.* 2014:299; Wood & Zeppel, 2008:362).

Key activities and value propositions among the studied MVT organisations included community, conservation, education and scientific aspects, which was also found in the literature. The voluntourists at the three cases studies were involved in research through data management, project management, or applying protocols, which is in line with a description of MVT activities in Southern Africa (Roques *et al.* 2018:384). The South African and Mozambique case study sites shared many similarities in this regard, while the Madagascar case study site was standalone. This difference was mainly due to South Africa and Mozambique offering marine ecotourism activities, which is typical of MVT (Rocha *et al.* 2020:3), while Madagascar had a stronger scientific focus, more similar to CS programmes. The Madagascar case study site, however, also offered diving and snorkelling activities, which could be pleasant for the participants as well as a method of collecting data for research (Rocha *et al.* 2020:3; Roques *et al.* 2018:384).

All the activities offered by the organisations studied formed part of the voluntourists' motivations, preferences, expectations and satisfaction. For example, voluntourists wanted to have experiences where they could interact with the local community, contribute to marine conservation, learn about marine life and participate in scientific research. Importantly, the results of this study suggest that the value proposition was

characterised by unique and memorable experiences that met the tourists' expectations, as indicated by Wingit *et al.* (2017:52).

According to Wood and Zeppel (2008:362), marine wildlife voluntourists are interested in marine exploration, marine discovery, learning from experienced researchers, social interaction, fun and skills development. These interests ought to be met through the activities offered by the organisation. Benson and Henderson (2011:410) found that VT organisations that offer a wider range of key activities are more likely to be successful. These key activities are in line with the aims of the organisations at the case study sites, which were to sustain and conserve the marine environment, through either research, ecotourism, monitoring protocols, education, or community engagement.

Organisations at all the case study sites worked with the local community through engagement and education. Some voluntourists indicated that they did not have enough interactions with the local communities and others indicated that their future VT programmes would be conservation and community-based. This suggests that although MVT is focused on conservation, community engagement forms an essential part of MVT. The tourists seemed to understand the importance of including the community in marine conservation efforts since the community is directly affected by it and it affects the local marine environment and species. MVT organisations can assist in educating the local community and the public on marine science and also increase social awareness between different cultures, societies, and people (Raymond & Hall, 2008:530; Wearing & Deane, 2003:4; Wearing & Neil, 1997:141). They can also assist local communities in hosting MVT projects, resulting in the empowerment of the local community and increased skills and education on marine environmental issues and conservation (Lyons & Wearing, 2008:7). MVT can enhance the living conditions of the local community. This can lead to poverty alleviation in developing countries where many programmes are based (Knollenberg *et al.* 2014:922; Sin, 2009:480; Stoddart & Rogerson, 2004:311; Wearing, 2001:5).

Conservation was defined by the organisations from all the case study sites as safeguarding, and all organisations claimed to give a meaningful contribution to conservation through education, science and responsible behaviour. The

voluntourists' responses were aligned with the information provided by the organisations at the case study sites. They also defined conservation as safeguarding and believed that new or modified policies were required to enhance conservation. They also believed that, through MVT, they were making a meaningful contribution to conservation through education, responsible behaviour, science and actively helping. This is in line with the definition given by Leader-Williams *et al.* (2011:20) and Sandbrook (2015:565), where conservation is the actions that directly increase the probability of species and habitats staying in the natural ecosystem. Previous literature has indicated that VT organisations and voluntourists want to contribute to marine conservation through science, educating the local community, friends and family, and being more environmentally aware (Anderson *et al.* 2017:589; Brightsmith *et al.* 2008:2833; Wearing & McGehee, 2013:124; Zeppel & Muloin, 2013:115). Roques *et al.* (2018:386) found that the greatest impact of MVT includes increased education and awareness of voluntourists and the local community as well as greater research and planning revolving around conservation decisions. Interviewing local managers of coastal and marine habitats and species would be one way to confirm that the perceived contributions of MVT organisations and tourists towards marine conservation are, indeed, valid and sound.

Human impact was believed by all organisations to be the largest threat to the environment and ecosystems. The organisations tried to reduce their environmental footprint and the use of resources and focused on educating people on environmental problems. The concerns of the organisations were echoed by those of the voluntourists, who showed that they cared about marine ecosystems and believed that humans are the largest threat. The voluntourists also strived to reduce their environmental footprint. This is in line with previous literature, showing that VT organisations and voluntourists want to be more environmentally aware and reduce the impact that they have on the environment (Birtles *et al.* 2002:20; Goldberg *et al.* 2018:240; Zeppel & Muloin, 2013:115). Increased human activities affect the ocean greatly, resulting in the potential extinction of marine species and habitat degradation (Hyrenbach *et al.* 2000:438). This results in uncertainty for the future and highlights the urgent need for conservation strategies (MacKeracher *et al.* 2018:255). The results of this study show that MVT could form part of these strategies if managed effectively. Activities planned as part of MVT could involve raising environmental awareness and

promoting positive environmental behaviours and attitudes (Birtles *et al.* 2002:20; Goldberg *et al.* 2018:240; Zeppel & Muloin, 2013:115).

Organisations at the three case study sites contributed to scientific research through collaborations with different universities and scientists, and the publication of scientific research. Importantly, the voluntourists gave enormous importance to the scientific legitimacy and impact of MVT activities. MVT organisations can protect, monitor and restore marine ecosystems through research and governance (Cater & Cater, 2007:1). The outcomes of MVT activities can lead to completion of postgraduate studies, the publication of articles in accredited journals and the creation of, or contribution to, databases on threatened marine species (Brightsmith *et al.* 2008:2832; Coghlan & Gooch, 2011:713; Roques *et al.* 2018:387). Dickinson *et al.* (2012:291) indicated that voluntourists are essential for the collection of comparable data and conducting environmental monitoring and conservation research. MVT can provide essential and reliable data on marine wildlife and ecology that can result in positive conservation management outcomes (Schmeller *et al.* 2008:307). Pattengill-Semmens and Semmens (2003:43) indicated that the data collected by MVT organisations can be incorporated into existing marine monitoring programmes. Malpica-Cruz *et al.* (2016:158) added that the data can be used to inform decisions or address specific marine conservation problems.

It must be remembered that MVT is often criticised for greenwashing, the commodification of nature and conservation, and the lack of scientific legitimacy. According to Smith and Font (2014:948), some VT organisations are culpable of greenwashing, as they promote the positive difference that they make to attract a wide range of voluntourists but fail to represent the real situation. Greenwashing negatively influences a voluntourist's attitude and behaviour (Gratti *et al.* 2019:1) leading to voluntourists becoming increasingly sceptical regarding the authenticity of the VT organisation (Lyons & Montgomery, 2013:747). According to Cousins, Evans and Sadler (2009a:3), certain organisations may sell conservation experiences (MVT) as a form of commodity. Godfrey and Wearing (2012:181), stated that commodification refers to something becoming more commercialised, and becoming less authentic. Commercialisation leads to the commodification of altruism, which results in VT catering to a mass market. This impacts the quality of the VT programme for the

voluntourist, the environment, and the host communities (Godfrey & Wearing, 2012:181). MVT could also influence the reliability and validity of the scientific data collected (Silvertown *et al.* 2013:127). This could be due to voluntourists having different levels of experience and knowledge, getting bored with repetitive tasks or taking longer to complete the tasks. This could lead to incomplete data collection, violation of the sampling methodology and data bias (Basinger, 1998:A14; Buesching & Slade, 2012:127; Cook & Berrenberg, 1981:73; Martinich *et al.* 2006:1579; Mumby *et al.* 1995:737). While the results of this study are positive in this regard, they are not necessarily generalisable to the global MVT context, and further work should always pay attention to investigations of scientific legitimacy and authenticity in MVT.

The key resources of the MVT organisations in this study included the environment, voluntourists, collaborators, community, staff and equipment, which are also recurrent in the available literature (Benson & Henderson, 2011:410; Gray & Campbell, 2007:467; Kohler *et al.* 2016:439; Roques *et al.* 2018:384; Wingit *et al.* 2017:52). These were also elements that the organisations identified as making them successful. The organisation at the Madagascar case study site also listed the marine animal species databank as a key resource, adding that monitoring protocols contributed to their success. Additionally, staff and voluntourists at the case study sites were provided with hands-on and formal and informal training. Hammersley (2014:858) indicated that the more training the staff and voluntourists receive, the better their learning values would be.

Without the key resources mentioned in this study, the MVT organisations would not be able to operate successfully and offer unique opportunities to tourists (Debarliev & Mitrovska, 2016:100). The organisation, activities offered, and people involved are crucial to ensure repeat voluntourists (Forster, 2001:1). In the case of this study, these resources were also highly regarded by the voluntourists, confirming their value. For example, voluntourists expected a destination with impressive natural beauty. They were motivated to work with marine scientists and expected to work with research equipment. Cousins (2008:1027) found that conservation voluntourists tend to choose tropical destinations with charismatic species and hands-on activities. MVT can contribute to global marine environmental citizenship (Brown & Morrison, 2003:73; Wearing, 2001:1), where voluntourists assist conservation while giving back to the

local community. According to Rees *et al.* (2010:868), partnerships and collaborations between MVT organisations, MPAs, park managers and local authorities are an opportunity to support individual and collective interests, due to the high value placed on marine recreation, leisure and biodiversity. MVT can also develop the destination and community involved (Benson & Wearing, 2012:242) leading to international development, due to the voluntourists' engagement with the local community, and the shared skills, experience and knowledge taking place (Lupoli *et al.* 2014:898; Wearing, 2001:1).

Customer relations, channels and segments mentioned by the organisations in this study included social media, company website, newsletters, company blogs, scientific conferences, exhibitions and educational institutions. Some of these channels were highlighted also by Roques *et al.* (2018:384). The Madagascar case study site might not have the capacity to maintain a relationship with their voluntourists through certain channels, possibly due to limited staff taking care of the management of these channels. However, they maintained a relationship with their voluntourists through the eco-diver courses that they offered.

According to Benson and Henderson (2011:411), VT organisations use a variety of marketing channels to advertise their projects to potential voluntourists and to interact with them before and after participation in VT. In this study, the voluntourists indicated that they were satisfied with the webpage and social media of the VT organisations. Suhud (2015b:349) explained that for-profit and non-profit organisations (NPOs) use social media as a platform to communicate to their stakeholders (e.g. marketing and public relations activities). Lee (2020:453) added that people learn about VT through social media. Websites, social media and print marketing materials are methods to recruit and retain voluntourists (Roques *et al.* 2018:388). Other methods of recruitment and retention include advertising campaigns (online and print), marketing events and travel agents (Roques *et al.* 2018:388). The results of this study emphasise the relevance of these channels for promotion and communication with potential customers.

The customer segments at all the case study sites included the general marine wildlife tourists, such as divers, ecotourists, students and researchers with an interest in

marine conservation. Previous literature confirms that MVT comprises a variety of possible customer segments, such as marine wildlife tourists, ecotourists, adventure tourists, educational tourists, voluntourists, natural science enthusiasts, backpackers, gap year travellers, scuba divers, snorkellers, package tour travellers, independent travellers, skilled scientific scientists, older travellers, families, and cultural tourists (Clifton & Benson, 2006:238; Coghlan, 2006:228; Ellis, 2003b:45; Galley & Clifton, 2004:69; Gray & Campbell, 2007:467; Lorimer, 2009:352; Wood, 2010:170). At any rate, VT represents a different customer segment that tends to be opposite to mass tourism (Wearing *et al.* 2010:20). According to Bussell and Forbes (2002:248), VT organisations need to establish a meaningful segment of the voluntourist market, which could result in more effective targeting, recruitment and retention strategies.

The cost structure for the South African and Mozambique case study sites was similar and included plenty of operational expenses, such as salaries, rent, fuel and taxes. The Madagascar case included teaching and education-related costs, travelling costs and miscellaneous items. The revenue stream for the three case study sites included voluntourists fees, sponsors and grants. The South African and Mozambique case study sites also received funding from the marine ecotourism activities that they offered, while the Madagascar case study site from donations and memberships. The cost structure and revenue streams of MVT organisations are also described in the available literature and generally confirm what emerged in this study. This highlighted how cost structure may not be the same among organisations, due to the different operational structures between these organisations (Benson & Henderson, 2011:410; Gray & Campbell, 2007:467; Roques *et al.* 2018:384; Rocha *et al.* 2020:3; Wingit *et al.* 2017:52). As with any organisation, all three case study sites envisioned that, in five years, they would be bigger and better and have a greater impact. This could only be achieved through financial resources (Gürel & Tat, 2017:998).

These results could be an indication of why participating in a VT programme tends to be more expensive than a normal tourism holiday; MVT organisations have a variety of financial expenses and only a few methods to obtain an income (Wearing, 2001:20). According to Buzzell & Gale (1987:20), financial success is achieved by offering a quality experience and charging higher prices. Benson and Henderson (2011:411) stated that it is essential to ensure that a VT organisation is financially viable, even if

the organisation is not profit-driven. The results also support the indication that MVT organisations tend to attract western travellers or young travellers from a wealthy background who have the time and money to support conservation projects (Coghlan, 2006:225; Heath, 2007:89; Scheyvens, 2002:108). With increased financial support, further marine species and marine habitats can be protected, and the support for marine conservation work can increase, resulting in improved marine wildlife management and research (Dearden *et al.* 2007:66; Trave *et al.* 2017:213; Wiener *et al.* 2009:490; Zeppel, 2008:9; Zeppel & Muloin, 2008:289).

According to Lyons *et al.* (2012:361), VT is an elitist activity that involves the movement of people from the global north to communities in the global south. Judge (2017:164) adds that voluntourists can be seen as elite cosmopolitans who are privileged citizens of western countries who are free to travel, consume and display knowledge. Other authors added that VT can be seen as an exclusive activity where the voluntourists are superior to the people in the community (Snee, 2013:142; Lyons *et al.* 2012:361). These authors also indicated that the elitist voluntourists seek to distinguish themselves by cumulating cultural capital that results in bankrupting the value of global citizenship and leading to an uneven global community. The results of this study show that, while some MVT programmes may attract voluntourists who have a better financial capacity, the price may still be considered reasonable. Other programmes even go as far as assisting the potential participants financially, possibly seeing this as an important investment for the future (potentially leading to return and resulting in the execution of quality activities that truly contribute to science and conservation).

6.4. COMPARISON BETWEEN THE CASE STUDY SITES AND ONLINE SURVEY

The voluntourists intercepted online and at the case study sites were mostly similar. This result is relevant and supports, at least in part, the generalisability of the findings from the case study sites specifically about the profile of marine wildlife voluntourists. The people intercepted online (see 5.4.1) were mostly single females with a university degree in EBS and originated from Europe. The preferred forms of tourism for this group (see 5.4.2) were also nature, wildlife and water-based activities (ecotourism). This group (see 5.4.4) had previous MVT experience. The average MVT trip duration was also around a month, and the majority of them volunteered in Africa and Europe.

The main demographic differences between the marine wildlife voluntourists intercepted online and at the case study sites were related to occupation and age. The former were mostly employed and in their late thirties. A possible reason for these differences could be that the marine wildlife voluntourists intercepted online completed the survey years after their MVT experience, although there is no way to verify this. Another possible reason is simply that other destinations and programmes attract older marine wildlife voluntourists. This was the case in this study, where Mozambique attracted an older demographic compared to the remaining case study sites. Campbell and Smith (2006:88) found that marine wildlife voluntourists in Costa Rica were in their late thirties and were in professional occupations. Bradford and Israel (2004:1) found that marine wildlife voluntourists in Florida (USA) were mostly mature adults (average age 53) and were either full-time employees or unemployed.

The marine wildlife voluntourists intercepted online were introduced to VT (see 5.4.3) mostly through the general website and organisations. This difference compared to participants at the case study sites could be due to the marine wildlife voluntourists participating in the online survey being older, employed and not in contact with educational institutions or people sharing similar interests. Their only method to obtain VT information would be through the general website or organisations in contact with MVT or offering MVT. Terry (2014:96) found that conservation voluntourists use VT organisations' websites to obtain the necessary information related to a VT experience. Coren and Gray (2012:224) indicated that conservation VT organisations use their websites to recruit prospective voluntourists.

The motivations, preferences, expectations, satisfaction, perceived ethical conduct, and attitudes of the marine wildlife voluntourists intercepted online were similar to those of the voluntourists at the case study sites (see 5.4.5 – 5.4.10 and 5.5). The marine wildlife voluntourists intercepted online had a strong focus on conservation, scientific research, skills and education. There were a few items that were different between the marine wildlife voluntourists intercepted online and at the case study sites. However, the majority of these items had small effect sizes, indicating that differences were ultimately negligible. Those with moderate effect sizes are discussed here.

The following items received higher scores by the voluntourists at the case study sites compared to those online: motivation towards experiencing local traditions and cultures; expectation towards new knowledge about marine life and conservation; satisfaction with the location, the overall quality of the volunteer programme, the training received, the organisation of the programme, the infrastructure of the volunteer programme, the equipment and tools, the accommodation, and the food; and perception of personal conduct of staff and voluntourists. These higher scores could be due to 1) the marine wildlife voluntourists from the case study sites being younger and more enthusiastic (Polus & Bidder, 2016:309); 2) the marine wildlife voluntourists at the case study sites being still involved in MVT at the time of the study as opposed to the participants in the online survey, who had to respond based on the memory of previous experiences; or 3) the marine wildlife voluntourists intercepted online having more experience, which impacted their score on certain items by making them more critical towards these items (Wood & Coghlan, 2008:14).

With regards to the specific attitudes towards MVT (see 5.4.11), the marine wildlife voluntourists intercepted online would rather volunteer at a new MVT programme as opposed to the claims of the marine wildlife voluntourists at the case study sites. The marine wildlife voluntourists intercepted online provided positive feedback concerning their experience and word of mouth. Positive post-purchase behaviour is crucial in managing VT programmes (Lynch, 2000:1). Previous authors have indicated that a memorable experience would result in positive post-purchase behaviour, such as loyalty, repeat visits and positive word of mouth (Ding & Tseng, 2015:994; Hung *et al.* 2016:763; Kim *et al.* 2016:1213; Sharma & Sahni, 2017:1136; Zhang *et al.* 2018:326). The results of this study suggest that, in MVT, re-participation intention (Chua *et al.* 2021:193) may or may not necessarily include return visits to the same organisation. In the former case, return visits could result in loyalty leading to stronger scientific contributions by voluntourists; volunteer retention, for example, is an important prerequisite of successful CS (Lucrezi *et al.* 2018:1). Benson and Henderson (2011:412) have described how some VT organisations obtain loyalty by offering different projects, while others offer different roles in the VT programme. These options allow voluntourists to switch between projects and roles when they return to the same VT organisation (Benson & Henderson, 2011:412). In the latter case, wanting to move

on to new MVT programmes may be due to the need for voluntourists to experience new locations and programmes after reflecting on previous positive MVT trips (Blackman & Benson, 2010:221; Chua *et al.* 2021:193). In both cases, voluntourists' decisions may be influenced by a desire to further develop their knowledge and skills, either by strengthening them at the same programme, or applying them and gaining new insight at a different programme (Blackman & Benson, 2010:221). Ultimately, loyal voluntourists would contribute more time and finances to VT, and recommend VT to other potential voluntourists (either at the same or different organisation; Wisner *et al.* 2005:146).

6.5. EXPLORATORY RESULTS FOR MARINE WILDLIFE VOLUNTOURISTS

A variety of factors were identified in the exploratory and confirmatory factor analyses (see 5.6). Motivations (see 5.6.1) to participate in MVT included ecocentric, personal development, personal well-being, and social values. Ecocentric ones were considered to be the largest motivation factor and social values were the lowest motivation factor. These factors are recurrent in the available literature on MVT and more generally conservation-oriented tourism. Brondo (2015:1405) found that conservation voluntourists are motivated by self-development and altruistic factors. Chen and Chen (2011:435) and Lo and Lee (2011:326) discovered that personal and interpersonal were factors that motivated voluntourists. Other motivation factors identified in the VT literature include social and professional development, values and self-esteem, empathy, protective, understanding, social, and recognition (Carvache-Franco *et al.* 2019:721). Previous research also found that voluntourists want to have fun, meet people and want to feel important and useful (Dimmock, 2009:279; Prestopnik & Crowston 2011:28; Rotman *et al.* 2012:217).

What is relevant for this study, however, is that MVT seemingly draws people who possess ecocentric, altruistic values and wish to develop their skills and knowledge. This is understandable, as the MVT projects focus on specific charismatic species that are also in need of conservation and protection (e.g. sharks and dolphins), are located in accessible environments (e.g. Mossel bay and Ponta Do Ouro), and incorporate skill development activities into their programmes (e.g. scuba diving, data collection and community engagement) (Bear, 2016:56; Garcia-Soto *et al.* 2017:20; Maciejewski & Kerley, 2014:7). Such programmes allow the voluntourists an opportunity to help

marine wildlife, contribute to marine conservation, and give back to a worthy cause. They also allow them to gain practical skills and experience either for university credits or their future career (Brondo, 2015:1414; Campbell & Smith, 2005:183; Gray *et al.* 2017:200). The results of this study confirm the importance of MVT programmes providing authentic experiences of marine conservation and capacity building, which are central to the ecocentric and personal development-driven tourist. Previous research has indicated that ecocentric marine tourists have a positive attitude towards the environment, are more willing to portray community activism behaviour, exhibit pro-environmental behaviours, and are willing to pay and spend more time towards marine conservation activities (McCawley & Teaff, 1995:63; O’Riordan, 1981:1; Ong & Musa, 2012b:344). Although personal well-being and social values obtained the lowest scores, MVT programmes and activities still revolve around these factors. Voluntourists participate in MVT also for personal fulfilment and psychological health and seek social relationships in the context of the MVT experience (Clary *et al.* 1998:1517; Chen & Chen, 2011:435; Lo & Lee, 2011:326).

The marine wildlife voluntourists in this study also had ecocentric preferences (largest factor), and activity-based preferences (see 5.6.2), in line with the results on their travel motivations. Wood (2010:385) confirmed that marine research training and education, higher levels of learning, self-sufficiency, physical adventure, comfort and hospitality, social interaction, and marine discovery constitute the preferences of marine wildlife voluntourists. Voluntourists tend to seek authentic experiences and alternative forms of tourism where they could be involved and engaged with the local community and environment (Coghlan, 2006:225; Lyons & Wearing, 2008:3). Previous literature shows that voluntourists’ preferences are determined by a variety of desires, such as helping the community, and participating in environmental and educational activities (Brown & Morrison, 2003:73; Wearing, 2001:20; Zahra & McIntosh, 2007:115). Martin, Christidis and Pecl (2016:684) also found that marine citizen scientists have a high preference for activities that will complement marine recreation (e.g. scuba diving) with a scientific investigation (e.g. data collection, formulating research questions, analysing data and advocacy (e.g. getting involved in public debates)). These people also desire to contribute to science and environmental management (Hermoso *et al.* 2019:2).

Given the variety of preferences highlighted and discussed, it remains essential to understand these constructs for the sake of management (Sun, Ma & Chan, 2017:2). Similar to motivations, MVT seemingly attracts people who possess ecocentric and altruistic values, who want to participate in activities that would allow them to develop their skills and knowledge and participate in scientific research that will result in tangible conservation outcomes for the species and environments involved (Brondo, 2015:1414; Campbell & Smith, 2005:183; Gray *et al.* 2017:200; Grimm & Needham, 2012:488). MVT can provide voluntourists with the opportunity to participate in activities that would allow them to contribute to conservation and science (Martin *et al.* 2016:686).

The expectation factors (see 5.6.3) identified include overall programme quality, detailed information, and quality destination. These are recurrent expectations in the VT literature (Andereck *et al.* 2011:130; Bailey & Russell, 2010:352; Lepp, 2008:86; McDonald & Wilson, 2013:105; Zahra & McIntosh, 2007:115). The voluntourists placed high importance on participating in science and research, increasing their skills and knowledge, and contributing to conservation, which they considered at the centre of the MVT programmes under study. They also wanted to have the necessary information on the activities in which they would participate and on marine conservation before and during the trip. All of those things they expected would then take place in a beautiful and clean environment where they would have diving opportunities and ethically interact with marine life. In this study, overall programme quality was the largest expectation factor and the quality destination was the lowest expectation factor. This result highlights the priorities that voluntourists seem to place on the core of their experience, the MVT programme itself, over other peripheral elements such as accommodation.

Andereck *et al.* (2011:133) explained that voluntourists can have very high expectations, for example, pre-trip information, skills development, and interactions with the local culture at the destination. Other researchers have indicated that voluntourists often prioritise personal development experiences during VT (Andereck *et al.* 2011:130; Bailey & Russell, 2010:352; Lepp, 2008:86; McDonald & Wilson, 2013:105; Zahra & McIntosh, 2007:115). Voluntourists' expectations can be used to design a product that would meet and exceed their expectations and result in an

increase in satisfaction (Coghlan, 2007:267; Hammersley, 2014:855). Understanding the expectations of voluntourists can be useful in understanding their evaluation of the trip and plan improvement in the future offer (Fallon, 2008:242).

The satisfaction factors (see 5.6.4) identified that are in line with what has been reported in previous literature (Andersen & Miller, 2006:111; Donnelly *et al.* 2014:1237; Johnson *et al.* 2014:235), include destination and interactions, information and education, and overall programme quality. The voluntourists were satisfied with their experience. These voluntourists had high motivations, preferences and expectations that were all met during their trip (Han *et al.* 2019:552). They had the opportunity to contribute to conservation and science and truly have an amazing experience. Higher satisfaction can result in greater trust and higher behavioural intentions, such as revisiting and spreading positive word of mouth (Hwang & Park, 2018:1246; Liang *et al.* 2018:41; Meng & Han, 2018:347).

Satisfaction scores were high for all three factors. However, destination and interaction had the highest scores, and overall programme quality had the lowest. The results of this study emphasise, once more, the relevance of the MVT programme as the centre of the overall MVT experience. The evaluations of the tourists may have been slightly more critical towards programme quality (although scores were still high), as this represented their highest expectation. Fornell *et al.* (1996:7) found that voluntourists' satisfaction can be measured in three dimensions, overall satisfaction with VT trip, satisfaction compared to the desired experience, and satisfaction compared to the ideal experience. VT satisfaction can also be divided into intrinsic (to help others without a reward) and extrinsic satisfaction (to help others and expect a reward, such as gaining skills and experience) (Ferreira *et al.* 2012:3). Participants in this study displayed both intrinsic and extrinsic satisfaction, while there was also some focus on their satisfaction compared to desired or ideal experiences (i.e. perhaps the programme itself, which represented their greatest expectation, was almost idealised to a point where expectations were met but not according to idealised standards). VT organisations should thus take into consideration that voluntourists measure their satisfaction in different dimensions or factors as stated.

With regards to the perceived ethical conduct of the MVT organisation (see 5.6.5), only one factor was identified. Codes of conduct are essential for any MVT organisation, as these ensure that ethical MVT takes place (Richards *et al.* 2015:200). They assist with the planning, implementation, and management of marine environments through MVT (Jansujwicz *et al.* 2013:1369; Roques *et al.* 2018:387). From the results, it can be seen that the MVT organisation and the voluntourists consider codes of conduct as essential and ensure that ethical MVT takes place. Fermani *et al.* (2020:9) indicated that sustainable tourists acknowledge that their activities have an impact on the environment and change their actions accordingly. They further stated that those tourists follow codes of conduct, which can be used to educate voluntourists, enhance responsible behaviour, raise awareness, and manage their expectations towards a destination (Budeanu, 2007:499; Cole, 2007:443). Overall, the results of this study are positive concerning the ethical conduct of MVT organisations and tourists. Nevertheless, more research is required since ethical conduct in VT remains a highly debated topic (Burrai & Hannam, 2018:90; Butcher, 2015:71; Self *et al.* 2010:111; Smith & Font, 2014:942), and could thus assist in furthering the sustainable development of the industry.

The factors that characterised the attitudes (see 5.6.6) of the voluntourists include education, environment, compliance and advocacy, volunteering, CS, career choices, and paying for conservation. Education was considered to be the largest attitude factor and paying for conservation was the lowest attitude factor. Education and interpretation programmes at nature-based tourism destinations have a severe impact on the voluntourists' attitude and behaviour concerning conservation (Schänzel & McIntosh, 2000:36). Educational programmes in MVT can create emotional affinity towards the marine species involved, changing the attitudes of the voluntourists towards marine conservation issues (Andersen & Miller, 2006:111). The confidence and self-awareness of the voluntourists can increase when they take part in MVT (Alexander, 2012b:119; Barbieri *et al.* 2012:509; Coghlan & Gooch, 2011:713; Wearing, 2003:3; Wickens, 2011:42; Zahra & McIntosh, 2007:115), empowering them to participate as advocates and opinion leaders in marine conservation matters (Jansujwicz *et al.* 2013:1369; Johnson *et al.* 2014:235).

Researchers found that, after MWT experiences, some tourists change their attitude and behaviour towards conservation, resulting in having a strong willingness to assist with conservation programmes and participate in more conservation programmes in the future (Apps *et al.* 2018:108; Finkler & Higham, 2004:103). Other researchers found that voluntourists want to be more environmentally aware and try to reduce the impact that they have on the marine environment (Birtles *et al.* 2002:20; Goldberg *et al.* 2018:240; Zeppel & Muloin, 2013:115). MVT can improve the attitude of voluntourists towards marine science by increasing their knowledge, scientific thinking, and social learning (Donnelly *et al.* 2014:1237; Johnson *et al.* 2014:235; Vann-Sander *et al.* 2016:82). VT activities influence the career choices of voluntourists (Hicks, 2016:79; Shum *et al.*, 2021:1). Many studies have indicated that some voluntourists are willing to pay for conservation activities and the protection of wildlife (Ardoin *et al.* 2015:838; Campbell & Smith, 2006:86; Cárdenas & Lew, 2016:2; Davis & Tisdell, 1999:161; Feck & Hamann, 2013:157; La Manna *et al.* 2020:351; Lew, 2015:1). Some voluntourists feel that they have an obligation to protect the marine environment, change their behaviour and pay to support marine conservation (La Manna *et al.* 2020:351). Willingness to pay, however, remains a delicate issue, and it received the lowest score in the current study. As stated earlier, this could have been influenced by the age and occupation of the voluntourists, who were mainly young unemployed students (Bhandari & Heshmati, 2010:620). The voluntourists' attitude with regards to willingness to pay could change as a result of ageing and better financial stability.

The positive attitudes of voluntourists in this study match the voluntourists' motivation, preferences, expectations and satisfaction. They truly wanted and seemingly had an experience where they could enhance their skills and knowledge, contribute to marine conservation and marine science, and participate in a variety of activities. It is essential for MVT organisations to understand the attitude of the voluntourists, as a positive attitude would lead to the quality of the product increasing and a greater chance of repeat and new voluntourists (Rahman *et al.* 2015:1054; Xingqiang, 2015:547). Importantly, positive attitudes demonstrate the value and impact of the MVT experience on tourists. This is something that can steer management and draw the attention of potential collaborators and contributors as part of MVT projects.

6.6. RELATIONSHIPS AND VARIATION AMONG FACTORS

Unique relationships between the factors were recognised (see 5.7). There was a strong positive correlation between the factors in each category of questions. This means that if one factor in a question category (e.g. motivation) was important, the other factor/s in the same category were also important. There was also a high correlation between factors from different categories of factors (e.g. expectations and satisfaction). Meaning that if one factor in a question category was important, other factor/s in other categories were also important. While motivation factors were correlated with one another, there was no correlation between the motivation factors and the factors in other categories. Factors from other categories tended to be significantly correlated, in line with research describing the strength of relationships between different aspects of the tourist experience, such as expectation with satisfaction, or satisfaction with attitude post-experience (Agyeiwaah, Adongo, Dimache & Wondirad, 2016:68; Boezeman & Ellemers, 2009:897; Carlson & O’Cass, 2010:112; Galant, Golja & Slivar, 2015:72; Hill, Woodland & Gough, 2007:78).

Previous literature has found that motivation factors for citizen scientists have a positive correlation with each other (Beza *et al.* 2017:20; Lotfian *et al.* 2020:19). This indicates that marine wildlife voluntourists may have different types of motivation that influence one another (Beza *et al.* 2017:20). However, motivation was seemingly not related to preference, expectation, satisfaction, ethical conduct of the MVT organisation and attitude of the voluntourists, and vice versa. Previous literature describes that motivation factors for citizen scientists have a positive correlation with satisfaction (Sprinks *et al.* 2015:1) and attitude and behaviour (Balestra *et al.* 2017:3). Indicating that high motivation would result in increased satisfaction and attitude and behaviour (Han *et al.* 2019:552; Polus & Bidder, 2016:309). In the case of the present study, however, these relations were missing. One explanation for this finding is that the participants in this study were highly motivated to participate in MVT, regardless of other factors such as the outcome of the experience. This interpretation calls for more research on the strength of motivations in MVT and their meaning. For example, having ecocentric motivations the highest score, it could be inferred that marine wildlife voluntourists are ultimately driven by their desire to help marine wildlife, conservation and science over any other aspect of the MVT experience. Expectations had some weak correlations with other factors, suggesting that they played a more marginal

relational role. This result supports the notion that marine wildlife voluntourists focus more on how the MVT activity can achieve ecocentric goals, and less on their personal expectations, even if these are linked to the achievement of these goals.

6.7. RESULTS FROM THE CLUSTER ANALYSIS

Two cluster analyses were performed, one for the case study sites and one for the online survey (see 5.8). For the case study sites, the clusters identified included young enthusiasts, neutral elders and mature voluntourists. For the online survey, the clusters included young enthusiasts, neutral elders and satisfied elders. The characteristics of these clusters match in part with those reported in the available literature on MWT and VT, as described below.

The “**young enthusiasts**” were the youngest, had a background in EBS, and provided the highest factor scores. The “**mature voluntourists**” were also young and had a background in EBS, but they had much VT experience, were more committed to MVT experience in terms of time, also spending less per day, and provided high factor scores.

These voluntourists can be categorised as millennials with strong pro-environmental attitudes and ethical behaviours (Bucic *et al.* 2012:113; McKay, 2010:12; Smith & Miller, 2011:492; Vermillion & Peart, 2010:68). These are people who are adventurous and hold strong potential to participate in conservation tourism and VT (Malone *et al.* 2014:241). They can seek enlightening experiences, travel for extended periods, and visit remote locations (Malone *et al.* 2014:241). They have previous travelling experiences, focus on avoiding mass tourism, and are seeking an authentic tourism experience where they could be physically and mentally involved (Benckendorff *et al.* 2012:44; Leask *et al.* 2014:462). They are technology-driven and focus on establishing relationships with their peers through social media (Bowen, 2015:221; Leask *et al.* 2014:462). Millennials are considered one of the important segments in the tourism industry, due to the size and characteristics of this segment (Veiga *et al.* 2017:612). In other words, the “**young enthusiasts**” and “**mature voluntourists**” are millennials with positive environmental and ethical behaviours that would benefit VT organisations through their contribution to conservation and science, and spreading of word of mouth to their peers.

The “**neutral elders**” were older, provided the lowest factor scores, had much experience in VT and MVT, and spent the most per day. The “**satisfied elders**” were the oldest, did not have a background in EBS, had little MVT experience, stayed for a shorter period, and prioritised ecocentric motivations and preferences in MVT.

Lough and Xiang (2016:1090) found that older or mature voluntourists tend to stay for shorter periods and tend to spend more on their trip. Previous research has found that older or mature tourists, in general, tend to have shorter trips with high travel expenses (Fleischer & Pizam, 2002:106; Kazeminia *et al.* 2015:80; Nyaupane *et al.* 2008:341). These tourists have financial resources to offer (Chen *et al.* 2013:122) and usually feel better about themselves when enjoying leisure activities (LaForge, 1984:14; Wei & Milman, 2002:175). Older or mature voluntourists see VT as a way to fulfil their altruistic and ecocentric needs through giving back and helping others with the skills and experience that they have gained over time (Erikson *et al.* 1986:20; Son & Wilson, 2011:644). Compared to younger voluntourists, they are usually more committed to addressing problems using the experience that they have gained while volunteering (Erikson *et al.* 1986:20; Son & Wilson, 2011:644). They are more prone to participate in VT vacations, where they could merge volunteering and a leisure holiday (Onyx *et al.* 2010:20). In other words, the “**neutral elders**” and “**satisfied elders**” are older or mature voluntourists who want to travel to fulfil their ecocentric and altruistic needs that would benefit VT organisations. They wish to put their skills and experience to good use and have financial resources.

What is relevant for this study is that MVT seemingly draws different clusters, each one of which represents a phase in what could be called a marine voluntourist’s path. This plausible path is displayed in Figure 6.1. Along the path, the marine wildlife voluntourist starts his / her journey as a young enthusiast who likely has some background in EBS. As a result of satisfactory and fulfilling experiences, the tourist “evolves” to reach a mature voluntourist phase. By this point, the tourist may still be young but has acquired skills and has gained more knowledge about MVT programmes, possibly also learning how to cut some costs. The tourist has also reached maximum satisfaction from the experience. The tourist once more evolves into a neutral elder. By this point, the tourist may be older, may have matured much

experience in MVT and become more demanding, and thus slightly less satisfied with the experience. The tourist would also have financial stability providing the ability to spend more money on the experience. It must be noted that the satisfied elder may be someone who has started their marine wildlife voluntourist path later in life, and thus not a young enthusiast. This person may not have a background in EBS but would be passionate about ecocentric topics and willing to contribute. The path of this specific person is unclear, and the satisfied elder may consider MVT as a once-off experience.

It would be essential for MVT organisations to understand these clusters as it could provide them with insight into the demand for MVT. It could also assist the MVT organisations in gaining a competitive advantage by conducting effective marketing, and offering the voluntourists what they want.

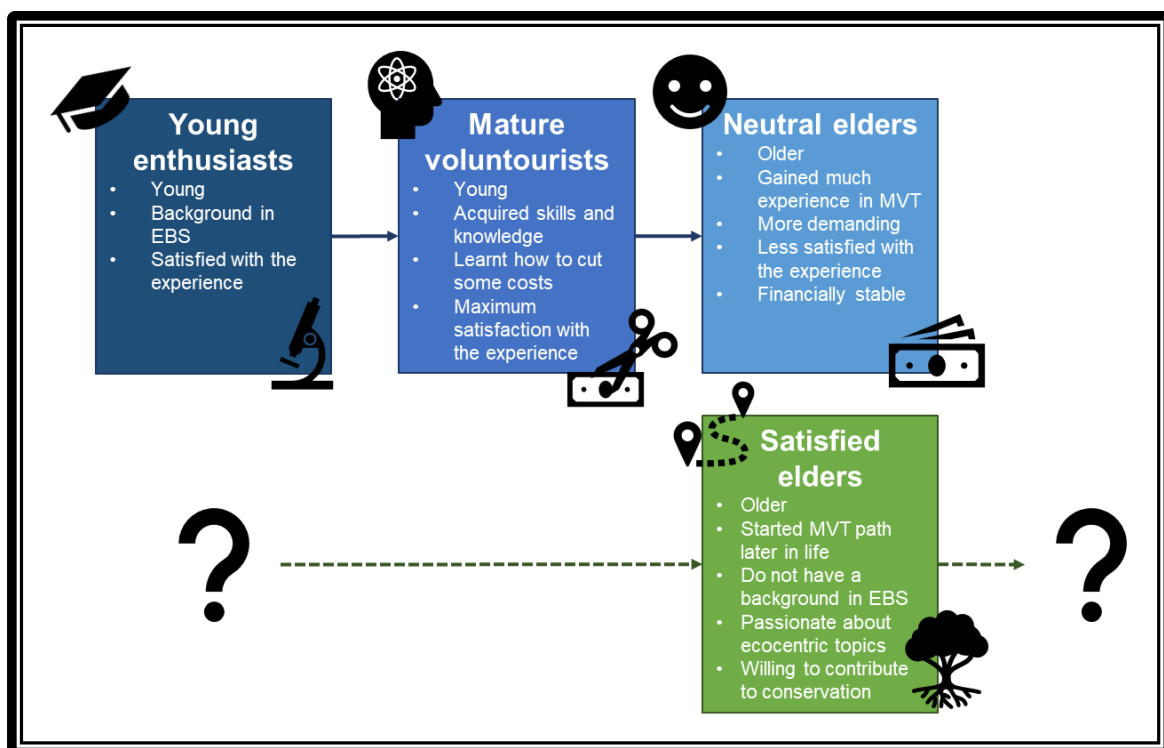


Figure 6.1: Marine voluntourist's path.

Source: Author's compilation

6.8. RESULTS FROM STRUCTURAL EQUATION MODELLING

Eight SEM (see 5.9) were identified, where the motivation to participate in MVT and expectations towards MVT were hypothesised to influence satisfaction with MVT,

perceived ethical conduct of the MVT organisation, and attitudes of the participants. The first four models tested the influence of each factor in motivations and expectations on satisfaction, perceived ethical conduct of the MVT organisation, and attitudes, without considering a mediation effect. It emerged that personal development motivations influenced satisfaction; ecocentric motivations, personal development motivations and satisfaction influenced attitudes; expectations towards the MVT programme quality influenced satisfaction and attitudes; perceived ethical conduct of the MVT organisation influenced attitudes; and motivations and expectations in MVT did not influence the perceived ethical conduct of the MVT organisation.

The second four models tested mediation effects of satisfaction and perceived ethical conduct of the MVT organisation and test the influence of the independent constructs on the dependent constructs as a whole and not the underlying factors. Motivations and expectations positively influenced satisfaction, the perceived ethical conduct of the MVT organisation and attitudes. Both satisfaction and perceived ethical conduct of the MVT organisation partially mediated the relationship between motivations and attitudes, and expectations and attitudes.

These results find partial confirmation in the literature. Wu *et al.* (2017:115) described how social motivations, enhancement-related motivations and desire to travel motivations positively influence voluntourists' satisfaction. Lee *et al.* (2014:45) also found that patriotism motivations and intrinsic motivations positively influence voluntourists' satisfaction. Other research has confirmed that motivations and satisfaction positively influence the voluntourists' behavioural intentions to re-participate in VT and recommend VT to others (Huang & Hsu, 2009:29; Konu & Laukkanen, 2009:20; Lee *et al.* 2014:45; Suhud, 2015a:26; Wu *et al.* 2017:109).

These results are relevant since it has been established that attitude positively influences the environmental motivations and behavioural intentions of voluntourists, as well as responsible environmental behaviour (Hrubes *et al.* 2001:165; Lam & Hsu, 2006:589; Ong & Musa, 2012a:1529; Shen *et al.* 2009:722; Suhud, 2015a:26; Suhud & Willson, 2016:290; Tsai, 2010:512; Wu & Teng, 2011:7579). This creates a positive feedback loop (see Figure 6.2) that begins and ends with motivations (and

expectations in the case of this study). Importantly, satisfaction and the perceived ethical conduct of the MVT organisation act as mediators in this loop, thus representing a central factor, as confirmed in other research on VT (Finkelstein, 2008:1353; Lee *et al.* 2014:41).

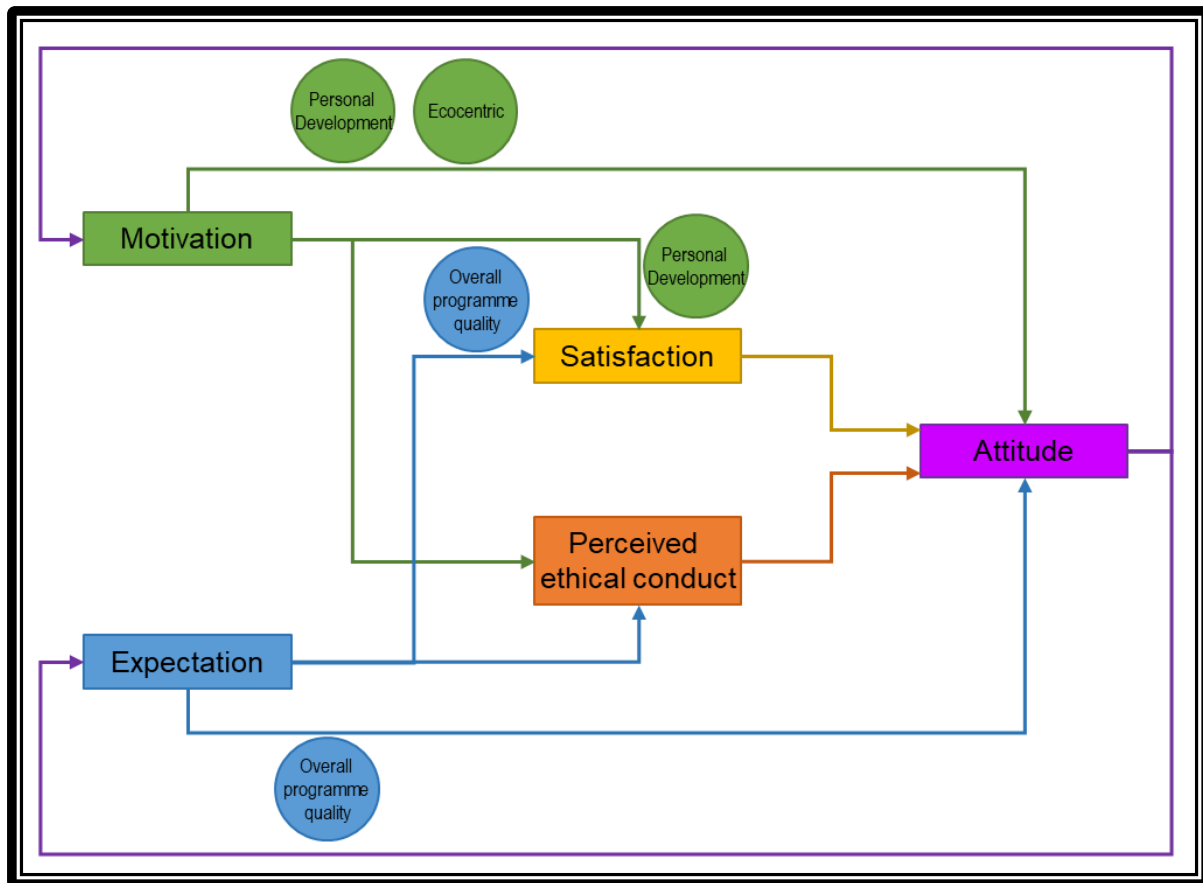


Figure 6.2: Results from the structural equation models

Source: Author's compilation

The results from the SEMs highlight that it is essential for MVT organisations to meet and exceed the motivations and expectations of the voluntourists, and to ensure that the voluntourists are satisfied. These elements are crucial in influencing attitude after the MVT experience. The MVT organisation should also follow ethical standards to ensure that attitudinal outcomes among the voluntourists are positive after the experience. Voluntourists with a strong positive attitude would be more highly motivated and have higher expectations to participate in VT again. This feedback loop, however, must also be interpreted with the marine voluntourist's path (Figure 6.1) in mind.

6.9. DETERMINANTS OF SATISFACTION AND ATTITUDE

The determinants of satisfaction and attitude were explored via regression models. These indicated that specific variables ultimately determined satisfaction and attitude (see 5.10 and Figure 6.3).

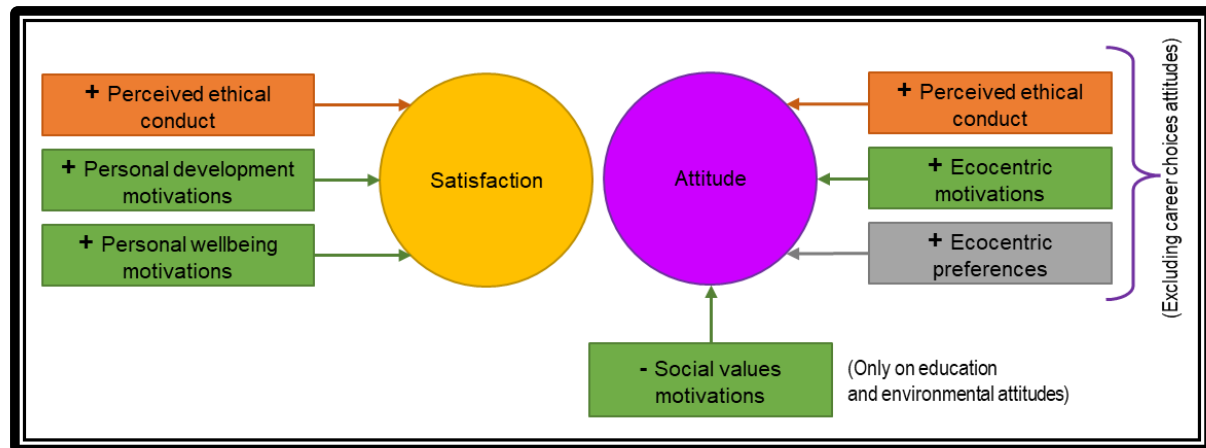


Figure 6.3: Determinants of satisfaction and attitude

Source: Author's compilation

In all but one case (attitude towards career choices), the perceived ethical conduct of the MVT organisation was a significant positive determinant. Similarly, previous research has found that unethical conduct of wildlife tourism organisations (e.g. overcrowding, not following codes of conduct, environmental damage, wildlife disturbance) can negatively influence tourists' experiences, satisfaction and attitude (Newsome, 2013:210; Perera *et al.* 2015:497; Perera *et al.* 2012:451; Rathnayake & Gunawardena, 2014:23; Rathnayake, 2015:129). The results of this study show that the perceived ethical conduct of the MVT organisation is a critical element of focus to ensure a positive experience as well as positive outcomes following the experience (i.e. attitude). It must be noted, however, that tourists may also experience an "ethical blind spot", where they want to act ethically, but also want to have a unique experience (even if it is unethical) (Moorhouse *et al.* 2017:509). For example, Curtin (2006:313) stated that marine wildlife tourists believe that dolphins should not be held captive, but they have a desire to interact and swim with dolphins (even when they are captive). Therefore, while the ethical conduct of an MVT organisation is essential, so is ensuring follow-through in terms of providing tourists with truly ethically sound experiences.

Motivations to participate in MVT for personal development and personal well-being determined satisfaction with destination quality, information and education quality, and MVT programme quality. Similarly, Ferreira *et al.* (2012:20) found that development and learning (in the current study personal development), altruism, belonging and protection (in the current study personal well-being), and career development determine satisfaction. Other research has also found that motivation has a direct impact on the voluntourists' satisfaction (Clary *et al.* 1998:1516; Farrell *et al.* 1998:288; Reeser *et al.* 2005:20). This means that, in MVT, motivations to obtain practical skills and experience, personal fulfilment and psychological health ensure a positive experience.

Ecocentric motivations, sometimes accompanied by ecocentric preferences, were key positive determinants of all but one (attitude towards career choices) attitude factors. Wiener *et al.* (2009:492) indicated that a positive attitude in MT is usually associated with motivation to participate in conservation. For example, scuba divers are motivated to participate in conservation diving and CS, which impacts their attitude towards the environment, education, and paying for conservation, to name a few (Bear, 2016:56; Cerrano *et al.* 2017:303; Hammerton *et al.* 2012:77; Panebianco *et al.* 2017:1). This means that, in MVT, motivations and preferences concerning contributions to marine conservation and giving back to a worthy cause will ensure positive outcomes following the experience (i.e. attitude).

Motivations to participate in MVT for social reasons had a negative influence on attitudes towards education and the environment. According to Mustonen (2007:110), some voluntourists participate in VT purely for social reasons, which reduces their ecocentric and altruistic attitude. Other voluntourists participate in VT for ecocentric and altruistic reasons and not for social reasons (Mustonen, 2007:110). Voluntourists could be categorised into those who are “vacation minded” and those who are “volunteer minded” (Brown & Morrison, 2003:73). Vacation-minded voluntourists are less concerned about volunteering, give a small portion of their time to volunteering, and show more individualism (Brown & Letho, 2005:479; Brown & Morrison, 2003:73; Han *et al.* 2020:3; Mustonen, 2007:97). In this case, they are prone to participate in VT for social and egocentric reasons and less prone to participate in VT for ecocentric and altruistic reasons (Brown & Lehto 2005:470). Volunteer-minded tourists are more

self-motivated, place more emphasis on volunteering, and spend a great deal of their time participating in volunteering activities (Brown & Letho, 2005:479; Brown & Morrison, 2003:73; Han *et al.* 2020:3; Mustonen, 2007:97). In this case, they are prone to participate in VT for ecocentric and altruistic reasons and less prone to participate in VT for social and egocentric reasons (Brown & Lehto 2005:470). According to Halpenny and Caissie (2003:25), social motivations (egocentric) fail to change voluntourists' perception of conservation and negatively impact their pro-environmental attitudes. This means that, in MVT, motivations concerning the valuation of social relationships could result in negative educational and environmental outcomes (ecocentric and altruistic) following the experience (i.e. attitude).

From this, it can be concluded that satisfaction in MVT is highly dependent on both extrinsic and intrinsic motivations. Ethics is at the core of satisfaction. Ecocentrism is central to determining positive attitudes, and ethics is also central in determining positive attitudes. It is therefore essential for MVT organisations to follow ethical codes of conduct and meet the extrinsic and intrinsic motivations of the voluntourists. This would result in satisfied voluntourists with a positive attitude. A memorable experience would result in positive post-purchase behaviour, such as loyalty, re-participation and positive word of mouth, which are crucial in supporting VT programmes (Hung *et al.* 2016:763; Kim *et al.* 2016:1213; Sharma & Sahni, 2017:1136; Zhang *et al.* 2018:326).

6.10. CONCLUSION

The purpose of this chapter was to achieve objective 3, by discussing the scientific results aimed at breaking down the structure of MVT in Southern Africa, including an in-depth analysis of both demand and supply sides at three case study sites, as well as an analysis of demand from an online survey that was used to complement data from the case study sites. The results were interpreted with the aid of previous literature on MT, MWT, VT, MVT, CS, and MCS. Additional literature in the tourism, conservation tourism and sustainable tourism industry was also used to critically evaluate the data. The results of this study assisted in filling gaps that were identified in the literature on MVT in Southern Africa and around the globe. The next chapter provides the overall conclusion of the study, the contribution of this study, the limitations of the study, and the necessary recommendations regarding MVT and its sustainability, benefits, challenges, and future.

CHAPTER 7: CONCLUSION AND RECOMMENDATIONS

"We are using resources as if we had two planets, not one... there can be no Plan B because there is no planet B"

~ Ban Ki-moon

7.1. INTRODUCTION

The primary aim of this study was to carry out a critical assessment of marine wildlife voluntourism (MVT) in Southern Africa (c.f. 1.4). There were two key research questions to this study: how is MVT structured (demand and supply) in Southern Africa? And how can understanding the structure of MVT assist its sustainable development?

To achieve the aim, four objectives were set in Chapter 1. These objectives were achieved in the corresponding chapters. The first objective was to analyse marine wildlife tourism (MWT) and volunteer tourism or voluntourism (VT), and more specifically MVT with all its characteristics, through an in-depth literature review. This objective was achieved in Chapters 2 and 3. The focus was on several topics including the context of MWT, the context of VT, the onset of MVT, the structure of MVT, and documented impacts of MVT (c.f. 1.4.1.1). The second objective was to gather relevant information concerning MVT through a content analysis of web-based information (c.f. 1.4.1.2). This objective was achieved in Chapter 3.

The third objective was to use a scientific research process breaking down the structure of MVT in Southern Africa, including an in-depth analysis of both demand and supply sides at three case study sites for comparative purposes (c.f. 1.4.1.3). This objective was achieved in Chapter 4 (including the materials and methods of research), Chapter 5 (including a detailed exposition of the results of this study) and Chapter 6 (including a discussion and interpretation of the results of this study in light of previous literature). In total, four MVT organisations at three case study sites in Southern Africa were selected. A mixed-method of data collection was followed, including quantitative (questionnaire surveys targeting tourists) and qualitative (semi-structured interviews targeting tourists and MVT organisations) methods. Data

collected from the demand side at the case study sites were compared to those collected through an international online survey.

The results for the demand side consisted of a demographic profile, preferred types of tourism, introduction to VT, previous VT experiences, trip duration, motivation to participate in MVT, preferences in MVT, expectations towards MVT, satisfaction with MVT, perceived ethical conduct of the MVT organisation, environmental attitudes and specific attitudes towards MVT. The results of the supply side consisted of a demographic profile of staff at the case study sites, business model canvas for the case study sites and key characteristics of the organisations at the case study sites.

The fourth and final objective was to use the information and outcomes of Objectives 1-3 to summarise the research, make recommendations concerning the management of MVT in Southern Africa and overall, and make suggestions for future research on MVT (c.f. 1.4.1.4). This objective is achieved in the current chapter (Chapter 7).

7.2. CONCLUSIONS OF THE STUDY

This section includes a summary of conclusions (Figure 7.1) concerning the literature review (Chapters 2 and 3), the research method (Chapter 4), and the results and discussion (Chapters 5 and 6).

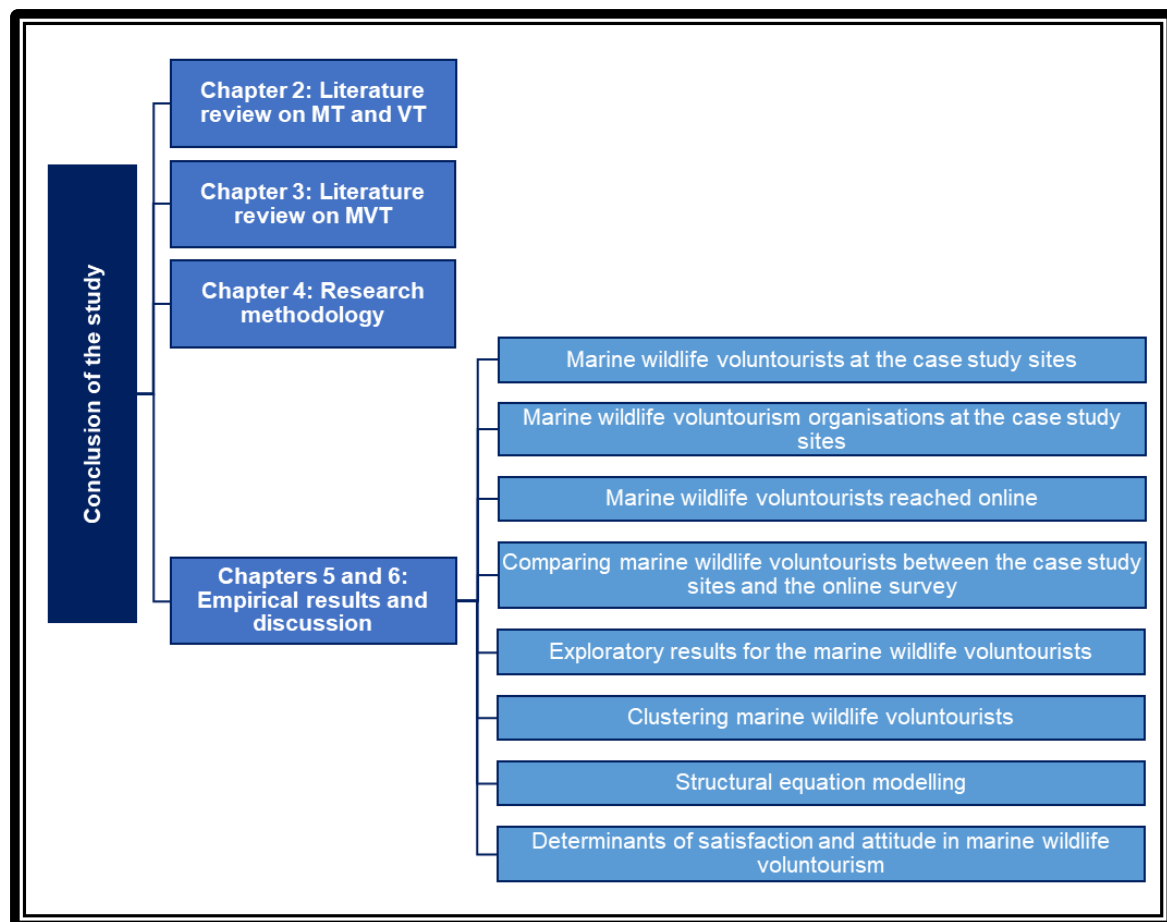


Figure 7.1: Conclusion of the study

Source: Author's compilation

The figure shows that conclusions have to be made concerning Chapters 2 - 6.

7.2.1. CONCLUSIONS FROM CHAPTER 2

The main purpose of Chapter 2 was to describe research concerning the context of MWT and VT through an in-depth literature review. The main conclusions regarding this chapter are summarised in this section.

MWT is growing rapidly in terms of its value and volume and is promoted as a sustainable activity that contributes to conservation. Depending on the type of activity, MWT can also be considered as mass tourism that can be detrimental to a destination and marine ecosystems. MWT is one of the largest tourism sectors in Southern Africa, due to the extensive coastline and unique activities offered. This essential tourism sector in Southern Africa offers a variety of advantages but also disadvantages to the economy, society and natural environment. It is therefore essential to also consider alternative and potentially sustainable forms of tourism, such as VT (c.f. 2.2).

VT has become a popular alternative form of tourism compared to mass tourism. It is growing rapidly in terms of tourists and industry managers who are seeking a sustainable, interactive and productive experience. Southern Africa is a popular VT destination and offers a variety of opportunities for VT, from community VT to MVT. This latter form of VT can assist in developing local economies and communities, embrace sustainability principles and address human impacts on the marine environment and wildlife (c.f. 2.3).

7.2.2. CONCLUSIONS FROM CHAPTER 3

The main purpose of Chapter 3 was to describe research about the onset of MVT, the structure of MVT, and documented impacts of MVT through an in-depth literature review and a content analysis of web-based information. The main conclusions regarding this chapter are summarised in this section.

MVT was developed to promote tourism revolving mainly around marine conservation and science, and also enjoying a coastal destination with its attractions. Marine conservation and advocacy have increased due to the great impact of people on marine ecosystems and the threats that these ecosystems face globally. Increased human activities have a large effect on the ocean, resulting in the potential extinction of species and habitat degradation. Conservation interventions are being used to meet sustainable and biodiversity development goals and to reduce the negative impact of humans on ecosystems. The increased demand for educational learning, environmental activities and wildlife tourism has contributed to the increased demand for VT revolving around these topics. More people want to participate in MVT to contribute to conservation issues, support the protection of different wildlife and ecosystems, increase their education, and participate in scientific activities revolving around conservation. MVT has resulted in increased education and awareness of voluntourists and the local community, greater research and planning revolving around conservation decisions, increased environmental concern or continued participation in conservation-oriented activities (c.f. 3.2).

There is a diversity of MVT organisations, where each offers unique programmes. These revolve around various marine species, with a focus on charismatic fauna, and

environmental, conservation, scientific and educational activities. MVT is accessible at different destinations globally (with a focus on the global south) at different costs. There is a gap in the published information on the business and organisational activities that drive VT projects, more specifically MVT programmes. Based on a content analysis of web-based information, a business model canvas for MVT could be drawn. This involves a variety of different key partners, key activities, key resources, value propositions, customer relationships, channels, customer segments, cost structures and revenue streams. A well-structured MVT organisation can make meaningful tourist experiences (c.f. 3.3).

MVT can have important effects on 1) conservation, such as managing vulnerable and threatened marine species, funding, and managing marine and coastal ecosystems and habitats; 2) voluntourists, including their experience and attitude and behaviour; 3) local environment, community and economies, such as improving local livelihoods, capacity building, knowledge and awareness, and collaboration opportunities; and 4) science, decision making and policy, including increased scientific knowledge and providing essential and reliable data on marine wildlife and ecology. There are some gaps in the literature, based on some contradictory findings by different authors, restricted reviews from the voluntourists (mainly positively biased), and limited information on some impacts of MVT (c.f. 3.4).

7.2.3. CONCLUSIONS FROM CHAPTER 4

The main purpose of Chapter 4 was to discuss the method of this study, including a description of the study locations. The main conclusions regarding this chapter are summarised in this section.

Southern African countries are hotspots for MVT, due to the extensive coastlines spanning different latitudes and offering a variety of tourism opportunities in marine settings, and thanks to the presence of charismatic marine wildlife species. With challenges such as high global biodiversity loss and climate change, environmental conservation needs in these countries are also increasing greatly. This could be one of the essential reasons why MVT, at least before COVID-19 struck, was increasing, with more people wanting to make a difference and contribute to conservation. Southern African countries have become among the top ten rated countries worldwide

for MVT. This study focused on MVT in South Africa, Mozambique, and Madagascar. Based on Volunteerworld.com, these are the only countries in Southern Africa (with Seychelles) that host MVT projects. Significant conservation and management efforts for marine habitat and species are required in these countries, due to the extensive coastline and diversity in marine species present. Charismatic and vulnerable species are found here that move across trans-frontier boundaries. Finally, there is limited understanding of the dynamics of MVT in these countries (Appendix 2) (c.f. 4.2).

Thirteen MVT organisations were originally invited to participate in this study. The study ultimately involved four organisations at three case study sites, two in South Africa, one in Mozambique, and one in Madagascar (c.f. 4.3).

A concurrent convergent mixed-method approach was followed in this study. This research was exploratory and served an explanatory, contextual, evaluative, and generative function. The demand side analysis of MVT focused on voluntourists. The measuring instruments included: 1) a structured questionnaire survey targeting voluntourists at the organisations at the case study sites, distributed at the case study sites and also available online; 2) an online structured questionnaire survey targeting voluntourists around the globe; and 3) a semi-structured interview targeting voluntourists at the case study sites, conducted face-to-face at the case study sites or via Skype. The components that were addressed in the surveys and interviews included demographic profile, motivations, expectations and preferences in MVT, satisfaction and perceived ethical conduct of the MVT organisations, as well as environmental attitudes and behaviour following their experience. Previous literature was used to justify the inclusion of such elements in the surveys and interviews. The supply side analysis of MVT targeted managers and staff at organisations at the case study sites. A semi-structured face-to-face or Skype interview was used to collect data. Questions included the demographic profile of the participant, the profile of the MVT organisation, and key characteristics of the organisation. Questions were adapted from the structured questionnaire and semi-structured interview for the demand side, and a standard business model canvas was used to assist the process of data collection from the supply side (c.f. 4.4).

Due to the small population sizes, a non-probability sampling method, including convenience sampling, was followed to collect data. Overall, data collection started after ethical approval for this study was obtained (25 June 2019), and was concluded on 25 June 2020, spanning one year. The data obtained from questionnaires were analysed via frequency tables, descriptive statistics, cross-tabulation, correspondence analysis, Levene's test of homogeneity of variances, the Brown-Forsythe test of homogeneity of variances, Welch's F test, the Kruskal-Wallis test, analysis of variance (ANOVA), the Tukey HSD (post-hoc tests), the Mann-Whitney U non-parametric test, practical effect size (Cohen's *d*), exploratory and confirmatory factor analyses and reliability tests, Spearman's rank-order correlation (r_s), cluster analysis, structural equation models (SEM), and stepwise backward multiple regression analysis. The qualitative data were analysed via thematic analysis including organising the data, coding the data, establishing themes and interpreting the data (c.f. 4.4).

Ethical clearance was received from the Economic and Management Sciences Research Ethics Committee (EMS-REC) at the North-West University, Potchefstroom Campus (NWU-00767-19-A4) (c.f. 4.5).

7.2.4. CONCLUSIONS FROM CHAPTERS 5 AND 6

The main purpose of Chapters 5 and 6 was to elaborate and discuss the results of mixed-method research assessing MVT in Southern Africa. The main conclusions regarding this chapter are divided into eight sections.

7.2.4.1. Marine wildlife voluntourists at the case study sites

The main conclusions regarding the descriptive data on marine wildlife voluntourists at the case study sites are summarised in this section. The majority of the voluntourists were female (69%), single (89%) and originated from Europe (47%). They were an average of 29 years old and had a university degree (69%) in environmental or biological sciences (EBS; 82%). Most were still studying (56%) and those in employment were working in fields other than EBS (55%) (c.f. 5.2.1). The preferred types of tourism amongst the voluntourists were nature-based (91%), wildlife-based (88%) and water-based (83%) (c.f. 5.2.2). Most voluntourists were introduced to VT through their friends (64%) (c.f. 5.2.3). The majority had previous volunteering experience (75%) in communities (37%), environment (37%) and marine conservation

(43%). They had been involved in volunteering for an average of 48 months (c.f. 5.2.4). The average duration of their present trip was 34 days, with average spending of \$108 per day (c.f. 5.2.5).

Motivations related to assisting marine wildlife, participating in marine conservation efforts, and enhancing one's personal development had the highest average scores (c.f. 5.2.6). The most important elements of an MVT programme would be hands-on experiences with marine life that would contribute tangibly to conservation and have a scientific value (c.f. 5.2.7). The voluntourists particularly valued the acquisition of marine scientific knowledge, proper training and coordination, and interactions with marine life (c.f. 5.2.8). Satisfaction was greatest with the location; places seen; people met; interactions with marine life; MVT programme quality; training, education and information received; and accommodation (c.f. 5.2.9).

The voluntourists agreed or strongly agreed that the hosting MVT organisation acted in an ethically sound manner especially around handling marine life, environmental conservation, compliance with rules and regulations, personal conduct, and treatment of staff and voluntourists (c.f. 5.2.10). Their post-trip attitudes towards conservation, education and environmental responsibility received very high average scores (c.f. 5.2.11). The majority would volunteer at the same programme again (50%), encourage others to volunteer at the same programme (96%), and honestly communicate with the programme manager should they wish to speak to them about the programme (93%) (c.f. 5.2.12).

7.2.4.2. Marine wildlife voluntourism organisations at the case study sites

The main conclusions regarding results on the MVT organisations at the case study sites are summarised in this section. The profiles of the staff who were interviewed at the three case study sites were slightly different. In general, these profiles were characterised by people who were older than the voluntourists, possessed higher education qualifications or experience in marine conservation and had worked for the organisations for some time (c.f. 5.3.1). The business model canvas and key characteristics for the organisations at the three case study sites were similar to the business model canvas of MVT described in the literature and the content analysis of web-based information reported in Chapter 3 (c.f. 5.3.2 and 5.3.3).

7.2.4.3. Marine wildlife voluntourists reached online

The main conclusions regarding the descriptive data on marine wildlife voluntourists intercepted online through an international survey are summarised in this section. The majority of the voluntourists were female (72%), single (62%) and originated from Europe (48%). They were, on average, 37 years old and had a university degree (82%) in EBS (56%). Most were employed (56%) in fields other than EBS (74%) (c.f. 5.4.1). Their preferred types of tourism were nature-based (90%), wildlife-based (89%) and water-based (83%) (c.f. 5.4.2). Most were introduced to VT through the general website (36%) (c.f. 5.4.3). The majority had participated in MVT between two and five times (44%). The duration of their trip was more than 30 days on average (43%) (c.f. 5.4.4).

Motivations related to participating in marine conservation efforts, assisting marine wildlife, and personal fulfilment had the highest average scores (c.f. 5.4.5). The most important element of an MVT programme would be to contribute tangibly to the conservation of the environment, followed by offering opportunities to participate in scientific research, working with local marine and coastal managers, and working with vulnerable marine wildlife (c.f. 5.4.6). A good programme coordinator's expertise was most important, followed by quality training, education and interactions with marine life (c.f. 5.4.7). Interaction and contact with marine life and species, and the people met during the MVT experience were most satisfactory on average (c.f. 5.4.8).

Handling marine life, environmental conservation, and compliance with rules and regulations were the aspects towards which the respondents believed the MVT organisations acted in the most ethically sound manner (c.f. 5.4.9). Post-trip attitude statements on compliance to rules and regulations about marine environments, education (personal or of others), pro-environmental behaviour (e.g. recycling), generational equity and environmental advocacy had the highest average scores (c.f. 5.4.10). The majority of the voluntourists would volunteer at a different MVT programme in the future (46%), encourage others to volunteer at the same programmes that they experienced (83%), and honestly communicate with the programme manager should they wish to speak to them about the programmes (95%) (c.f. 5.4.11).

7.2.4.4. Comparing voluntourists between the case study sites and the online survey

The main conclusions regarding the comparison between voluntourists at the case study sites and intercepted online internationally are summarised in this section. The main demographic differences were related to occupation and age. Voluntourists at the case study sites were students in their late twenties and those intercepted online were employed and were in their late thirties (c.f. 5.5). Voluntourists at the case study sites were introduced to VT through their friends and those intercepted online were introduced to VT through the general website (c.f. 5.5). The voluntourists at the case study sites had a shorter trip duration (34 days) compared to those intercepted online (45 days) (c.f. 5.5). The voluntourists at the case study sites gave a stronger response (compared to the voluntourists intercepted online) concerning their motivation, preferences, expectations, satisfaction, perceived ethical conduct of the MVT organisation, and attitudes (c.f. 5.5). They would volunteer at the same programme again, whereas those intercepted online would volunteer at a different programme (c.f. 5.5).

7.2.4.5. Exploratory results on marine wildlife voluntourists

The main conclusions concerning the exploratory analysis performed on marine wildlife voluntourists' data are summarised in this section. Based on exploratory and confirmatory exploratory factor analysis (EFA and CEFA), the following factors were identified. Motivations: ecocentric, personal development, personal well-being, and social values (c.f. 5.6.1). Preferences: ecocentric and activities (c.f. 5.6.2). Expectations: overall programme quality, detailed information, and quality destination (c.f. 5.6.3). Satisfaction: destination and interactions, information and education, and overall programme quality (c.f. 5.6.4). Perceived ethical conduct of the MVT organisation was a single factor (c.f. 5.6.5). Attitudes: education, environment, compliance and advocacy, volunteering, citizen science (CS), career choices, and paying for conservation (c.f. 5.6.6). There were positive correlations between factors from different question categories, with some exceptions. Variables including gender, age, education, profession and previous MVT experience had significant correlations with some factors (c.f. 5.7).

7.2.4.6. Clustering marine wildlife voluntourists

The main conclusions regarding the clustering of marine wildlife voluntourists are summarised in this section. Two cluster analyses were performed, one for the case study sites and one for the online survey. For the case study sites, the clusters identified included young enthusiasts, neutral elders and mature voluntourists (c.f. 5.8.1). For the online survey, the clusters included young enthusiasts, neutral elders and satisfied elders (c.f. 5.8.2). The main difference between the clusters identified for the case study sites and the online survey were the clusters of mature voluntourists and satisfied elders. Mature voluntourists had a background in EBS, much volunteering experience, tended to be more committed to the MVT experience in terms of time, spent less per day, and had high factor scores. Satisfied elders were older, had the least background in EBS and the least MVT experience, and tended to prioritise ecocentric motivations and preferences in MVT (c.f. 5.8.3).

7.2.4.7. Structural equation modelling

The main conclusions concerning the SEM performed on voluntourists' data are summarised in this section. Eight models were created, where the motivation to participate in MVT and expectations towards MVT were hypothesised to influence satisfaction with MVT, perceived ethical conduct of the MVT organisation, and attitudes of voluntourists (c.f. 5.9). The first four models tested the influence of each factor in motivations and expectations without considering a mediation effect. Personal development motivations influenced satisfaction; ecocentric motivations and satisfaction influenced attitudes; expectations towards the MVT programme quality influenced satisfaction and attitudes; perceived ethical conduct of the MVT organisation influenced attitudes; and motivations and expectations in MVT did not influence the perceived ethical conduct of the MVT organisation (c.f. 5.9).

The second four models tested the influence of the independent constructs as a whole, and mediation effects of satisfaction and perceived ethical conduct of the MVT organisation. Motivations and expectations positively influenced satisfaction, the perceived ethical conduct of the MVT organisation and attitudes. Both satisfaction and perceived ethical conduct of the MVT organisation partially mediated the relationship between motivations and attitudes, and expectations and attitudes (c.f. 5.9).

7.2.4.8. Determinants of satisfaction and attitude in marine wildlife voluntourism

The main conclusions concerning the determinants of satisfaction and attitude, explored with regression models, are summarised in this section. In all but one case (attitude towards career choices), the perceived ethical conduct of the MVT organisation was a significant positive determinant (c.f. 5.10). Motivations to participate in MVT for personal development and well-being determined satisfaction with destination quality, information and education quality, and MVT programme quality (c.f. 5.10). Ecocentric motivations, sometimes accompanied by ecocentric preferences, were key positive determinants of all but one (attitude towards career choices) attitude factors (c.f. 5.10). Motivations to participate in MVT for social reasons had a negative influence on attitudes towards education and the environment (c.f. 5.10).

7.3. LIMITATIONS

The limitations of this study are laid out as follows. Firstly, the researcher was not able to travel to organisation C (Madagascar case study site) to collect data in person. This was due to limited funds, the COVID-19 pandemic and the resulting national lockdowns. Thus, the data were collected through online surveys and online interviews. Secondly, the study was only conducted at four organisations (three case study sites) in Southern Africa, with a limited number of questionnaires administered. Data collected at other MVT organisations in Southern Africa may have provided more comprehensive information on the study topic. However, the study guarantees representation of MVT in Southern Africa and the researcher was able to collect additional data from the international online survey.

Thirdly, while this study focused on MVT in Southern Africa, which included both demand and supply sides, the inclusion of other stakeholders may have enriched the data and improved the interpretation thereof. Finally, some questions may have been formulated vaguely, resulting in some misunderstandings among the participants. Precautions were taken by having the researcher explain any unclear sentences to the participants. Statements that were likely misunderstood were also clearly identified during the data analysis process and interpreted with caution.

7.4. RECOMMENDATIONS

This study generated results that can be exploited for marketing, management, and research in MVT. The recommendations from this study are directed not only to MVT organisations but also their key partners and other stakeholders such as decision-makers. While the results of this study enable the proposition of various actions and future research regarding MVT in Southern Africa, some of these propositions are also generalisable, based on similarities between data collected at the case study sites and those collected through the international online survey.

7.4.1. RECOMMENDATIONS FOR MARKETING AND MANAGEMENT

The recommendations of this study for management and practice are displayed in Figure 7.2.

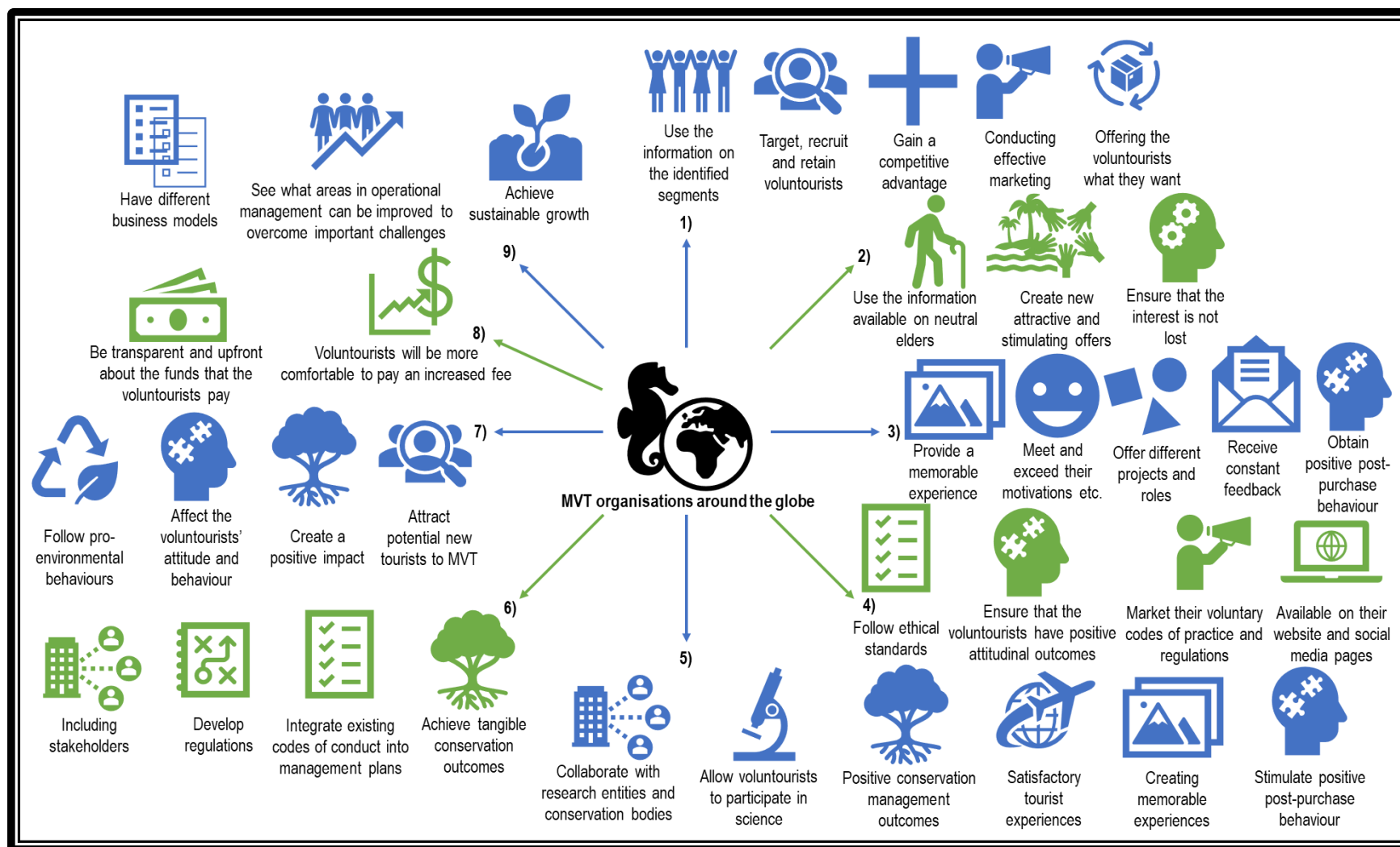


Figure 7.2: Recommendations for marketing and management

Source: Author's compilation

This study showed that the profile of marine wildlife voluntourists in Southern Africa and globally can be heterogeneous as well as sharing similarities. Importantly, the study created clusters identifying various segments that are also likely to represent different temporal phases in the “journey” of marine wildlife voluntourists. MVT organisations in Southern Africa and internationally could use the information available on the identified segments to effectively target, recruit and retain voluntourists. Doing so could provide organisations with insight into the demand for MVT, and assist them in gaining a competitive advantage by conducting effective marketing, and offering the voluntourists what they want. Additionally, MVT organisations could decide that they would rather direct their marketing efforts towards a specific target segment, such as the young enthusiasts or the satisfied elders, depending on the product offer and the structure and vision of the organisations themselves.

The research showed that the neutral elders are likely the concluding phase of the marine voluntourist’s journey. Their neutrality may eventually result in loss of interest in MVT, calling for actions to retain this target market. This is particularly important considering that the neutral elders tend to be financially stable, spend more money on their trip, have experience, and want to fulfil their altruistic and ecocentric needs. MVT organisations could use the information available on neutral elders to create new offers that can be attractive and stimulating, thus ensuring that the interest is not lost. For example, the offer could include more sophisticated experiences encompassing more engaging participation in the scientific process coupled with unique tourism experiences at a destination (e.g. slow food).

Both the voluntourists at the case study sites and intercepted online gave positive responses to the survey in which they participated. They also indicated that they would spread positive word of mouth about MVT and their experience. MVT organisations could take advantage of this outcome, ensuring that they provide the voluntourists with a memorable experience that can result in positive word of mouth, repeat visits and loyalty. The organisations could also offer different projects and different roles in an MVT programme. This would allow the voluntourists the opportunity to switch between different projects and roles when they return to the same organisation. Additionally, MVT organisations should ensure that they receive constant feedback from the

voluntourists to enhance the experience. This would result in positive post-purchase behaviour, which is essential in managing MVT programmes.

Marine wildlife voluntourists believed that the MVT organisations acted ethically towards species, environments and people. Additionally, this perception was highly influential on other post-experience attitudes. Since the perceived ethical conduct of MVT organisations is central in the perceptions of tourists (and generally should represent the foundation of any MVT practice), organisations in Southern Africa and internationally should strive to follow ethical standards (e.g. positive handling of marine life and compliance with local rules and regulations) to ensure that the tourists' experience is not negatively affected and that attitudinal outcomes after the experience are positive. MVT organisations should also proudly and transparently market their voluntary codes of practice and regulations. This would echo their ethical approach. This could be done by making these codes and regulations available to the public on their website and social media pages as well as in the form of educational posts.

All clusters, excluding satisfied elders, had a background in EBS. The results indicated that marine wildlife voluntourists have different motivations, preferences and expectations but are mostly interested in participating in research activities revolving around marine life and conservation. From these outcomes, MVT organisations in Southern Africa and internationally are strongly encouraged to continue to collaborate with research entities (e.g. universities) and conservation bodies such as marine park authorities and NGOs. This strategy would allow voluntourists to continue to participate in sound and valid science and serve as a gateway for the MVT organisation to contribute to research. This could potentially result in positive conservation management outcomes and satisfactory tourist experiences. Considering that motivations to participate in MVT were strong drivers of other post-experience factors, including various attitudes, MVT organisations would also be encouraged to consider enhancing the experience and creating memorable experiences to stimulate positive post-purchase behaviour.

To support ethically sound conduct by MVT organisations, stakeholders including decision-makers and local authorities (e.g. marine reserve managers) are encouraged to develop regulations to MVT activities or integrate existing codes of conduct and best

practices created by MVT or other marine tourism (MT) operators into management plans. Effective dialogue and collaboration between decision-makers and MVT organisations can also support the achievement of tangible conservation outcomes, which are highly sought after by marine wildlife voluntourists, resulting in a win-win situation for marine ecosystems and MVT management. For example, knowing that they are actively participating in the solution to key ecological problems at the destination can make for truly meaningful and fulfilling experiences for marine wildlife voluntourists.

This study also showed that many short-term post-experience environmental attitudes of marine wildlife voluntourists tend to mirror what the hosting MVT organisations claimed to be their environmental practices (e.g. recycling and reducing the use of plastic). This means that marine wildlife voluntourists are observant concerning such practices and are influenced by them. As a result, MVT organisations are encouraged to ensure that they follow pro-environmental behaviours, as they are likely to affect the voluntourists' attitude and behaviour. Similarly, given MVT organisations' ability to set examples to voluntourists, this potential could be exploited beyond the pool of tourists to reach various other stakeholders and members of the public, to create a positive impact and attract potential new tourists to MVT. For example, community outreach (e.g. school campaigns) and capacity building (e.g. training in participatory monitoring) can have positive environmental effects locally, while public outreach through the media or other forms (e.g. events) can reach the wider public and potential market segments.

Among various attitudes, marine wildlife voluntourists were hesitant towards paying an increased fee for MVT. While this may have been due to sociodemographic parameters, it may also have been due to a limited understanding of how the money is used by the organisations (many of which are NGOs), aside from incomes. From this result, MVT organisations in Southern Africa and internationally are encouraged to be transparent and upfront about the money paid by voluntourists. For example, their website could have a transparent administration section, where it shows what is done with the money contributed by voluntourists. This type of transparency could result in voluntourists being more comfortable paying an increased fee.

The results of this study showed that MVT organisations can have different business structures, resulting in strengths and weaknesses. Given the different circumstances in which these organisations operate, their location and their vision, it is not advised to standardise business models in MVT, as this would not be suitable to local contexts and would remove any chance of competitiveness in the MVT market. However, the business model canvas approach allows businesses to see what areas in operational management can be improved to overcome important challenges and achieve sustainable growth. Organisations could identify additional key partners and resources, enhance their key activities and value propositions, improve their customer relationships and channels, attract additional customer segments, reduce their cost structure, and improve their revenue stream. An example is related to the strategy of staff employment. Trying to employ local staff can be beneficial to the local communities in terms of income and community pride as well as benefiting the organisation in terms of sustainable revenue. Another example is ensuring that the MVT experience has some real tourism element in it. Organisations could partner with local tourism companies, from accommodation facilities to dive centres or tour operators, to promote tourism that is in line with the philosophy of the organisations. For example, offering authentic experiences of local cultures, activities and traditions at the destination.

7.4.2. RECOMMENDATIONS FOR FUTURE RESEARCH

The recommendations of this study for future research are represented in Figure 7.3.

This study highlighted some relevant patterns in MVT, which could be further investigated. Additionally, while this study carried out a critical evaluation of MVT in Southern Africa, at three case study sites, there is much room for more research, and many gaps yet to be filled.

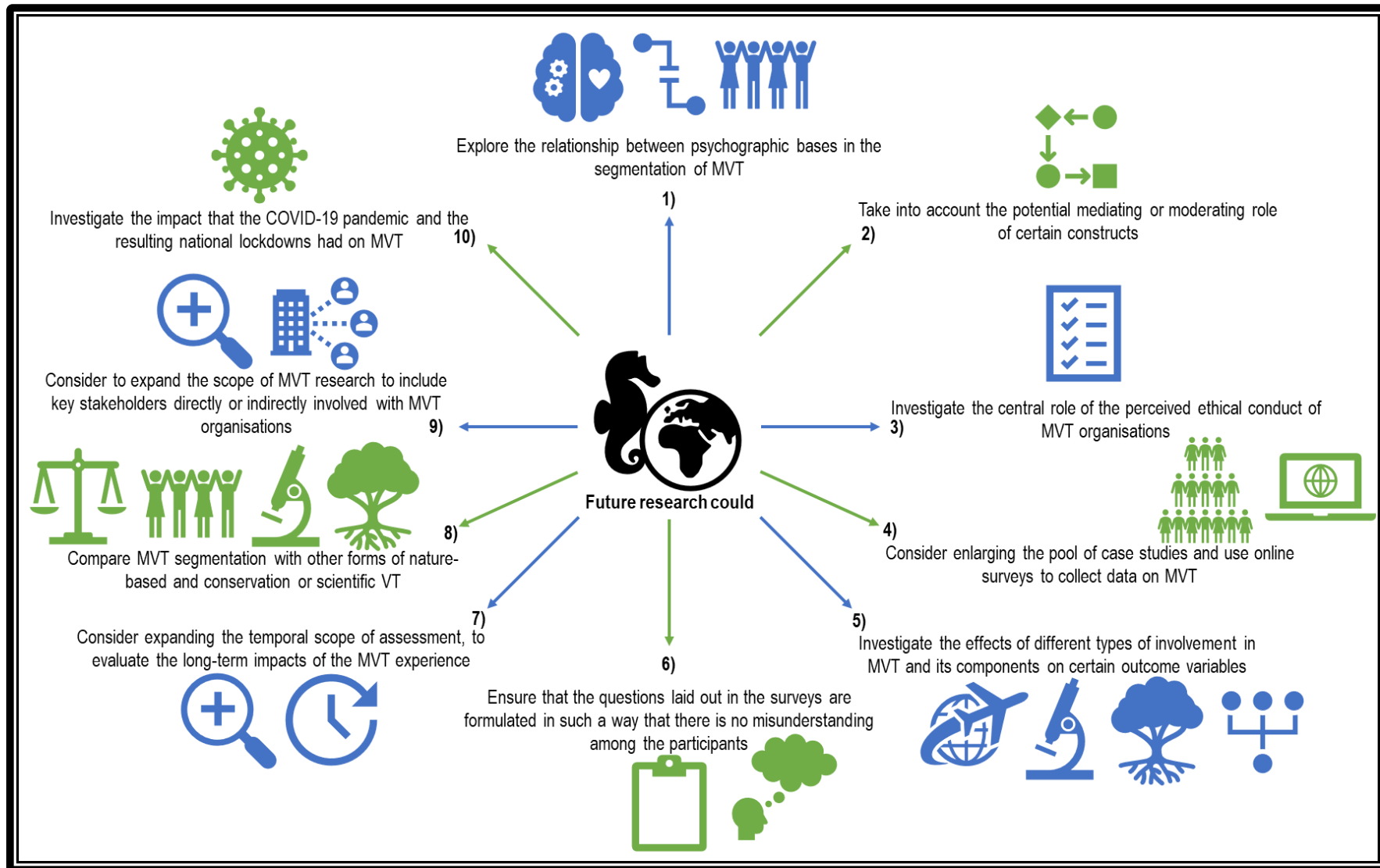


Figure 7.3: Recommendations for future research

Source: Author's compilation

Concerning the patterns highlighted by this study, a key one was the central role played by specific constructs, including motivations to participate in MVT, satisfaction and the perceived ethical conduct of the MVT organisation, together with the influence of these constructs on other outcome variables, including post-experience attitudes. Future studies exploring the relationship between psychographic bases in the segmentation of MVT are encouraged to further investigate these constructs and their influence. Additionally, research ought to pay attention to ensuring that specific factors belonging to constructs such as motivations are included as part of these investigations. For example, it was found that ecocentric motivations are particularly influential on post-experience attitudes. Finally, theoretical modelling would need to take into account the potential mediating or moderating role of some constructs, such as satisfaction and the ethical conduct of the MVT organisation, on other outcome variables such as attitude.

The central role of the perceived ethical conduct of MVT organisations could be further investigated. For instance, studies could entirely focus on developing scales to properly measure all relevant spheres of the ethical conduct of an organisation, and understand their relationships with segmentation bases including demographic, psychographic and behavioural among marine wildlife voluntourists.

Although this study yielded quality data that could be used to identify important patterns, future research could consider enlarging the pool of case study sites to other organisations in Southern Africa, as well as other African countries. Future research could also strive to use online surveys to collect data on MVT. This would enable easier access to the market. This could confirm whether the patterns that emerged in this study are consistent. In line with this recommendation, more research on the effects of different types of involvement in MVT and its components (research, tourism, conservation) on outcome variables like satisfaction and attitude could be pursued. This type of research would help to understand what level of involvement is considered acceptable and engaging to different market segments, and whether a good balance of research, conservation and tourism have more positive effects than a bias towards one or the other component of MVT (e.g. almost exclusively research or tourism). Future research could ensure that the questions laid out in the surveys are formulated in such a way that there is no misunderstanding among the participants.

From a temporal perspective, this study was limited in that it could only assess short-term outcomes of the MVT experience, including specific attitudes. It must be noted that, in reaching previous marine wildlife voluntourists through an online survey, some data were collected from people who had to look at their experience retrospectively and who had similar attitudes to the marine wildlife voluntourists at the case study sites. Nevertheless, future studies could consider expanding the temporal scope of assessment, to evaluate the long-term impacts of the MVT experience.

More research comparing MVT segmentation with other forms of nature-based and conservation or scientific VT could add value to understanding the structure and dynamics of VT that focuses on science, wildlife and conservation. For instance, comparisons could determine whether different forms of science, wildlife and conservation VT have similar markets, impacts and challenges.

While this study shed light on generally understudied features of MVT, including supply side analyses, further work could consider expanding the scope of MVT research to include key stakeholders directly or indirectly involved with MVT organisations (e.g. communities and decision-makers). This study showed that MVT organisations operate successfully thanks to a network of partnerships and collaborations, which could be properly investigated to understand the challenges and benefits beyond the MVT organisation itself and the tourists. For example, the inclusion of stakeholders such as marine reserve managers and scientists could allow researchers to evaluate whether or not the support of MVT organisations would ultimately result in increased protection and support for marine habitats and marine conservation as well as the improvement of marine wildlife management and research.

Finally, future research would need to investigate the impact that the COVID-19 pandemic and the resulting national lockdowns had on MVT in Southern Africa and globally. This would be necessary to determine what challenges are being faced by MVT organisations in the global south, such as Southern Africa. Any resilience strategies and probable changes in the marketing and management of MVT under the “new normal” circumstances brought by the pandemic should be determined.

7.5. CONTRIBUTIONS

The overall contribution of the study was grouped into two categories: theoretical (contributions to the literature) and practical (contributions to tourism management). The contribution and relevant categories are presented in Figure 7.4. What follows is a description of how each contribution helped to answer a specific research question.

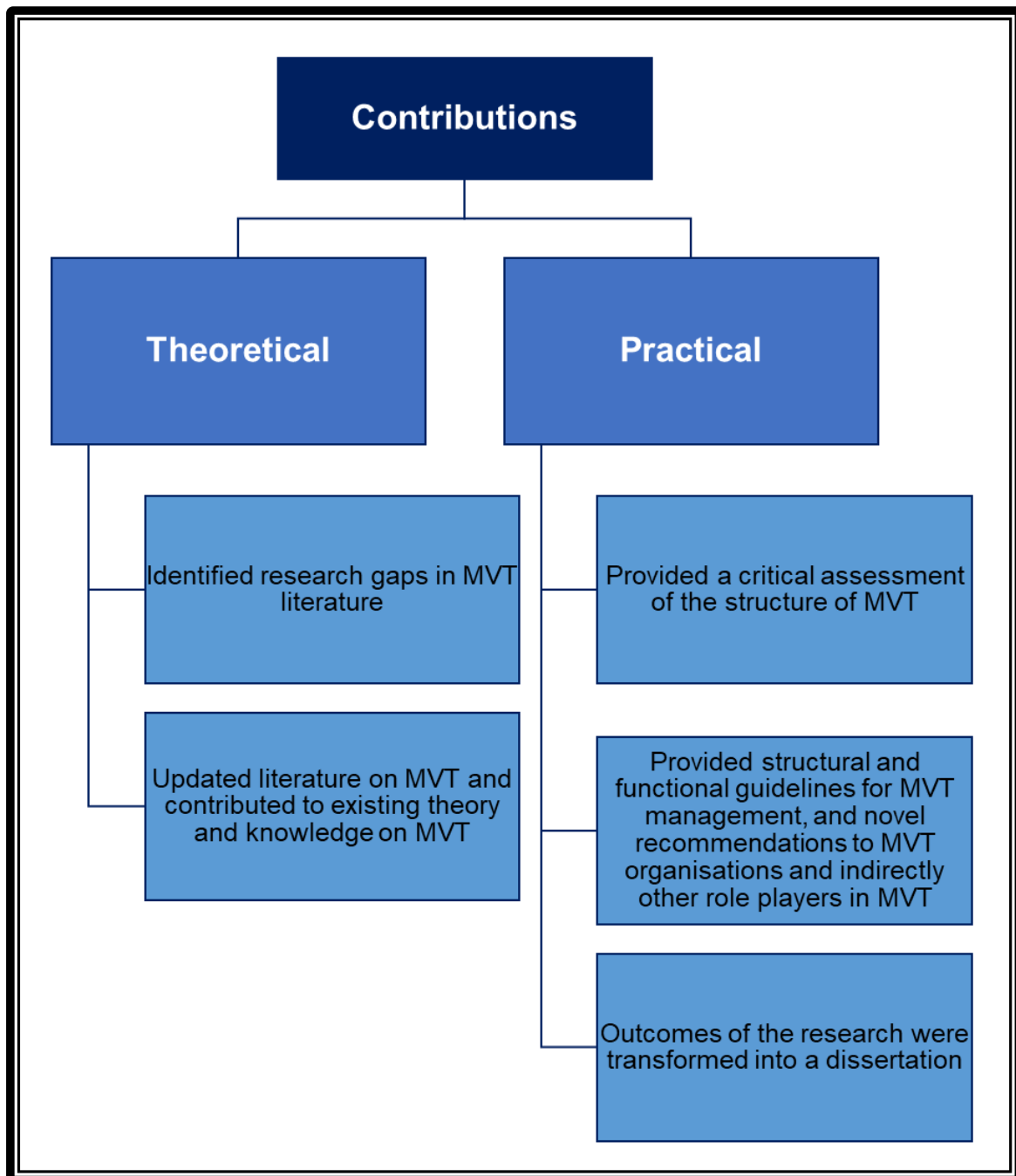


Figure 7.4: Study contributions

Source: Author's compilation

7.5.1. THEORETICAL (LITERATURE) CONTRIBUTION

There are two main theoretical contributions of this study. First, the study successfully identified research gaps in the MVT literature (Chapter 1, Appendix 2). The gaps focus on the lack of MVT research in Southern Africa, with different questions arising: as to whether different MVT projects attract different markets; what are the implications of different markets and the relations between the characteristics of various market segments; whether demand and supply share common visions and perceptions; whether and how markets in Southern Africa differ from other MVT markets and whether and how MVT effectively contributes to sustainability?

Second, the study contributed to updating the literature, and to the existing theory and knowledge on MVT. The research was original and the design was based on a thorough analysis of the literature, which led to the formulation and testing of hypotheses and assessments that generated brand new knowledge on MVT structure and management, as well as tourists' segmentation.

7.5.2. PRACTICAL CONTRIBUTION

Two key practical contributions of this study are identified. First, the study provided a critical assessment of the structure of MVT, targeting Southern Africa and different MVT types. This assessment required collaborations with MVT suppliers, who needed to grant access to MVT structures and the market. One practical contribution of this study was in the form of structural and functional guidelines for MVT management that would primarily benefit the selected case study sites, but could also be generalised to other MVT contexts. The study provided novel recommendations to MVT organisations and indirectly other role players in MVT.

Second, the outcomes of the research were transformed into a product, the dissertation, which can be made available to MVT organisations, MT practitioners, other stakeholders affected, scientists, academics, decision-makers, the government, the media, and the public. This would allow relevant stakeholders to exploit the brand new information generated for the sake of marketing and management.

7.6. CONCLUSION

The purpose of this chapter was to use the information and outcomes of Objectives 1 to 3 to summarise the research, make recommendations concerning the management of MVT in Southern Africa and overall, and to make suggestions for future research on MVT. This chapter consisted of the conclusions drawn from Chapters 2, 3, 4, 5 and 6, recommendations for marketing, management and research, and theoretical and practical contributions concerning this study. New information was generated on the structure of MVT in Southern Africa, based on a critical assessment. However, there is also space for new research that would contribute to a better understanding of MVT in Southern Africa and globally, and guide its sustainable development.

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"You are never too small to make a difference"

~ Greta Thunberg

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APPENDICES

"We need to respect the oceans and take care of them as if our lives depended on it. Because they do"

~ Sylvia Earle

Appendix 1: Types of marine wildlife voluntourism available in South Africa, Mozambique and Madagascar

Nr	Search engine	Location	Species of interest	Duration	Price	Work expected from volunteers
1.	Google search	Cape Town South Africa (<i>Green cross on Figure 4.2</i>)	Penguins	6-24 weeks	\$160 per week (R2,367.75)	• Hands-on work with penguins. • Clean and feed the penguins. • Help release rehabilitated birds. • General, centre-related tasks.
2.	Volunteer platform	Cape Town, South Africa	Great white sharks	1-4 weeks	\$934 per week (R13,821.78)	• Assist with gathering of data. • Learn ethical handling and angling techniques. • Learn how to tag and take genetic samples. • Participation in community events.
3.	Google search	Durban, South Africa (<i>Yellow star on Figure 4.2</i>)	Sharks	2-12 weeks	\$550 per week (R8,139.16)	• Research and crew expeditions. • Outreach initiatives. • Training workshops.
4.	Volunteer platform	Gansbaai, South Africa	Sharks and other marine wildlife	1-4 weeks	\$1175 per week (R17,388.21)	• Cage-diving trips. • Shark tagging trips (from the research boat and the shoreline). • Snorkelling for sharks in the kelp forests. • Beach clean-ups, equipment maintenance. • Video analysis. • Data entry and dorsal fin ID analysis. • Participate and interact with scientists and the local community.
5.	Volunteer platform	Gansbaai, South Africa	Great white sharks and African penguins	2-24 weeks	\$765 per week (R11,326.84)	• Collect and capture data and medical records. • Learn how to tag and track sharks. • Match fins for population counts. • Assisting with preparation of medicated fish.

Nr	Search engine	Location	Species of interest	Duration	Price	Work expected from volunteers
						• Tell visitors what the organisation does. • Learn how to handle the birds. • Read blood slides on the microscope. • Work with children's group. • Do beach clean-ups and cleaning the penguin' pens. • Make and clean fishing line bins. • Assist in dissections. • Record GPS positions. • Help with body measurements. • Assist with taking samples. • Help with deploying and retrieving equipment. • Analyse video footage and record the marine species that pass the bait station. • Search the shoreline and collect, measure and identify egg cases. • Basic seamanship and boat activities.
6.	Volunteer platform	Gansbaai, South Africa	Sharks and other marine wildlife	1-12 weeks	\$723 per week (R10,704.97)	• Assist with gathering data. • Learn ethical handling and angling techniques. • Learn how to tag and take genetic samples. • Participate in community events. • Data entry.
7.	Volunteer platform	Gansbaai, South Africa	Great White sharks	1-12 weeks	\$410 per week (R6,070.59)	• Cage Diving with Great Whites. • Assist with gathering data. • White Shark Field Research. • Basic seamanship and boat activities. • Education and care of clients and client interaction. • Basic seamanship and boat activities.
8.	Volunteer platform	Hermanus, South Africa	Sharks, skates, rays, whales, dolphins and snakes	2-4 weeks	\$909 per week (R13,458.95)	• Collect data. • Log geographic locations. • Record photographic identifications. • Enter data and compiling basic reports. • Deploy the baited remote underwater video (BRUV).

Nr	Search engine	Location	Species of interest	Duration	Price	Work expected from volunteers
						• Upload videos to the lab computer. • Identify all species captured by the BRUV. • Monitor environmental parameters. • Laboratory testing. • Husbandry and facility maintenance. • Deliver interesting and educational information to visitors.
9.	Google search	Hermanus, South Africa (Orange star on Figure 4.2)	Sharks	2-8 weeks	\$625 per week (R9,253.95)	• Shark diversity surveys. • Snorkelling with sharks. • Shark tagging. • Behavioural monitoring. • Sharks after dark. • BRUV surveys. • Boat safety and safety at sea. • Shark handling. • Shark husbandry. • Shark dissections. • Shark blood sampling. • Data Management.
10.	Volunteer platform	Kleinbaai, South Africa	Great White sharks	2-12 weeks	\$511 per week (R7,567.19)	• Record observations through cage diving. • Data collection. • Basic seamanship and boat activities. • Assist at Swap-Shop.
11.	Volunteer platform	Kwa-Zulu Natal, South Africa	A diverse range of sharks	2-4 weeks	\$529 per week (R7,833.75)	• Attend theory, lab and ocean practical and assessment sessions. • Assist with educating local school groups. • Develop displays for the shark museum. • Maintain research equipment. • Catalogue museum specimens. • Collate and input research data.
12.	Volunteer platform	Mossel Bay, South Africa	Great White sharks, humpback whales,	4-12 weeks	\$768 per week	• Population assessments and trends of white sharks, humpback and bottlenose dolphins, southern right and humpback whales and Cape fur seals.

Nr	Search engine	Location	Species of interest	Duration	Price	Work expected from volunteers
		(Organisation A – red circle on Figure 4.2)	bottlenose dolphins, southern right whales and Cape fur seals		(R11,373.00)	• Habitat use of white sharks and marine mammals. • Population structure, trophic and movement ecology of endemic benthic catsharks. • Predator-prey behavioural strategies of white sharks and Cape fur seals. • Shark stress physiology and behavioural studies. • Intertidal community assessment. • Ecological monitoring of rivers. • Marine Mammal Stranding Response workshop. • Science Communication Course.
13.	Volunteer platform	Plettenberg Bay, South Africa	Whales, dolphins, Cape fur seals, sharks, coastal birds	2-8 weeks	\$669 per week (R9,906.95)	• Dolphin and whale watching boat trips. • Dolphin photo-identification research. • Marine mammal stranding response and necropsy. • Monitoring of Cape fur seals. • Seal population monitoring. • Seal-shark interaction monitoring. • Seal-fisheries interaction monitoring. • Seal scat collection, processing and analysis. • Cliff-top monitoring of seals, sharks, whales, dolphins, tourism vessels and anglers. • Beach surveys and beach clean-ups. • Aquarium maintenance, bait collection, and fish capture. • Alien vegetation clearing and new tree planting. • Assisting local rehabilitation and conservation centres. • Bird ringing. • MiniSASS / river health assessments. • Data capturing / processing / entry. • Scientific lectures. • Community development.
14.	Volunteer platform	Plettenberg Bay, South Africa (Green	Whales, dolphins, sharks, seals, penguins, otters, reef	4 weeks	\$750 per week (R11,106.45)	• Tag and release. • Identification, monitor and record data. • Participate in research and Citizen Science projects.

Nr	Search engine	Location	Species of interest	Duration	Price	Work expected from volunteers
		<i>cross on Figure 4.2)</i>	animals, coastal birds and pelagic birds			
15.	Volunteer platform	Port Elizabeth, South Africa	Marine conservation	4-12 weeks	\$675 per week (R9,995.80)	• Work hands-on in the marine tourism industry. • Basic seamanship and boat activities. • Assist with research and other conservation initiatives. • Record data. • Assist with the welcome briefing and orientation of guests. • Assist with the safety briefing and harbour cruise. • Assist with marketing and other activities.
16.	Volunteer platform	Port Elizabeth, South Africa (<i>Green cross on Figure 4.2)</i>	African penguin, gannets, cormorants and seagulls	6-12 weeks	\$291 per week (R4,308.98)	• Hands-on work with penguins and other marine birds. • Assistance on educational visitor tours. • Clean and feed the penguins. • Help release rehabilitated birds. • General, centre-related tasks.
17.	Volunteer platform	Sodwana Bay, South Africa	Manta rays, ragged-tooth sharks, turtles, whales and nudibranchs	2-4 weeks	\$1298 per week (R19,220.16)	• Dive course. • Dive daily. • Collect photographic data. • Capture data in databases. • Attend lecturers.
18.	Volunteer platform	Sodwana Bay, South Africa	Manta rays, ragged-tooth sharks, turtles, whales and nudibranchs	2-12 weeks	\$757 per week (R11,209.29)	• Dive course. • Dive daily. • Collect photographic data. • Capture data in databases. • Attend lecturers.
19.	Google search	Sodwana Bay, South Africa	Whale sharks, turtles, sharks and rays	4-12 weeks	\$757 per week (R11,209.29)	• Dive course. • Dive daily. • Whale Shark Identification. • Megafauna Surveys.
20.	Google search	Western Cape South Africa	Penguins	6-24 weeks	\$100 per week	• Hands-on work with penguins. • Clean and feed the penguins.

Nr	Search engine	Location	Species of interest	Duration	Price	Work expected from volunteers
		<i>(Purple cross on Figure 4.2)</i>			(R1,480.75)	• Help release rehabilitated birds. • General, centre-related tasks. • Welcoming and assisting visitors. • Assist in the reception area. • Attending to phone calls relating to birds in need to rescue. • Arranging volunteer drivers when required. • Assisting with office work. • Data capturing.
21.	Volunteer platform	Jangamo, Mozambique	Whale sharks, coral reef, turtles, manta ray, and humpback whales	2-5 weeks	\$399 per week (R5,908.20)	• Megafauna surveys. • Fisheries research. • Community development. • Coral reef surveys. • Ocean Trash Research. • Sea turtle nesting patrols.
22.	Volunteer platform	Ponta do Ouro, Mozambique <i>(Organisation B – red circle on Figure 4.2)</i>	Dolphins and whales	4 weeks	\$341 per week (R5,046.55)	• Assist with guest welcoming registration, pre-briefings and gear allocation. • Collect data. • Take photos. • Assist participants in the water. • Assist with de-briefing participants. • Rinse and sort the gear. • Participate in post-launch activities.
23.	Volunteer platform	Praia do Tofo, Mozambique	Whale sharks, dolphins, coral reef, turtles, manta ray, and humpback whales	2-12 weeks	\$740 per week (R10,951.46)	• Data collection on research dives. • Take underwater photographs. • Whale monitoring. • Coral reef monitoring. • Community conservation education.
24.	Volunteer platform	Praia do Tofo, Mozambique	Whale sharks, dolphins, coral reef, turtles, manta ray,	2-4 weeks	\$915 per week (R13,541.34)	• Whale monitoring. • Transform scientific data into real protection efforts. • Coral reef surveys. • Community Development.

Nr	Search engine	Location	Species of interest	Duration	Price	Work expected from volunteers
			and humpback whales			
25.	Volunteer platform	Praia do Tofo, Mozambique (<i>Organisation E</i> – Green circle on Figure 4.2)	Whale sharks, dolphins, coral reef, fish, leopard sharks, turtles, seahorses and humpback whales	2-12 weeks	\$759 per week (R11,232.65)	• Take underwater photographs. • Record ecological information. • Collect data. • Collect ID photos. • Help in survey turtle survival. • Monitor nesting of turtles on the beaches. • Patrol the beaches. • Find and sizing shells. • Taking GPS points. • Monitor marine wildlife.
26.	Volunteer platform	Zavora, Mozambique (<i>Organisation F</i> – Green circle on Figure 4.2)	Manta rays, humpback whales, nudibranchs, artificial reef (wreck) colonisation, seahorses and sea turtles	2-12 weeks	\$475 per week (R7,029.65)	• Underwater photo identification of manta rays using underwater parallel lasers for measurements. • Humpback whale land-based survey and photo ID. • Predatory fish surveys. • Baited underwater video (BRUV) deployment and video analysis. • Nudibranch surveys. • Field research organisation. • Fish survey. • Seahorse Monitoring Program. • Turtle patrolling and monitoring. • Data entry. • Educational activities.
27.	Volunteer platform	Ifaty, Madagascar	Coral reef	26 weeks	\$252 per week (R3,729.41)	• Undergo dive, science and research assistant training. • Support science team and their core research programme. • Support Dive Officers in the daily operation of the dive shop and diving schedules. • Assist with volunteer and Malagasy IHSM student's dive and science training. • Assist with data analysis and report writing. • Support Fisheries and Aquaculture team in various activities.

Nr	Search engine	Location	Species of interest	Duration	Price	Work expected from volunteers
						• Participate in community education initiatives. • Help create information packages / leaflets / posters etc. to relay projects, findings and news. • Assist with fundraising activities. • Help to create Reef Doctor's newsletter and update our blogs.
28.	Volunteer platform	Ifaty, Madagascar	Coral reefs and turtles	6-12 weeks	\$393 per week (R5,816.22)	• Undergo dive, science and research assistant training. • Do surveys and collect data. • Capture data. • Assist with research, management and conservation projects. • Monitoring and maintenance work on the coral nursery and artificial reefs. • Seagrass surveys and mangrove replanting. • Participate in local community aquaculture initiatives. • Assist staff in turtle tagging and release as part of the turtle conservation project. • Fisheries catch monitoring alongside fisheries team. • Environmental education. • Assist in English-language lessons for local villagers. • Take part in tree nursery and reforestation project. • Learn the local language through weekly Malagasy classes.
29.	Volunteer platform	Ifaty, Madagascar	Coral reef	3-5 weeks	\$504 per week (R7,458.97)	• Monitoring and maintenance work on the coral nursery and artificial reefs. • Participate in local community seaweed and sea cucumber aquaculture initiatives. • Help science officers tag and release turtles as part of a turtle conservation project. • Fisheries catch monitoring alongside fisheries team. • Mangrove tours and replanting activities. • Environmental education. • Assist in English-language lessons for local villagers. • Learn the local Vezo language through weekly Malagasy classes. • Help with tree nursery and reforestation project.
30.	Volunteer platform	Nosy Be, Madagascar	Mangrove birds and coral reef	1-4 weeks	\$1063 per week	• Mangrove bird survey. • Survey diving.

Nr	Search engine	Location	Species of interest	Duration	Price	Work expected from volunteers
					(R15,731.92)	• Beach clean. • Snorkel search for invertebrates. • Reef clean. • Presentations and quizzes.
31.	Google search	Nosy Be, Madagascar (<i>Organisation C</i> – red circle on Figure 4.2)	Coral reef	1 week	\$33824 for the week (R500,580.21)	• Reef monitoring. • Registration of data. • Verification test of data. • Laboratory work. • Coral ID.
32.	Volunteer platform	Nosy Komba, Madagascar	Coral reefs and turtles	4-12 weeks	\$377 per week (R5,579.43)	• Hands-on activities integrated with staff and other more experienced volunteers. • Reef surveys. • Establishment of artificial reefs. • Construct, implement, clean and monitor the progress of coral transplantation. • Monitor and carry out surveys on metal re-bar artificial structures. • Record the nudibranch abundance and diversity. • Recording data on sightings of marine turtles. • Assist in environment workshops promoting turtle conservation measures.
33.	Volunteer platform	Nosy Komba, Madagascar	Coral reefs and turtles	2-12 weeks	\$421 per week (R6,233.24)	• Hands-on activities integrated with staff and other more experienced volunteers. • Assist in identifying nesting areas. • Assist with preventing the poaching of mother turtles and nests. • Collecting data on the nesting turtles and their eggs. • Moving nests that have been laid in locations that are unsuitable for hatching success. • Collecting ID and behavioural data on turtles in the water. • Rehabilitating nesting beach. • Educating local communities on the importance of turtles in the ecosystem.

Appendix 2: Literature on voluntourism in South Africa, Mozambique and Madagascar

References	Location	Type of voluntourism	Aim of the study	Main findings	Key recommendations
Akintola (2010)	Durban, South Africa	Community development	Explore volunteer caregivers' perceptions of rewards of providing care to people living with AIDS.	Volunteer caregivers receive a variety of kinds of rewards as part of their caregiving experiences, which may be used to reduce the effect of the burden of care on volunteers.	Care organisations could form partnerships with AIDS-affected communities and funding agencies to facilitate working environments that enable the accrual of various kinds of rewards to volunteers.
Akintola (2011)	Kwa-Zulu Natal, South Africa	Community development	Understanding voluntourist motivations to obtain an insight into issues influencing AIDS volunteer recruitment, satisfaction, and retention.	- Provide insight into volunteer caregiver motivations to provide valuable information with which to plan recruitment messages for volunteers. - Avoid unrealistic expectations of organisations and preventing dissatisfaction.	Development of a model for career development to allow volunteers to satisfy their career motivations and stay longer.
Alexander (2012a)	Cape Town, South Africa	Wildlife and conservation; children and community projects	Investigate the impact of a voluntourism experience on international volunteers using the Aviva Company in South Africa.	- Identify the traits that are most likely to change as a result of a voluntourism trip. - Similar and contrasting findings found compared to other literature.	- An in-depth understanding of the impact of voluntourism could be gained by measuring all 30 sub-traits that make up the five-factor model of personality. - More research can be done on the influence of age, gender, length of stay, and project type on the voluntourism experience. - A more comprehensive longitudinal study is required to clarify whether the changes identified in this study are temporary or permanent.

References	Location	Type of voluntourism	Aim of the study	Main findings	Key recommendations
Alexander (2012b)	South Africa	Community, wildlife and conservation	Investigate the influence of age, gender, project type, and length of stay on the impacts of the voluntourism experience.	- The influence of age, gender, project type, and length of stay has an impact on the voluntourism experience. - Those benefiting most from voluntourism is a certain type of volunteers.	- Investigate other area subjects. - To conduct a study on the influence of project type on the voluntourism experience.
Beckley, Cliff, Smole and Compagno (1997)	South Africa	Marine citizen science	Examining available information on whale shark strandings around the coast of South Africa during the period 1984–1995	- Stranded animals ranged from different sizes, sex and age. - Whale sharks are most abundant in South African waters during the summer and autumn month	N/A
Benson and Seibert (2009)	South Africa	Scientific activities	Examine the motivations of German tourists travelling to South Africa to take part in a volunteering experience.	- Many of the profile and push-and-pull findings of this study are echoed in other studies. - This study offers a unique insight into the German Volunteer. - The negative statements relating to the key themes of crime, violence, and poverty raise several issues.	Further studies can be conducted to determine whether crime, violence, and poverty affect return trips and word of mouth marketing.
Bernard, Götz, Kerwath and Wilke (2013)	Agulhas Ecoregion, South Africa	Marine citizen science	To develop and test an independent double-observer approach to traditional UVC strip transects that would allow direct comparison of data collected by two observers.	- The results highlight the need to account for detection probability during UVC and it is recommended that future research based on UVC integrates an independent double-observer approach. - The results indicate that care needs to be taken when designing monitoring programmes as allowing inexperienced volunteers to participate can undermine the integrity of the data	Future research using double-observers to account for detection errors in abundance estimates should either lay the transect out as the observers conduct the survey, or lay it out and provide sufficient time for the fish assemblage to become independent of the initial swim through the area before conducting the survey.

References	Location	Type of voluntourism	Aim of the study	Main findings	Key recommendations
Boluk, Kline and Stroobach (2017)	St Lucia, South Africa	Wildlife conservation	Analysing the expectations of voluntourists and their resulting satisfaction level from the voluntourism programmes.	- The results showed on the delivery of such voluntourism programmes services to volunteers have not entirely responded to their expectations. - The satisfaction of the voluntourists was influenced by a variety of external and internal factors.	- Further research can be done by exploring voluntourists' satisfaction levels to support a sustainable voluntourism industry. - An assessment to improve the experience of voluntourists should be conducted to improve their experiences.
Brenier, Ferraris and Mahafina (2011)	Toliara Bay, Madagascar	Marine citizen science	- Discuss the applicability of easy-to-use participatory methods for gaining rapid knowledge of Madagascar's small-scale fisheries at low cost. - To characterise the ongoing evolution of the Toliara Bay fishery and its ecological impacts. This fishery was described in 1989 / 1990, and about two decades later we have the opportunity to re-assess the ecological sustainability of the Toliara Bay reef fishery and characterize its evolution.	- The results of the study confirm the unsustainable nature of resource exploitation and underline the need for rapid management responses to reverse this trend. - It also highlights the great potential of participatory assessment methods for gathering large amounts of relevant information on the status and evolution of the ecosystem, while promoting education and awareness about the conservation and sustainable use of natural resources.	Participatory assessment of small-scale fisheries could be replicated in other places in Madagascar. This could help generate a better understanding of the direct and indirect economic and social values of these small-scale fisheries and the risks and foregone benefits associated with overfishing or ecosystem degradation, facilitate large spatial and temporal comparisons, and help develop relevant local marine resource management plans while promoting the involvement of the local community in this process.

References	Location	Type of voluntourism	Aim of the study	Main findings	Key recommendations
Cousins, Evans and Sadler (2009b)	South Africa	Wildlife conservation	- Analyse how the emotions of the volunteers are produced while the volunteering meets with the preconceived representations and expectations of nature and human encounters. - Understand the interaction into the effects of conservation tourism and practice that will have an effect on the design and day to day running of voluntourism programmes.	Strong emotional lows and highs were produced as the realism of game conservation and game ranching in South Africa came into conflict with the culturally constructed vision of African wilderness.	Researchers should concurrently recall the sight of the economic and political dimensions of the beliefs and values which comes from people's daily experiences and emotions.
Davis, Wetzel, Avilan, Lopes, Chase, Winch and Perry (2013)	Sofala Province, Mozambique	Community development	- To report on changes in coverage of nutrition and diarrhoea-related interventions and in childhood nutritional status in Mozambique. - Compare the above with changes reported for Mozambique nationally in the national Demographic and Health Surveys.	The resulting rate of decline in childhood undernutrition was four times that for Mozambique nationwide.	Further prospective assessments of the Care Group approach using more rigorous methodologies are needed.
Humber, Godley, Ramahery and Broderick (2011)	Andavadoaka, Madagascar	Marine citizen science	Reporting on a year of data collected on the current status and local perceptions of the traditional turtle fishery, its context within previous regional assessments, and offer management recommendations for the future.	- Conservatively estimate that the annual turtle catch in the southwestern province of Madagascar is between 10 000 and 16 000. - There are currently no government initiatives to manage the fishery.	- It provides a cost- and time-efficient method for gathering data from artisanal fisheries and provides a system of collecting data that could help answer priority conservation research questions. - If research is conducted ethically and through the development of trusted relationships within the community, it may foster greater community ownership of resources and increase the chance of the development of

References	Location	Type of voluntourism	Aim of the study	Main findings	Key recommendations
					accepted conservation measures, that will also allow for a greater chance of success through compliance and self-regulation.
Lucrezi (2021)	South Africa and New Zealand	Marine citizen science	Assess divers' interest in kelp monitoring and identify the characteristics of those wishing to contribute to kelp monitoring.	- All participants were interested in kelp monitoring, providing reasons which were significantly related to specific variables. - Previous participation in kelp projects by a proportion of the sample enabled the profiling of those who may ultimately commit to kelp monitoring. - Geographic comparisons revealed how kelp divers largely have experiences, knowledge and attitudes regarding kelp and its monitoring in common, while also showing important context-specific differences. - The results of this study were used to generate five scenarios of recreational divers' involvement in kelp citizen science.	- The information could be exploited to garner public support for kelp citizen science, kelp conservation and coastal conservation. - Or they could use it to evaluate the possibility of modifying, adapting, expanding or co-designing projects to address communities' concerns and meet their needs.
Lucrezi, Milanese, Palma and Cerrano (2018)	Portofino, Italy, Republic of Malta, and Ponta do Ouro, Mozambique	Marine citizen science	- Conduct research that can assist the scuba diving industry in achieving sustainability goals. - Allow the scuba diving industry to correctly engage divers in Marine Citizen Science and provide win-win benefits to divers, diving operations and the scientific community.	- Scuba divers have a positive inclination towards Marine Citizen Science. - Retaining of current volunteers and engagement of future participants in Marine Citizen Science may be made problematic by a lack of new incentives in the former group, and a	- Good integration of Marine Citizen Science into the scuba diving industry would demand the effort of professional intermediaries and hired experts working alongside the scientific diving community. - An excellent future for Marine Citizen Sciences sees the facilitation, by these new multitasked roles, in the

References	Location	Type of voluntourism	Aim of the study	Main findings	Key recommendations
				general lack of knowledge of Citizen Science in the latter group. The scuba diving industry, play an essential role in assisting Citizen Science initiatives.	promotion, implementation and coordination of Marine Citizen Science projects. This facilitation with the continuing support of the government will result in successful exploitation in the scientific community and scuba diving industry.
Maes and Kalofonos (2013)	Addis Ababa, Ethiopia, and Chimoio, Mozambique	Community development	To expand on recent ethnographic studies of community health workers by more carefully investigating the life histories that lead people to become community health workers, the ways that relationships with intended beneficiaries influence community health workers' commitments and the multiple reasons why many community health workers may desire better compensation for their contributions to community health.	- The challenges that the people face, influence why and how people become community health workers. - Relationships with intended beneficiaries strongly influence why people remain community health workers.	Future research should use ethnographic and other methods to uncover the processes by which people become and remain community health workers.
Muula, Hofman and Cumberland (2004)	Mecanhelas district, Mozambique	Community development	Determine issues that influence community health volunteers to work in their communities in Mozambique.	Respondents have the desire to have more incentives other than a bar of soap each month and food and accommodation at workshops.	An incentives system should be implemented and should be culturally acceptable, affordable with minimum negative impacts

References	Location	Type of voluntourism	Aim of the study	Main findings	Key recommendations
Olivier, Davies and Joubert (2015)	South Africa	Marine Wildlife	To create a comprehensive profile of voluntourists at a non-profit seabird rehabilitation centre in Western Cape, South Africa.	- The demographic factors of voluntourists that participated in this international volunteer programme were similar to other South African based volunteer tourism studies. - To experience something different and new was the most important motivational factor for voluntourists. - Voluntourists derived considerable benefit from the experience. - Voluntourists continued to support this NPO through social and financial activities after completing the programme, indicating that a mutually beneficial relationship exists between the host organisation and the volunteer tourist.	Broader focussed profile research studies are needed to address firstly, a growing criticism over the value of the experience to both the participant and host organisation; and secondly, provide valuable information that will enable NPOs to manage this challenging, yet critical human resource.
Rogerson and Slater (2014)	South Africa	Community development	To understand the volunteer tourism channel to Johannesburg and reflect upon the impacts of this controversial form of volunteer tourism	Volunteer tourism brings positive benefits to the orphanages and the children in Johannesburg	Potential local or place-specific differences that require further exploration relating to the organisation of the volunteer channel, the nature of volunteers and the workings and impacts of orphanage tourism.
Roque, Jacobson and McCleery. (2018)	Lubombo Conservancy, Swaziland	Savannah conservation	- Examine whether voluntourism can be a solution for meeting ecosystem research and conservation needs. - What scientific and conservation outputs can be expected?	- Voluntourism may bring essential conservation benefits and ecosystem research. - Ecosystems provide imperative services to voluntourists. - Implementation and design of these voluntourism programmes are crucial	- More empirical evaluation to assess the effective scientific, social and conservational benefits of voluntourism. - Adopt the same framework and assess other voluntourism programme outputs and impacts.
	Praia do Tofo, Mozambique	Marine conservation			

References	Location	Type of voluntourism	Aim of the study	Main findings	Key recommendations
			What recreational, educational and cultural opportunities attract and satisfy voluntourists?	factors for the success of the perspective ecosystem and volunteers.	
Sin (2009)	South Africa	Community service and cultural exploration	- Discover the fundamental tensions around voluntourism motivations and performances. - Discuss the aims of voluntourism projects, who determines these aims, and how differing notions are continually performed and negotiated throughout the entire voluntourism experience.	Motivating factors for voluntourists were “to travel” rather than “to contribute”, and “to learn about local cultures” or to “go beyond superficial tour packages where you don’t see how people really live”.	- Dwell in detail on the complex issues encountered by tourists, locals and businesses. - More research focusing on the perspectives of the aid recipients of voluntourism is needed. - Further research could explore the power relations arising from voluntourism within host communities.
Stoddart and Rogerson (2004)	South Africa	Community development	Examining one South African case study of a little researched dimension of voluntourism in South Africa.	Voluntourists are ‘new tourists’ and they are searching for an experience that is beyond that offered by mass tourism.	South Africa provides fertile territory for further expansion on problems related to voluntourism, thus should be implemented.
Strohmeier and Heleta (2020)	South Africa	Community development	The main aim of the research was to analyse the contribution of foreign voluntourists to the development of young children in South Africa.	The main findings of this research is that training and supervision of voluntourists is crucial if the impact of the voluntourists is to be improved.	- Future research should expand to other parts of South Africa, Africa and the rest of the developing world. - In addition, more host organisations, sending organisations and volunteers should be interviewed or surveyed, and different areas should be compared to find out if similar challenges and problems are faced elsewhere. - Future research should also explore in more detail possible solutions that can assist the orientation, training and supervision of foreign volunteers to

References	Location	Type of voluntourism	Aim of the study	Main findings	Key recommendations
					provide meaningful assistance to their host organisations and the recipients of their assistance.
Van Tonder, Hoogendoorn and Block (2017)	Hartbeespoort, South Africa	Wildlife conservation	Understand conservation voluntourism in South Africa to improve and monitoring conservation voluntourism more closely.	- Voluntourists are willing to pay for the labour that they provide to obtain self-fulfilling experiences. - Conservation voluntourism projects can be questioned with regards to the success of conserving the different animal populations.	- Future research can scrutinise the releasing and kept captive issues of the animals more in-depth. - Explore the unemployment vs international revenues in more depth.
Wheeler, Chambers, Sims-Castley, Cowling and Schoeman (2008)	Agulhas marine bioregion, South Africa	Marine citizen science	Addressing the common challenge faced by conservation planners working on coastal zones.	- Relative abundance data reflected the conservation status of each species. - Opinions by the participants regarding the reasons for recent declines in fish abundance tallied well with explanations from the literature.	The simple and cost-effective methods have the potential to be extended and modified for research with a broad spectrum of marine resource users in a wide range of contexts.

Appendix 3: Structured questionnaire survey

(Key: No colour – questions asked for the case study sites and online survey; Blue – questions asked for the case study sites only; Green – questions asked for online survey only)

Informed Consent – A critical assessment of marine wildlife voluntourism in Southern Africa

If you have any queries about this study, please do not hesitate to contact the researcher:

Charmaine Cilliers

North West University (NWU)

charmaine.danielle.cilliers@gmail.com

Department of Economic and Management Sciences

Purpose of study: You are being asked to take part in an academic (Ph.D) research study. Before you decide to participate in this study, it is important that you understand why the research is being done and what it will involve. Please read the following information carefully and ask the researcher if there is anything that is not clear or if you need more information. The purpose of this study is to carry out a critical assessment of marine wildlife voluntourism (MVT) in Southern Africa. This includes an in-depth analysis of both demand and supply sides across selected types of MVT.

Study procedures: Ethical clearance has been obtained at NWU under the ethics number *NWU-00767-19-A4*. The ethics process is duly mentioned in the Ph.D thesis, specifically in Chapter 1 and in Chapter 4. The survey will not take longer than 15 minutes to complete. The survey will be stored by NWU for five years. Socio-demographic questions are used because these are the antecedents of most variables that are measured in social science research. Therefore, it is indispensable to measure socio-demographics in the research project. These data will be grouped in such a way (keeping all data anonymous, and as a group) that it will be impossible to distinguish or identify a given participant.

Risks: There is no foreseeable emotional discomfort, inconvenience or risks to you.

Benefits: There will be no direct benefit to you for participating in this study. However, we hope that the information obtained from this study will assist with the valorisation of MVT, as a tourism industry that can contribute to society, environment and conservation, economies, and personal development of the participants. Further, the data collected will be used for the development of structural and functional guidelines for MVT, to improve its marketing efforts, and to enhance its sustainability. The results of this study will also be used for academic purposes, through the Ph.D itself and publications in academic journals that will be available to scientists, governments, destination marketers, educators and practitioners around the world.

Confidentiality: Your participation in this study will be completely anonymous. Every effort will be made by the researcher to preserve your confidentiality including the following: 1) Assigning code names and numbers for participants that will be used on all research notes and documents, and 2) Keeping all notes and identifying participant information in a locked cabinet in the personal possession of the researcher.

Voluntary participation: Your participation is completely voluntary, and you can withdraw at any time without any consequences. It is up to you to decide whether or not to take part in this study. If you decide to take part in this study, you will be asked to sign a consent form. After you sign the consent form, you are still free to withdraw at any time without giving a reason. If you withdraw from this study before data collection is completed, your data will be destroyed.

Consent

I have read and understand the information provided. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason. I voluntarily agree to take part in this study.

Date: _____

Location: _____

Signature of participant: _____

Date: _____

Location: _____

Signature of researcher: _____



Section A: Profile of the respondent

1. Gender

M	1	F	2

2. Year of birth

Specify

3. Highest level of Education

No school	1
Still in school	2
Completed high school	3
Diploma / Degree	4
Post-graduate	5
Other	6

Specify

4. For tertiary education, specify your main subject

Specify

5. Country of origin and residence

Specify

6. Marital status

Single	1
Married	2
Divorced	3
Widow-er	4
Other	5

Specify

7. Occupation

Student	1
Paid worker	2
Unpaid worker	3
Unemployed	4
Retired	5

8. If you are / have been employed, what is / was your profession?

Specify

9. What is your trip duration?

Specify

10. How much did you pay to participate in this volunteer programme (incl. transport, accommodation, food, activities, etc.)?

Specify

11. Introduced to volunteering (including this programme) by

Family	1
Friend	2
Teacher	3
Social networks	4
General web	5
Organisation	6
Other	7

Specify

Section B: Motivation to participate

1. Indicate which forms of tourism you are interested in (you may choose more than one)

Nature-based	1
Wildlife-based	2
Beach-based	3
Mountain-based (e.g. trekking, climbing)	4
Water-based (e.g. surfing, scuba diving)	5
Adventure-based	6
Sports-based	7
Food-based	8
Tropical climates	9
Cold and temperate climates	10
Party tourism and nightlife	11
Shopping-based (e.g. curio stalls, art)	12
Other forms of tourism	13

Specify

Specify

2. Do you have previous volunteering experience?

Yes	1	No	2

3. If yes, what type (you may choose more than one)?

Community	1
Environment	2
Terrestrial conservation	3
Marine conservation	4
Education	5
Healthcare	6
Non-governmental support	7
Other type of volunteering	8

Specify

Specify

4. If yes, how long have you been actively involved in voluntary work? / How many times have you participated in a marine volunteer programme

Specify

Specify

5. What were the type (e.g. animal rehabilitation, environmental monitoring) and destination (country) of the marine volunteer programme(s) that you have participated in

Specify

Specify

6. Indicate to what extent the following is important to you I participated in marine wildlife voluntourism because:	Not at all important	Not important	Neutral	Important	Very important
1. I want to contribute to marine conservation	1	2	3	4	5
2. I want to contribute to animal protection and welfare	1	2	3	4	5
3. My family and friends partake in volunteering programmes	1	2	3	4	5
4. It is part of my society's traditions and / or culture	1	2	3	4	5
5. It is an opportunity to make new friends with similar interests	1	2	3	4	5
6. It is an opportunity to learn about marine life	1	2	3	4	5
7. It is fun	1	2	3	4	5
8. It is a good escape from my daily life	1	2	3	4	5
9. It helps me to work through my personal problems	1	2	3	4	5
10. It helps me feel less lonely	1	2	3	4	5
11. It makes me feel important and useful	1	2	3	4	5
12. Marine conservation and marine issues are very close to my heart	1	2	3	4	5
13. I want to feel part of a marine conservation community	1	2	3	4	5
14. I want to experience the local traditions and cultures	1	2	3	4	5
15. I want to be a part of solving marine issues	1	2	3	4	5
16. I want to contribute to the successful management of marine areas	1	2	3	4	5
17. I want to meet African people and experience African culture	1	2	3	4	5
18. I wanted to be somewhere new	1	2	3	4	5
19. I want to give something back to the community and environment	1	2	3	4	5
20. Marine volunteering is a chance of a lifetime	1	2	3	4	5
21. It is an opportunity to explore career options	1	2	3	4	5
22. It is an opportunity to interact with marine life	1	2	3	4	5
23. It is an opportunity to meet and interact with marine scientists	1	2	3	4	5
24. I am compassionate towards marine animals in need	1	2	3	4	5
25. It is a fulfilling experience	1	2	3	4	5
26. It makes the tourism experience more meaningful	1	2	3	4	5
27. It provides me with an opportunity to gain important skills	1	2	3	4	5
28. Other motivations, if any Specify	1	2	3	4	5
7. Indicate to what extent the following is important to you I prefer to volunteer at a programme, that:	Not at all important	Not important	Neutral	Important	Very important
1. Helps marine life that is suffering	1	2	3	4	5
2. Includes activities like animal tagging and monitoring	1	2	3	4	5
3. Provides hands-on experience with different marine life	1	2	3	4	5
4. Provides diving opportunities	1	2	3	4	5
5. Contributes tangibly to the conservation of the environment	1	2	3	4	5
6. Allows me to participate in scientific research	1	2	3	4	5
7. Works with local marine and coastal managers	1	2	3	4	5
8. Other preferences, if any Specify	1	2	3	4	5
8. Indicate to what extent the following is important to you – My expectations for participating in marine wildlife voluntourism included:	Not at all important	Not important	Neutral	Important	Very important
1. Availability of sufficient equipment for research	1	2	3	4	5
2. Good coordinator's expertise	1	2	3	4	5
3. Impressive natural beauty at the destination	1	2	3	4	5
4. A clean environment (free of litter and pollution)	1	2	3	4	5
5. Plenty of interactions with marine life	1	2	3	4	5
6. Plenty of diving	1	2	3	4	5
7. Good quality food	1	2	3	4	5
8. Comfortable accommodation facilities	1	2	3	4	5
9. Brand new knowledge about marine life and conservation	1	2	3	4	5
10. Good quality training on different things	1	2	3	4	5
11. A suggested packing list	1	2	3	4	5
12. A detailed programme of the activities to be offered	1	2	3	4	5
13. A list of do's and don'ts	1	2	3	4	5
14. Materials related to marine life, conservation and management at the destination	1	2	3	4	5
15. Group meetings / pre-trip briefings	1	2	3	4	5
16. A list of pre-trip / post-trip add-on marine experiences	1	2	3	4	5
17. Other expectations, if any Specify	1	2	3	4	5

Section C: Experience and feedback

1. Indicate your level of satisfaction with the following:	Totally dissatisfied	Dissatisfied	Neutral	Satisfied	Totally satisfied
1. The education received on the different marine species	1	2	3	4	5
2. The information received on marine issues and conservation	1	2	3	4	5
3. The guidance by the coordinators	1	2	3	4	5
4. The people that I have met	1	2	3	4	5
5. The technology available	1	2	3	4	5
6. The project's webpage / social media	1	2	3	4	5
7. The overall outreach of this volunteer project	1	2	3	4	5
8. The interactions I had with marine life	1	2	3	4	5
9. The marine species I had contact with	1	2	3	4	5
10. The communication between staff and voluntourists	1	2	3	4	5
11. The overall quality of the volunteer programme	1	2	3	4	5
12. The overall success of the project (e.g. research, education)	1	2	3	4	5
13. The data collected by us, the voluntourists	1	2	3	4	5
14. The orientation received	1	2	3	4	5
15. The training received	1	2	3	4	5
16. My job assignment and my performance	1	2	3	4	5
17. The recognition given to me by staff for the job that I have done	1	2	3	4	5
18. The organisation of the programme	1	2	3	4	5
19. The equipment and tools that were provided to me	1	2	3	4	5
20. The accommodation	1	2	3	4	5
21. The food	1	2	3	4	5
22. The free time that I had available to explore	1	2	3	4	5
23. The infrastructure of the volunteer programme	1	2	3	4	5
24. The location and the places I managed to see	1	2	3	4	5
25. The interactions I had with the local community	1	2	3	4	5
26. Other aspects, if any Specify	1	2	3	4	5

2. Indicate to what extent you agree with the following I feel that the programme acted according to ethical considerations with regards to:	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1. Handling of marine life	1	2	3	4	5
2. Treatment of staff	1	2	3	4	5
3. Treatment of voluntourists	1	2	3	4	5
4. Personal conduct of staff and voluntourists	1	2	3	4	5
5. Conservation of the environment	1	2	3	4	5
6. Community engagement	1	2	3	4	5
7. Pro-environmental practices (e.g. proper waste disposal, recycling)	1	2	3	4	5
8. Compliance with local rules and regulations pertaining to the marine environment	1	2	3	4	5
9. Other aspects, if any Specify	1	2	3	4	5

Please choose only one answer for each question

3. If I have another opportunity to volunteer, I will:

Volunteer at the marine volunteer programme again	1
Volunteer at a different marine volunteer programme	2
Volunteer at a volunteer programme with a different focus	3
Not volunteer again.	4

4. If somebody asks me about the programme I will:

Encourage them to volunteer at the marine volunteer programme	1
Advise them to volunteer at a different marine volunteer programme	2
Tell them that they should volunteer at a volunteer programme with a different focus	3
Inform them that they should not volunteer	4

5. If the manager of the programme asks me what I think about the programme, I will:

Honestly answer the manager, by saying what I enjoyed and did not enjoy	1
Complain to the manager about the negative things that I experienced	2
Tell the manager about the positive things that I experienced	3
Not give the manager any direct feedback	4

6. I will demand to speak to the manager of the programme to give the manager feedback, if:

My experience had been below standard	1
My experience had been up to standard	2
My experience had been above standard	3
I will not demand to speak to the manager	4

Section D: Environmental attitude and behaviour					
1. Indicate to what extent you agree with the following Based on my experience as a marine voluntourist, I:	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Conservation					
1. Feel that voluntourism is an important aspect of marine conservation and management	1	2	3	4	5
2. Will donate money to marine conservation organisations	1	2	3	4	5
3. Will only engage in responsible tourism that benefits conservation	1	2	3	4	5
4. Other in relation to conservation, if any Specify	1	2	3	4	5
Compliance					
5. Respect the laws and regulations that deal with the protection of marine and coastal environments	1	2	3	4	5
6. Will abide to laws and regulations which are intended for environmental protection at home and work	1	2	3	4	5
7. Other in relation to compliance, if any Specify	1	2	3	4	5
Advocacy					
8. Feel that stricter policies should be implemented to conserve the marine environment	1	2	3	4	5
9. Will sign petitions to protect and conserve marine life	1	2	3	4	5
10. Will become a member of an organisation that protects marine life	1	2	3	4	5
11. Will participate in public relations campaigns to try to prevent incompatible industries from damaging ecosystems	1	2	3	4	5
12. Will participate in environmental lobbying to conserve the marine environment	1	2	3	4	5
13. Other in relation to advocacy, if any Specify	1	2	3	4	5
Education					
14. Feel that everybody should be educated on marine conservation	1	2	3	4	5
15. Will educate my family and friends on marine issues and conservation	1	2	3	4	5
16. Will educate myself better about marine issues and conservation, so that I can better contribute to conservation	1	2	3	4	5
17. Other in relation to education, if any Specify	1	2	3	4	5
Willingness to pay					
18. Will participate in this volunteer programme again even if the price increases	1	2	3	4	5
19. Will pay to go to marine protected areas	1	2	3	4	5
20. Will pay to raise funds for marine conservation	1	2	3	4	5
21. Will pay to support non-governmental organisations	1	2	3	4	5
22. Will pay to assist organisations and governments conserve natural resources	1	2	3	4	5
23. Other in relation to willingness to pay, if any Specify	1	2	3	4	5
Citizen science (participatory research)					
24. Feel that I have obtained a general interest in science	1	2	3	4	5
25. Feel that volunteering is a powerful scientific tool	1	2	3	4	5
26. Feel that I will pursue a career in science	1	2	3	4	5
27. Feel that I will join other citizen science projects	1	2	3	4	5
28. Other in relation to citizen science, if any Specify	1	2	3	4	5
Environmental responsibility					
29. Will recycle in the future	1	2	3	4	5
30. Will reduce unnecessary waste	1	2	3	4	5
31. Am interested to learn more about conserving the marine resources through daily acts	1	2	3	4	5
32. Will try to conserve the marine environment for future generations	1	2	3	4	5
33. Other in relation to environmental responsibility, if any Specify	1	2	3	4	5
Career choices					
34. Am interested in a career that focuses on marine conservation and marine sciences	1	2	3	4	5
35. Will motivate others to invest in a career that focuses on marine conservation and sciences	1	2	3	4	5
36. Other in relation to career choices, if any Specify	1	2	3	4	5
Willingness to participate in the future					
37. Will continue to participate in volunteer programmes that deal with marine conservation	1	2	3	4	5
38. Will participate in any kind of volunteering in the future	1	2	3	4	5
39. Other in relation to willingness to participate in the future, if any Specify	1	2	3	4	5

Appendix 4: List of questions used in the semi-structured interviews for the demand side

Informed Consent – A critical assessment of marine wildlife voluntourism in Southern Africa

If you have any queries about this study, please do not hesitate to contact the researcher:

Charmaine Cilliers

North West University (NWU)

charmaine.danielle.cilliers@gmail.com

Department of Economic and Management Sciences

Purpose of study: You are being asked to take part in an academic (Ph.D) research study. Before you decide to participate in this study, it is important that you understand why the research is being done and what it will involve. Please read the following information carefully and ask the researcher if there is anything that is not clear or if you need more information. The purpose of this study is to carry out a critical assessment of marine wildlife voluntourism (MVT) in Southern Africa. This includes an in-depth analysis of both demand and supply sides across selected types of MVT.

Study procedures: Ethical clearance has been obtained at NWU under the ethics number *NWU-00767-19-A4*. The ethics process is duly mentioned in the Ph.D thesis, specifically in Chapter 1 and in Chapter 4. The survey will not take longer than 15 minutes to complete. The survey will be stored by NWU for five years. Socio-demographic questions are used because these are the antecedents of most variables that are measured in social science research. Therefore, it is indispensable to measure socio-demographics in the research project. These data will be grouped in such a way (keeping all data anonymous, and as a group) that it will be impossible to distinguish / identify a given participant.

Risks: There is no foreseeable emotional discomfort, inconvenience or risks to you.

Benefits: There will be no direct benefit to you for participating in this study. However, we hope that the information obtained from this study will assist with the valorisation of MVT, as a tourism industry which can contribute to society, environment and conservation, economies, and personal development of the participants. Further, the data collected will be used for the development of structural and functional guidelines for MVT, to improve its marketing efforts, and to enhance its sustainability. The results of this study will also be used for academic purposes, through the Ph.D. itself and publications in academic journals that will be available to scientists, governments, destination marketers, educators and practitioners around the world.

Confidentiality: Your participation in this study will be completely anonymous. Every effort will be made by the researcher to preserve your confidentiality including the following: 1) Assigning code names and numbers for participants that will be used on all research notes and documents, and 2) Keeping all notes and identifying participant information in a locked cabinet in the personal possession of the researcher.

Voluntary participation: Your participation is completely voluntary, and you can withdraw at any time without any consequences. It is up to you to decide whether or not to take part in this study. If you decide to take part in this study, you will be asked to sign a consent form. After you sign the consent form, you are still free to withdraw at any time without giving a reason. If you withdraw from this study before data collection is completed, your data will be destroyed.

Consent

I have read and understand the information provided. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason. I voluntarily agree to take part in this study.

Date: _____

Location: _____

Signature of participant: _____

Date: _____

Location: _____

Signature of researcher: _____



Start time: _____

Section A: Profile (± 5 minutes)	
Questions	Notes of answers
1) Gender	
2) What year were you born?	
3) What is your highest level of education?	
4) What is your country of origin and residence?	
5) What is your marital status?	
6) What is your current occupation?	
7) What is your role in this marine volunteer programme?	
8) How did you come into contact with this marine volunteer programme?	
9) In total, how much did you pay to participate in this marine volunteer programme (USD)?	
Section B: Preferences, previous experience and motivations (± 15 minutes)	
Questions	Notes of answers
1) Which forms of tourism and recreation do you prefer?	

2) What is your previous experience with regards to volunteering?	
3) Why did you choose to participate in this marine volunteer programme?	
4) What were your expectations before joining this marine volunteer programme?	

Section C: Satisfaction (± 10 minutes)

Questions	Notes of answers
1) Elaborate what has been satisfying and dissatisfying about your experience with this marine volunteer programme.	
2) According to your experience, would you say that this volunteer programme acted according to proper ethical standards	

Section D: Attitude and behaviour (± 30 minutes)	
Questions	Notes of answers
1) Are you generally concerned for the state and well-being of the ecosystems? If so, which ones?	
2) What do you think are the current threats to the environment and species?	
3) Do you engage in any form of environmentally responsible behaviour at home and work?	
4) What is conservation?	
5) What do you think are the responsibilities of citizens towards the environment and conservation?	

6) Do you believe that you give a meaningful contribution to conservation and how?	
7) Do you think policies should be created or adapted to ensure that conservation is achieved?	
8) Once you return home, elaborate on how you would educate people on marine conservation.	
9) To what extent do you feel price influences your choice of participation in a volunteer tourism programme?	
10) Based on your experience, elaborate on how you feel about citizen science (participatory research).	

11) How are you going to be more environmentally friendly once you return home?	
12) Based on your experience, how do you feel about a career in marine conservation?	
13) Elaborate on your potential future volunteer programmes in which you might participate.	
14) Is there anything you wish to add with regards to your participation in marine wildlife voluntourism (feelings, concerns or other)?	

This is the end of our session, thank you for your participation.

End time: _____



Appendix 5: List of questions used in the semi-structured interviews for the supply side

Informed Consent – A critical assessment of marine wildlife voluntourism in Southern Africa

If you have any queries about this study, please do not hesitate to contact the researcher:

Charmaine Cilliers

North West University (NWU)

charmaine.danielle.cilliers@gmail.com

Department of Economic and Management Sciences

Purpose of study: You are being asked to take part in an academic (Ph.D) research study. Before you decide to participate in this study, it is important that you understand why the research is being done and what it will involve. Please read the following information carefully and ask the researcher if there is anything that is not clear or if you need more information. The purpose of this study is to carry out a critical assessment of marine wildlife voluntourism (MVT) in Southern Africa. This includes an in-depth analysis of both demand and supply sides across selected types of MVT.

Study procedures: Ethical clearance has been obtained at NWU under the ethics number *NWU-00767-19-A4*. The ethics process is duly mentioned in the Ph.D thesis, specifically in Chapter 1 and in Chapter 4. The survey will not take longer than 15 minutes to complete. The survey will be stored by NWU for five years. Socio-demographic questions are used because these are the antecedents of most variables that are measured in social science research. Therefore, it is indispensable to measure socio-demographics in the research project. These data will be grouped in such a way (keeping all data anonymous, and as a group) that it will be impossible to distinguish / identify a given participant.

Risks: There is no foreseeable emotional discomfort, inconvenience or risks to you.

Benefits: There will be no direct benefit to you for participating in this study. However, we hope that the information obtained from this study will assist with the valorisation of MVT, as a tourism industry which can contribute to society, environment and conservation, economies, and personal development of the participants. Further, the data collected will be used for the development of structural and functional guidelines for MVT, to improve its marketing efforts, and to enhance its sustainability. The results of this study will also be used for academic purposes, through the Ph.D itself and publications in academic journals that will be available to scientists, governments, destination marketers, educators and practitioners around the world.

Confidentiality: Your participation in this study will be completely anonymous. Every effort will be made by the researcher to preserve your confidentiality including the following: 1) Assigning code names and numbers for participants that will be used on all research notes and documents, and 2) Keeping all notes and identifying participant information in a locked cabinet in the personal possession of the researcher.

Voluntary participation: Your participation is completely voluntary, and you can withdraw at any time without any consequences. It is up to you to decide whether or not to take part in this study. If you decide to take part in this study, you will be asked to sign a consent form. After you sign the consent form, you are still free to withdraw at any time without giving a reason. If you withdraw from this study before data collection is completed, your data will be destroyed.

Consent

I have read and understand the information provided. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason. I voluntarily agree to take part in this study.

Date: _____

Location: _____

Signature of participant: _____

Date: _____

Location: _____

Signature of researcher: _____



Start time: _____

Section A: Profile of the interviewee (± 5 minutes)	
Questions	Notes of answers
1) Gender	
2) What year were you born?	
3) What is your highest level of education?	
4) What is your country of origin before you started working for this organisation?	
5) How did you start working at this organisation?	
6) For how long have you worked at this organisation?	
7) Did you volunteer before you started working at this organisation?	
Section B: Business model canvas of the organisation (± 10 minutes)	
Questions	Notes of answers
1) Elaborate on the business model canvas of this organisation (<u>only for managers</u>)	

Section C: Key characteristic of the organisation (± 45 minutes)	
1) What is the history of this organisation and the volunteer programme?	
2) Describe the work that your organisation does?	
3) What training is offered to the employees by the organisation?	
4) What training is offered to the volunteers by the organisation?	
5) How does the organisation contribute to scientific research?	

6) To what extent do the volunteers assist the organisation with research projects?	
7) How does the organisation work collaboratively with the local community?	
8) How does the organisation support the tourism industry?	
9) What are the elements of the organisation that make it successful?	
10) What are the organisation's vision and mission?	

11) What do you think are the current threats to the environment and species?	
12) How is the organisation avoiding the unnecessary overuse of certain resources (e.g. water)?	
13) What is conservation?	
14) How does this organisation give a meaningful contribution to conservation and / or environmental management?	
15) How does the organisation educate people on marine conservation?	

16) What type of advocacy activities is the organisation involved in, if any?	
17) What do you think the organisation would look like in five years?	
18) What resources do you think the organisation will need to achieve these goals?	

This is the end of our session, thank you for your participation.

End time: _____



Appendix 6: Ethical clearance



Private Bag X6001, Potchefstroom
South Africa 2520

Tel: 018 299-1111/2222
Web: <http://www.nwu.ac.za>

Economic and Management Sciences Research Ethics
Committee (EMS-REC)
Tel: 018 299-1427
Email: Bennie.Linde@nwu.ac.za

24 June 2019

Dr S. Lucrezi and Prof P. van der Merwe
Per e-mail

Dear Dr Lucrezi and Prof. van der Merwe,

**FEEDBACK – ETHICS APPLICATION 21062019 – C.D. Cilliers
(31390560)(NWU-00767-19-A4) PhD in Tourism Management – Dr S
Lucrezi and Prof P van der Merwe**

Your ethics application on *A critical assessment of marine wildlife voluntourism in Southern Africa*, that served on the EMS-REC meeting of 21 June 2019 refers.

Outcome:

Approved as a minimal risk study. A number, NWU-00767-19-A4, is given for three years of ethics clearance.

Kind regards,

A handwritten signature in black ink, appearing to read 'B. Linde', enclosed within a large, loopy oval stroke.

Prof. Bennie Linde
Chairperson: Economic and Management Sciences Research Ethics Committee (EMS-REC)
Potchefstroom Campus

Appendix 7: Summary of the qualitative results for the demand side (voluntourists) at the case study sites

Theme	Question	Case study sites	Keywords	Codes	Sub-themes	Quotes
Preferred types of tourism	Which forms of tourism and recreation do you prefer?	SA	Adventure, culture, see more of the world, nature, no profit, ecotourism, relaxation, exploring, animal-centred, experience	Adventure tourism, sustainable tourism, leisure tourism, exploring, enhancing skills and experience, wildlife tourism	Nature and wildlife-based exploration ecotourism	Nature and wildlife-based exploration ecotourism – MOZ4: "I like to learn about other cultures, to discover some wildlife places and also learn about animals and wildlife in general."
		MOZ	Active holiday, culture, discover, nature, no profit, outdoor, relaxation, exploring, learning, backpack, animal-centred	Adventure tourism, sustainable tourism, leisure tourism, exploring, enhancing skills and experience, wildlife tourism	Nature and wildlife-based exploration ecotourism	
		MAD	Free kind of tourism, natural, don't think about work, conscious tourism, animal-centred, ecosystem, citizen science	Adventure tourism, sustainable tourism, leisure tourism, wildlife tourism, citizen science	Nature and wildlife-based ecotourism	Nature and wildlife-based ecotourism – MAD3: "I like conscious tourism in nature, like observing animals in their natural habitat, and visiting undestroyed places. When I am not doing citizen science I also like to stay in nature."
Previous volunteering experience	What is your previous experience in volunteering?	SA	Animal-based, local zoo, animal shelter, hospital church, community, non-profit conservation, beach cleaning, indigenous communities	Local animals, community, marine, terrestrial, conservation	Environment and community conservation	Environment and community conservation – SA3: "I have been volunteering at home for four or five years at an animal shelter, and I have done much community service through school."
		MOZ	Music festival, marine conservation, research centre, kids, teaching, animals, wildlife, farm, building schools, indigenous communities	Festival, marine, research, community, terrestrial	Environment and community conservation	

Theme	Question	Case study sites	Keywords	Codes	Sub-themes	Quotes
		MAD	Children, local dogs, trainer for Reef Check, immigrants, turtles, scientific consultation	Community, local animals, marine, research	Environment and community conservation	
Motivation to participate in MVT	Why did you choose to participate in this marine volunteer programme?	SA	Friends' experiences, experience, learn, marine life, sharks, Africa, new place, passion, help, opportunity, make a difference	Experience, travelling, altruism, education, personal interest, fulfilling experience	Ecocentric, personal development, personal well-being, social values	Ecocentric – SA17: "I want to educate the new generations and protect the ocean and nature, involving the local communities."
		MOZ	Learn, marine conservation, Africa, adventure, snorkelling, diving, dolphins, affordable, experience, resting, free time, unique	Education, personal interest, travelling, marine conservation, escapism	Ecocentric, personal development, personal well-being, social values	Personal development – MAD4: "I want to increase my knowledge of coral reefs and learn conservation techniques."
		MAD	Coral reef, Africa, learn, passion, knowledge, opportunity, conservation techniques, passion, conservation status	Experience, personal interest, travelling, education, meaningful experience, conservation	Ecocentric, personal development, personal well-being, social values	Personal well-being – MOZ2: "I thought if I can combine holidays and resting with something interesting where I can learn, I can be useful, it is perfect." Social values – SA2: "I probably came here more for the culture. Usually when I travel, yeah probably culture, to see more of the world."
Expectations towards MVT	What were your expectations before joining this marine	SA	Learn, skills, knowledge, sharks, South Africa, marine animals, equipment, application, people, help	Learn, hands-on activities, interaction with marine life, making friends	Knowledge and development, interaction with marine life, destination experience	Knowledge and development – SA4: "I expected to learn different skills and how to use different equipment for marine science research. I knew there would be courses, so I would learn from people who have done

Theme	Question	Case study sites	Keywords	Codes	Sub-themes	Quotes
	volunteer programme?	MOZ	Dolphins, learn, whales, help, behavioural change, knowledge, useful, skills, diving, nature, whale sharks	Learn, materials related to conservation, interaction with marine life in their natural environment, behavioural change, being in the water	Knowledge and development, interaction with marine life, destination experience	research, have done these studies and have years of experience with this."
		MAD	Diving, coral reef, learn, different protocols, look around, community, Africa, village, manage	Learn, interaction with marine life, monitoring protocols, interaction with the local community	Knowledge and development, interaction with marine life, destination experience	Interaction with marine life – MOZ4: "I wanted to learn about dolphins while being in the water as much as possible." Destination experience – MAD2: "I expected to have an experience in the local village and be able to interact with the local African community."
Satisfaction with MVT	Elaborate on what has been satisfying and dissatisfying about your experience with this marine volunteer programme.	SA	Satisfying – Skills, learning, shifts, marine life, staff, people, food, sharks, group, socialise Less satisfying – Curfew, laundry, waking up early	Satisfying – Professionalism of staff, knowledge and skills gained, activities, accommodation and food, people met, interactions with marine life Less satisfying – Rules, working hours	Destination and interaction, information and education, overall programme quality	Destination and interactions – MOZ2: "We had the opportunity to be in the water and have contact with the dolphins on a daily basis. The lodge with the owners, they are amazing, so really if you need something they are there for you and the other staff too, they helped us a lot."
		MOZ	Satisfying – People, accommodation, food, free time, water, interaction, dolphins, learn, scuba diving, purposes, collecting data	Satisfying – knowledge and skills gained, activities, accommodation and food, people met, interactions with marine life, making a difference	Destination and interaction, information and education, overall programme quality	Information and education – MAD4: "I was very satisfied with the way the course was structured and the techniques I learnt. But I believe that in order to apply even better what I

Theme	Question	Case study sites	Keywords	Codes	Sub-themes	Quotes
			Less satisfying – Free time, people, small space, activities	Less satisfying – People met, rules, working hours, lack of activities		learnt, more days (more than a week) are necessary.”
		MAD	Satisfying – See new underwater world, conservation status of coral reefs, organisation, learn Less satisfying – Intensive, not linked to the culture and the locals, many topics treated in a short time	Satisfying – knowledge and skills gained, experience in the ocean, conservation status, organisation of the programme Less satisfying – working hours, lack of community engagement	Destination and interaction, information and education, overall programme quality	Overall programme quality – SA3: “All the shifts were incredible, there wasn’t a single shift where I would wake up and be like I don’t want to go to that shift. All the field specialists and the staff are just the nicest people that I have ever met in my entire life and I am so glad that I have met every single one of them, they are all so amazing in their own ways and know so much.”
Perceived ethical conduct of the MVT organisation	According to your experience, would you say that this volunteer programme acted according to proper ethical standards (e.g. the handling of wildlife)?	SA	Proper chum shifts, no conditioning, stick to the rules, accommodating, helpful, presentation, explaining	Moderate animal interaction, following codes of conduct, accommodating voluntourists’ needs, educating before action	Ethical conduct of the MVT organisation	Ethical conduct of the MVT organisation – MOZ7: “There is always a code of conduct with each marine animal that the staff approach. There is a no-touching rule, no noise rule, and they are always careful and respectful towards the marine animals.”
		MOZ	Strict, codes of conduct, no chasing, no touching, briefings, knowledge, distance from animals, energy saving	Moderate animal interaction, following codes of conduct, accommodating voluntourists’ needs, educating before action, moderate use of resources	Ethical conduct of the MVT organisation	
		MAD	No handling, briefings, respectful, aware of our fins, buoyancy, local community, learn, advanced diving certificate	Moderate animal interaction, following codes of conduct, educating before action, community engagement, skills specific	Ethical conduct of the MVT organisation	
Attitude: education	Once you return home,	SA	Ecobricks, ROV project, beach clean-ups, experience,	Start a conservation project, arrange conservation activities,	Taking action and educating people	Taking action and educating people – MAD4:

Theme	Question	Case study sites	Keywords	Codes	Sub-themes	Quotes
	elaborate on how you would educate people on marine conservation.		plastic, recycling, no straws, conservation, ambassador, groups, presentation, speeches	share information about previous experience, share information about the impact of plastic, become an ambassador		"I will educate people on marine conservation by engaging them in citizen science projects and beach clean-ups. I will also share pictures and videos and teach conservation in classes."
		MOZ	Photos, sunscreen, plastic, local food, experience, pictures, videos, beach cleaning, water pollution, teach	Arrange conservation activities, share information about previous experience, share information about the impact of plastic	Take action and educate people	
		MAD	Beach littering, beach monitoring, raising awareness, jobs, photos, citizen science, beach clean-ups, teach, social media	Start a conservation project, arrange conservation activities, share information about previous experience	Take action and educate people	
Attitude: environmental concern	Are you generally concerned for the state and well-being of the ecosystems and, if so, which ones?	SA	White sharks, whales, coral reefs, ocean, plastic, pollution, terrestrial, climate change, extinction, poaching, melting ice caps, global warming, ecosystems	Ocean ecosystem, terrestrial ecosystem, Arctic ecosystem, impact on the ecosystems, all ecosystems	Ocean ecosystems, terrestrial ecosystems	Ocean ecosystems – MAD4: "I am concerned for the well-being of the marine ecosystems, especially the most fragile ones, such as the mangroves and tropical reefs."
		MOZ	Water, beach, plastic, garbage, mass tourism, sunscreen, cars, pollution, Iceland, marine life, Amazon rain forest, climate change, dolphins, ecosystems	Ocean ecosystem, Arctic ecosystem, rain forest ecosystem, impact on the ecosystems, all ecosystems	Ocean ecosystems, terrestrial ecosystems	Terrestrial ecosystems – SA5: "I am concerned for the well-being of the land ecosystems, especially with poaching and climate change, which is going to affect all the ecosystems."
		MAD	Sea, land, rivers, mountain, degrading, pollution, microplastic, climate change, terrestrial, land, coral reefs, mangroves, ecosystems	Ocean ecosystem, terrestrial ecosystem, mountain ecosystem, impact on the ecosystems, all ecosystems	Ocean ecosystems, terrestrial ecosystems	

Theme	Question	Case study sites	Keywords	Codes	Sub-themes	Quotes
Attitude: perceived environmental threats	What do you think are the current threats to the environment and species?	SA	Plastic, humans, anthropogenic, pollution, climate change, global warming, overfishing, entanglement, acidification, boat traffic, noise, gas, poaching, ignorance, illegal fishing	Pollution, climate change, hunting / fishing, acidification, carbon footprint, public ignorance, human behaviour	Anthropogenic	Anthropogenic – MOZ6: "Humans and mainly their impact are the biggest threat to the environment and species."
		MOZ	Plastic, pollution, climate change, overfishing, endangered species, acidification, sunscreen, mass tourism, temperature, human-animal interaction, boats	Pollution, climate change, hunting / fishing, acidification, carbon footprint, public ignorance, human behaviour	Anthropogenic	
		MAD	Humans, pollution, overexploitation, poaching, climate change, urbanisation, fishing, fishing nets, alien species, temperature rise, shark finning, acidification, chemical spills	Pollution, climate change, hunting / fishing, acidification, carbon footprint, human behaviour	Anthropogenic	
Attitude: individual environmental responsibility	Do you engage in any form of environmentally responsible behaviour at home and atwork?	SA	Composting, recycling, clean-ups, reduce plastic, no straw, short shower, reusable bottles, informing, less meat, own bag	Recycle, clean-ups, educate, limit plastic use, save water, reuse, reduce meat consumption	Striving to reduce environmental footprint	Striving to reduce environmental footprint – MAD4: "I am careful about what I eat, what I buy and especially how I manage my waste to reduce the amount I disperse in the environment. I do not buy single-use products and I prefer where possible to avoid plastic. When I can, I use coral-friendly sunscreen and I deal with scientific
		MOZ	Water bottle, no straws, light saving, short shower, own Tupperware, recycle, natural stuff, no plastic, reuse bags, sharing, public transport	Recycle, educate, limit plastic use, save water, reuse, limit transportation, limit electricity use, sustainable products	Striving to reduce environmental footprint	

Theme	Question	Case study sites	Keywords	Codes	Sub-themes	Quotes
		MAD	Sustainable food, water-saving, bicycles, walk, vegan, vegetarian, recycle, raise awareness, reduce, no single-use plastic, coral-friendly sunscreen	Recycle, educate, limit plastic use, save water, limit transportation, reduce meat consumption, sustainable products	Striving to reduce environmental footprint	obligation to increase people's awareness of the problems that affect the ocean."
Attitude: collective environmental responsibility	What do you think are the responsibilities of citizens towards the environment and conservation?	SA	Conscious, make things better, change habits, be aware, help, clean, reduce, reuse, recycle, educate, save, responsible, take action	Be aware and responsible towards the environment, educate, take action	Active responsibility	Active responsibility – MAD3: "All the citizens have the responsibility to care about our planet. Because as many people say, we do not have a planet B. So, we have to be responsible."
		MOZ	Protect, next generations, responsible, care, eco-friendly, recycling, educate, change habits	Be aware and responsible towards the environment, educate, take action	Active responsibility	
		MAD	Reduce impact, raise awareness, change behaviour, education, care, responsible, respect, sustainable lifestyle	Be aware of actions, behaviour change, educate, take action	Active responsibility	
Attitude: environmental behavioural intention	How are you going to be more environmentally friendly once you return home?	SA	Ecobricks, drive less, compost, garden, bamboo toothbrush, reuse, straws, cosmetics, inform, short showers, litter removal, conserve, less meat	Recycle, clean-ups, educate, limit plastic use, save water, reuse, reduce meat consumption, limit transportation, sustainable products	Further reduce environmental footprint	Further reduce environmental footprint – MOZ8: "I am going to recycle more strictly, buy fewer products, avoid unnecessary consumerism, spread awareness, be more environmentally friendly, and use more public transport."
		MOZ	Own jars, YouTube videos, create natural products, less plastic, recycling, street cleaning, less meat, share,	Recycle, clean-ups, educate, limit plastic use, save water, reuse, reduce meat consumption, limit transportation, sustainable products	Further reduce environmental footprint	

Theme	Question	Case study sites	Keywords	Codes	Sub-themes	Quotes
			one-minute showers, walking, cycling, fewer flights			
		MAD	Not waste water, ecological solar cream, talk with people, vegan	Educate, save water, reduce meat consumption, sustainable products	Further reduce environmental footprint	
Attitude: conservation awareness	What is conservation?	SA	Protect, support, save what is already there, sustaining, destroyed, damaged, overused, animals, culture, environment, change, daily habits, extinction, education	Protecting, positive environmental behaviour, education	Safeguarding	Conserving – SA15: “Conservation is having a mindset to help the planet and change your ways accordingly.”
		MOZ	Protect, no impact, careful, understand, no direct interaction, help, learn, raise awareness	Protecting, positive environmental behaviour, education	Safeguarding	
		MAD	Caring, reduce impact, avoid extinction, science, save the planet, prevent future loss, preserve	Protecting, positive environmental behaviour, education	Safeguarding	
Attitude: conservation policies	Do you think policies should be created or adapted to ensure that conservation is achieved?	SA	Plastic bag ban, large corporations, obeying regulations, government, no straws, beach clean-ups, reduce plastic, rules on litter, protect habitat, awareness	Plastic ban policies, corporate social responsibility, government involvement, environmental policies, education and awareness	Politically supported policy change	Politically supported policy change – MAD2: “I think that we know enough and we can do a lot with what we know. There are enough policies but there are no politicians that implement these policies, or that are aware of the problems. So, the problem is that the economic question is always more important than the ecosystems.”
		MOZ	Environmental protection, plastic bag, tax, education, government, conservation, awareness, marine protected area, poor-quality produce	Plastic ban policies, corporate social responsibility, government involvement, environmental policies, education and awareness	Politically supported policy change	

Theme	Question	Case study sites	Keywords	Codes	Sub-themes	Quotes
		MAD	Difficult, politicians, knowledge, teach, respect, ecosystem, conservation programmes, marine protected area, awareness	Government involvement, environmental policies, education and awareness	Politically supported policy change	
Attitude: volunteering contribution	As a volunteer, do you believe that you give a meaningful contribution to conservation and how?	SA	Spread knowledge, become aware, educate, recycle, help, carbon footprint, research, collect data, plastic, conscious, cleaning, volunteer programme, conservationist	Education and awareness, responsible behaviour, scientific research, active help	Science, education, direct and indirect contributions	Science, education, direct and indirect contributions – SA2: "I give a meaningful contribution to conservation just by having an interest and trying to be a conservationist. That is a good place to start, having the desire to help and that motivates you to do practical things to help."
		MOZ	Plastic, recycle, volunteer programme, good habits, talk, raise awareness, marine scientists, educate	Education and awareness, responsible behaviour, scientific research, active help	Science, education, direct and indirect contributions	
		MAD	Fieldwork, education, less plastic, recycling, conservation programme, research	Education and awareness, responsible behaviour, scientific research, active help	Science, education, direct and indirect contributions	
Attitude: behavioural intention to volunteer in future	Elaborate on your potential future volunteer programmes in which you might participate, if any.	SA	Intern, shark research, sea turtle nesting, invertebrate, aquarium, helping people, this programme, conserving, beach clean-ups, education, non-profit	Internships, marine conservation, community, health care, non-profit, terrestrial conservation	Conservation-based volunteering, community-based volunteering	Conservation-based volunteering – MAD1: "My future volunteer programmes should include both the marine environment and the terrestrial environment."
		MOZ	Intern, turtle, conservation, dolphins, whales, sharks, marine, tropical islands, community, teaching, Kruger National Park, animals, lion,	Internships, marine conservation, community, terrestrial conservation	Conservation-based volunteering, community-based volunteering	Community-based volunteering – MOZ3: "My future volunteer programme should be with people in the

Theme	Question	Case study sites	Keywords	Codes	Sub-themes	Quotes
			hippo, elephant, sea lions, bear project			community, like helping and teaching to children."
		MAD	Community, marine environment, terrestrial environment, children, education, sea conservation, corals, ocean ecosystem, dive training	Marine conservation, community, terrestrial conservation	Conservation-based volunteering, community-based volunteering	
Attitude: paying to volunteer	To what extent do you feel price influences your choice of participation in a volunteer tourism programme?	SA	Influence, parents' help, willing to pay more to come back, cheaper, grant, expensive, save	Willingness to pay, cost, project features	Personal circumstances are most influential	Personal circumstances are most influential – MAD1: "It depends on the circumstances. For example, in my case, I think there are two differences. If I am talking from a marine biologist's point of view, these experiences help me to enhance my skills and experience for a career in marine science. So, I am willing to pay to do it. But if I were a tourist passionate about marine ecosystems I think the price would be more influential on my choice."
		MOZ	Other programmes, holiday, experience, affordable, donations, ethical, expensive, enough money, good project	Willingness to pay, cost, project features	Personal circumstances are most influential	
		MAD	Experience, willing to pay, little money, affordable, scholarship	Willingness to pay, cost, project features	Personal circumstances are most influential	
Attitude: citizen science	Based on your experience, elaborate on how you feel about citizen science (participatory research).	SA	Learn, teach, important, change, inform, understand, environment	Important, educational, community engagement, capacity building, positive impact	Educational, impactful and scientific tool	Educational, impactful and scientific tool – SA17: "Citizen science is important because communities may have or access information that the scientist needs or can use. It is important to involve various communities so that they can give the scientist additional knowledge. One just needs to ensure that communication and relation
		MOZ	Good, impact, introducing science to people, learn, necessary	Important, educational, community engagement, capacity building, positive impact	Educational, impactful and scientific tool	
		MAD	Scientific contribution, experience, good, tool, awareness, employment, important	Important, educational, community engagement, capacity building, positive impact	Educational, impactful and scientific tool	

Theme	Question	Case study sites	Keywords	Codes	Sub-themes	Quotes
						between the scientist and communities are good, because some communities may need to first learn something before participating and collecting data, which is a good thing."
Attitude: career choices	Based on your experience, how do you feel about a career in marine conservation?	SA	Career, research, interact with people, education, terrestrial	Marine conservation career, research, interacting with people, education	Marine conservation, other career interests	Marine conservation – SA1: "This experience has made me want a career in marine conservation more than I did before I got here." Other career interests – MOZ2: "For now, no, I do not want a career in marine conservation, because it does not pay well."
		MOZ	No background, ecotourism guide, little money, free time, future career	Marine conservation career, low salary, lack of background	Marine conservation, other career interests	
		MAD	Hope, difficult, meet people, research	Marine conservation career, research, interacting with people	Marine conservation, other career interests	

Appendix 8: Summary of the qualitative results from the supply side at the case study sites

Question	Case study sites	Keywords	Codes	Sub-themes	Quotes
What is the history of this organisation and the volunteer programme?	SA	2007, White sharks, charismatic species, teach, learn, research, development, early career scientist, environmental issues *(Cage diving, education, ecotourism, sustainability)	Research charismatic species, educate young scientists *(Marine ecotourism, educational ecotourism experience)	Research, education, charismatic species conservation *(Educational marine ecotourism)	"We focused on white sharks and charismatic species as one of the reasons for our volunteers to come here." *(“The volunteer programme initially started as a cage diving experience, then developed into an educational experience focusing on the ocean and sustainable ecotourism.”)
	MOZ	1996, dolphins, swim, code of conduct, rules, tourist groups	Ethical swim-with-dolphins tours, developing codes of conduct	Ethical dolphin tourism	"Previously there were no guidelines on how to swim with and approach dolphins. The founder developed codes of conduct and got other companies in the area to follow the codes of conduct."
	MAD	2007, involvement, courses, education, protocols, underwater monitoring, beach monitoring, volunteer scuba divers	Educational activities and protocols, environmental monitoring, involving volunteer scuba divers	Volunteer scuba divers monitoring the marine environment	"There was a group of people interested in collecting data on the marine life and the Mediterranean reef. This group of people started the organisation."
Describe the work that your organisation does.	SA	Research projects, data collection, training, education, raising awareness, community engagement, conservation *(Cage diving, education, community engagement, data collection, conservation, raise awareness)	Data collection and research projects, educate and community engagement, raising awareness *(Data collection, education and community engagement, raising awareness, marine)	Raising awareness through research and education; community engagement *(Raising awareness through research, education and marine ecotourism; community engagement)	"We want to educate the voluntourists and local community on marine conservation." *(“We engage with the community, through speaking to local businesses to change to sustainable materials and

Question	Case study sites	Keywords	Codes	Sub-themes	Quotes
					speaking about sharks at the local schools.”)
	MOZ	Educate, conservation, research, data collection, plastic pollution, dolphin swim, workshops with kids, ethical marine ecotourism	Data collection and research projects, educate and community engagement, raising awareness through ethical marine ecotourism	Raising awareness through research, education and ethical marine ecotourism; community engagement	“We offer ethical and responsible marine ecotourism that funds research and conservation in the area.”
	MAD	Training, data collection, involvement, protocols, monitoring	Training people, collecting data, monitor the marine environment	Involving and training people to collect data and monitor the marine environment	“We want to train people to use the protocols to collect data and monitor the coral reefs.”
What training is offered to the employees by the organisation?	SA	Marine mammal stranding, skippers, seaman's skills, research skills, project management skills, driving, people skills *(Skippers, pre-sea medical rescue, firefighting, crewing, first aid, boat maintenance, people skills)	Research and project management skills, boating skills, people skills *(Boating and crewing skills, first aid and rescue skills, people skills)	Hands-on, formal and informal training *(Hands-on, formal and informal training)	“The employees can get their marine mammal stranding certification and are taught how to run each research project.” *(“The crew get their sea training, pre-sea, medical rescue and firefighting training.”)
	MOZ	Workshops, conferences, rescue, first aid	Research skills, workshop-based skills, first aid skills	Hands-on, formal and informal training	“We are sent to workshops and conferences.”
	MAD	Eco-diver license course	Eco-diver license course	Hands-on, formal training	“When a scuba diver wants to collaborate with the organisation, they have to do an eco-diver course.”
What training is offered to the volunteers by the organisation?	SA	Marine mammal stranding, sea legs, research skills, project management skills, fieldwork, working with people, using equipment, informal courses, practical training	Research and project management skills, working with people, boating and equipment skills, in-house courses and practical training *(Research and project management skills, working with	Hands-on, formal and informal training *(Hands-on, formal and informal training)	“The whole programme is a training opportunity, and each of the projects is a skill development opportunity.” *(“I teach them all the crewing skills, how to collect and store data, and using the equipment.”)

Question	Case study sites	Keywords	Codes	Sub-themes	Quotes
		*(Crewing skills, data collection, research skills, project management skills, working with people, using equipment, boat handling and maintenance)	people, boating and crewing skills, equipment skills)		
	MOZ	Presentations, data collection, data entry, project management skills	Research and data collection skills, project management skills, in house presentations	Research and project management skills	"We give the voluntourists a presentation, share our knowledge and show them how to do the different projects."
	MAD	Courses, research skills, how to use the protocols	Research project skills, diving skills	Hands-on, formal training	"The volunteers learn to apply the protocol and how to collect data."
How does the organisation contribute to scientific research?	SA	Different projects, students, universities, collaboration, sharks, tidal environment, cetaceans, plastic, seal, behaviour, data collection, publications, supplying data *(Data collection, collaboration, sharks, different projects)	Different research projects, collaboration with universities and scientists, postgraduate students, scientific publications *(Different research projects, collaboration with universities)	Collaboration with academia; scientific publications *(Collaboration with academia)	"The organisation contributes to scientific research through different students, different projects that are run, and collaboration." *(("We contribute to scientific research through the data that we collect and we send those data to the different universities that we collaborate with.")
	MOZ	Database, students, publications, data collection, supplying data, collaboration, samples	Collaboration with universities and scientists, postgraduate students, scientific publications	Collaboration with academia; scientific publications	"The data that we collect and supply to scientists are a way that we contribute to scientific research."
	MAD	Database, publications, data collections, supplying data, collaboration	Collaboration with universities and scientists, scientific publications	Collaboration with academia; scientific publications	"We contribute to scientific research through the scientists that use our data in their scientific publications."

Question	Case study sites	Keywords	Codes	Sub-themes	Quotes
To what extent do the volunteers assist the organisation with research projects?	SA	Data collection, data entry, leading, help, boat, practical, hands-on *(Data collection, help, involved, hands-on)	Data collection and entry, leading research projects *(Data collection, involvement in projects)	Data management; project management *(Data management)	"The volunteers do everything, they contribute, collect and enter all the data." *("The volunteers are hands-on all of the time, and are the ones collecting the data.")
	MOZ	Research, data collection, data entry	Data collection, data entry	Data management	"The volunteers assist with research in terms of collecting and entering the data."
	MAD	Data collection, applying protocols, directly involved	Data collection, applying protocols	Data management	"The volunteers contribute through collecting data and applying the protocols."
How does the organisation work collaboratively with the local community?	SA	Education, beach clean-ups, marine mammal stranding, local schools, outreach projects, teach to swim, public talks, school talks *(Teach to swim, education, beach clean-ups, sponsor)	Educating the local community and local schools, beach clean-ups, public talks *(Educating the local community and local schools, beach clean-ups, sponsor)	Educating and involving the local community *(Educating and involving the local community)	"The organisation does different outreach projects with the local schools in the communities." *("We take disadvantaged youth in the area, and we teach them how to swim.")
	MOZ	Beach clean-ups, educating, local community, school kids	Educating the local community and local schools, beach clean-ups	Educating and involving the local community	"We collaborate with the local community mainly through the beach clean-ups and educating the local school kids."
	MAD	Local projects, local people, participation, dive centres, schools, monitoring protocols (all Europe based)	Involving the European local community in the local projects, working with European dive centres and schools	Involving the European local community	"The organisation collaborates with the European local community through involving them in local monitoring protocols."
How does the organisation support the tourism industry?	SA	Taking voluntourists to town, local restaurants, weekend trips, scuba diving *(Taking voluntourists to town, local restaurants, weekend trips)	Buy local food and products, participate in local tourism activities	Voluntourists and staff support local businesses by buying products and services	"We provide a good balance to slow season, in terms of the restaurants, weekend trips, and local excursions."

Question	Case study sites	Keywords	Codes	Sub-themes	Quotes
			*(Buy local food and products, participate in local tourism activities)	*(Voluntourists and staff support local businesses through buying products and services)	*(“We support the tourism industry through bringing voluntourists to town and supporting the local tourism activities.”)
	MOZ	Taking voluntourists and tour groups to town, local restaurants	Buy local food and products	Voluntourists and staff support local businesses by buying products and services	“We attract volunteers and tour groups to town that stay in local accommodation facilities and eat at restaurants.”
	MAD	Diving centres, diving operators	Diving industry	Enhance diving tourism	“The tourists are attracted to new things and our organisation is the representative for the diving centre that sells and attracts diving tourism, a new commercial opportunity.”
What are the elements of the organisation that make it successful?	SA	Staff, teamwork, management, education, training, location, sharks, weather, knowledge, local community support, marine species, environment, voluntourists *(Staff, sharks, education, weather, location, equipment)	Knowledgeable staff, local destination and community, ocean, coastal zone and marine life, voluntourists *(Knowledgeable staff, local destination, ocean, coastal zone and marine life, equipment)	Hard-working staff and voluntourists, supporting community and diverse marine ecosystems *(Hard-working staff, good quality equipment and diverse marine ecosystems)	“The staff, species, weather and volunteers are elements that make us successful.” *(“The sharks are accessible for most of the year which contributes to the success of the organisation.”)
	MOZ	Staff, voluntourists, passion, honesty, reliability, dolphins, local community support	Passionate, honest and reliable staff, ocean, coastal zone and marine life, local destination and community, voluntourists	Hard-working staff and voluntourists, supporting community and diverse marine ecosystems	“The volunteers are an important element, they let us go out and study the animals.”
	MAD	Voluntourists, courses, natural environment, protocols	Passionate voluntourists, protocols and courses, ocean, coastal zone and marine life	Hard-working voluntourists, protocols and diverse marine ecosystems	“The energy that the voluntourists bring to the organisation makes us successful.”

Question	Case study sites	Keywords	Codes	Sub-themes	Quotes
What are the organisation's vision and mission?	SA	Research, discover, educate, conserve, understand, local community, local environment, voluntourists, protect, marine environment, marine science *(Educate, conserve, local community, marine wildlife, sharks, voluntourists, ecotourism)	Research and conserve the marine environment, educate the local communities, make a difference, educate voluntourists *(Conserve the marine environment, educate the local communities, educate voluntourists)	Making a difference through conservation, research and education *(Making a difference through conservation and education)	"We want to make a difference in people's lives and the environment." *(("The main mission is to educate the public community and voluntourists through ecotourism."))
	MOZ	Dolphin, sustainable, educate, code of conduct, local government	Conserve the marine environment, educate the local government, promoting a code of conduct	Making a difference through conservation, code of conduct and education	"Our organisation's vision is to create a sustainable world for dolphins, and we do this through educational programmes and through promoting a very strict code of conduct."
	MAD	Coral reef, protect, conservation, monitor, voluntourists, educate	Conserve and monitor the marine environment, educate voluntourists	Making a difference through conservation, monitoring and education	"Our mission is to protect and educate people about the problems and the importance of marine life."
What do you think are the current threats to the environment and species?	SA	Plastic, humans, anthropogenic, pollution, climate change, global warming, overfishing, longliners, poaching, fishing, sewage runs, oil spills, bycatch, shark finning, acidification, ignorance *(Overfishing, shark finning, oil spills, humans, longliners)	Pollution, climate change, hunting / fishing, acidification, human behaviour *(Hunting / fishing, human behaviour)	Anthropogenic *(Anthropogenic)	"The biggest threat is the human impact." *(("The biggest threat is overfishing and longliners."))
	MOZ	Plastic, pollution, acidification, sunscreen, mass tourism, coral bleaching, boats, port development, gas and oil, misconduct, fishing	Pollution, climate change, hunting / fishing, acidification, development, resource extraction, human behaviour	Anthropogenic	"The threats to the environment include plastic pollution, ocean acidification, and coral bleaching."

Question	Case study sites	Keywords	Codes	Sub-themes	Quotes
	MAD	Humans, pollution, climate change, overfishing, poaching, acidification	Pollution, climate change, hunting / fishing, acidification	Anthropogenic	"The biggest threat is the human impact, human impact is acidification and overfishing."
How is the organisation avoiding the unnecessary overuse of resources?	SA	Reusable water bottles, reuse, reduce, recycle, short showers, use water conservatively, use electricity conservatively, composting, garden, four-stroke engines on boats, catch own bate, efficient light bulbs, educate *(Four-stroke engines, avoid single-use plastic, water decanters, use scraps from fishing)	Recycle, limit plastic use, limit water and electricity, sustainable products, educate *(Limit plastic use, sustainable products)	Striving to reduce the environmental footprint *(Striving to reduce environmental footprint)	"We emphasize short showers and being aware of your water consumption." *(("We changed our engines to limit the use of fuel.")
	MOZ	Minimise launches, one drop in the water, four-stroke engine, reduce plastic, recycle, garden	Recycle, limit plastic use, sustainable products, follow code of conduct	Striving to reduce the environmental footprint	"We try and minimise the number of launches we have per day, but maximising the number of people on those boats."
	MAD	Educate, raise awareness	Educate and raise awareness	Education	"We strive to increase the awareness of the problems faced."
What is conservation?	SA	Respect, take care, safe, sustainable, a way of life, conserve, overexploitation, what is left, resources, reduce, human impact, environment, species, protect, educate, preserve, balance, accept change *(Protect, environment, raise awareness, holistic approach, educate)	Protect, positive environmental behaviour, education *(Protect, positive environmental behaviour, education)	Safeguarding; education *(Education; safeguarding)	"Conservation is the act of saving and sustaining the ecosystem and species." *(("Conservation is educating people so that they want to make a change in their lives, and want to protect the environment.")

Question	Case study sites	Keywords	Codes	Sub-themes	Quotes
	MOZ	Protect, natural environment, resources, wildlife, future generations, learn, sustainably, take care	Protecting, positive environmental behaviour	Safeguarding	"Conservation is protecting the species and environment."
	MAD	Human approach, limit footprint, natural habitat, educate, ecosystem, species, let it be, preserve	Positive environmental behaviour, education	Safeguarding; education	"Conservation is limiting our footprints on the natural habitat."
How does the organisation give a meaningful contribution to conservation and / or environmental management?	SA	Spread knowledge, educate, recycle, research, data collection, clean-ups, eco-bricks, volunteer programme, projects *(Educate, donations, spread knowledge, volunteer programme)	Education, responsible behaviour, scientific research *(Education and awareness)	Education, responsible behaviour, science *(Education)	"The organisation contributes to conservation through research and education." *(<i>"We contribute to conservation through educating the local community and our clients."</i>)
	MOZ	Briefing, spread knowledge, workshops, beach clean-ups, data collection, presentations, educate	Education, responsible behaviour, scientific research	Education, responsible behaviour, science	"We contribute to conservation by spreading knowledge about the dolphins in the area."
	MAD	Data collection, educate, raise awareness	Education, scientific research	Education, science	"The organisation contributes to conservation through the data that we collect."
How does the organisation educate people on marine conservation?	SA	Outreach programmes, different projects, beach clean-ups, public talks, presentations, educate, local community, local schools, social media, research *(Local schools, social media, newspapers, outreach, presentation, clients, briefings)	Share information on social media, educate local community through public talks, involve the local community, research *(Share information on social media, educate local community through public talks, educate clients)	Targeting different communities through various channels *(Targeting different communities through various channels)	"We educate people on marine conservation through social media, publications and public talks." *(<i>"We educate the clients by giving them information and taking them on a cage diving trip."</i>)
	MOZ	Briefings, code of conduct, boat	Educate and take clients out on the boat	Tourist-focused education	"We educate the clients and volunteers through the briefings before we go out to sea."

Question	Case study sites	Keywords	Codes	Sub-themes	Quotes
	MAD	Involve, monitor, training, protocols, website, social media, articles	Share information on social media, train and involve volunteers to apply the protocols and monitor the marine environment, research	Targeting different communities through various channels	"We educate people through involving them in the monitoring programmes."
What type of advocacy activities is the organisation involved in, if any?	SA	Community outreach, education, beach clean-ups, research, public talks, school talks *(Community outreach, public talks, beach clean-ups)	Education and outreach, active stewardship, research *(Education and outreach, active stewardship)	Education and outreach; active stewardship; research *(Education and outreach; active stewardship)	"We build advocacy as soon as we are talking to the public." *(("The advocacy activities that we are involved in, include speaking at schools and to the community."))
	MOZ	Community outreach, public talks, education, beach clean-ups, petitions	Education and outreach, active stewardship, petitions	Education and outreach; active stewardship; petitioning	"The petitions that we create online are one of the advocacy activities that we are involved in."
	MAD	Education, research, school, lessons	Education and outreach, research	Education and outreach; research	"Mainly the research and education activities are the advocacy activities that we are involved in."
What do you think the organisation would look like in five years?	SA	Bigger, grow, more research projects, long-term staff, more voluntourists, other sources of income, another boat, a bigger house, more education, community engagement *(Bigger, grow, projects, research, better boats, increase merchandise, more staff, more voluntourists)	Growing into a bigger organisation with better equipment and other sources of funding, long-term staff and more voluntourists, more research with greater impact, more community engagement that with greater impact *(Grow into a bigger organisation with better equipment, more staff and voluntourists, more research-orientated)	A bigger and better organisation with more voluntourists, and a larger impact on marine conservation and local community *(A bigger and better organisation with more voluntourists)	"The organisation will educate more volunteers and attract more researchers and conservationists with the same passion." *(("The organisation will become larger with a more consistent volunteers programme every month."))

Question	Case study sites	Keywords	Codes	Sub-themes	Quotes
	MOZ	Grow, more tour groups, more voluntourists, bone gallery, museum, educational centre	Grow into a bigger organisation with better equipment, more tour groups and voluntourists	A bigger and better organisation with more voluntourists and education	"The organisation will grow to be more focused on volunteers and less focused on the tourists."
	MAD	Grow, permanent staff, more voluntourists, more data, more information, more awareness	Grow into an organisation with permanent staff members and more voluntourists, more research	A bigger and better organisation with more voluntourists, and a larger impact on marine conservation	"In five years more people will be involved, more data will be collected, and more awareness will be raised."
What resources do you think the organisation will need to achieve these goals?	SA	Marketing, awareness, equipment, boats, money, staff, voluntourists *(Equipment, money, voluntourists, marketing)	Improved marketing, more staff and voluntourists, better equipment, finances *(More voluntourists, better equipment, finances)	Enhanced finances and manpower *(Enhanced finances and manpower)	"Money, we need money to educate and teach the voluntourists and local community." *(("We need more money and more volunteers."))
	MOZ	Money, staff, voluntourists	More staff and voluntourists, finances	Enhanced finances and manpower	"If we have more money, we would be able to do a lot more."
	MAD	Money, staff, voluntourists	More staff and voluntourists, finances	Enhanced finances and manpower	"We need money and volunteers. We can do nothing without volunteers."

* At the time of the study, the researcher interviewed both staff and voluntourists from the organisation in brackets, which collaborated with the main organisation representing the South African case study site. Due to COVID-19, the MVT programme of the organisation in brackets closed. However, since the data were collected before the outbreak of the pandemic, they were retained.

Appendix 9: Proof of language editing

Rod Taylor

Language editor & proofreader

Trading as
Wordstar

**215 Republic Road
Randpark 2194**

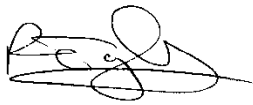
**Telephone: 084 716 6588
Email: wordstar@iafrica.com**

18 November 2021

To whom it may concern

Language Editing – Ph.D thesis – C.D. Cilliers

I have reviewed the thesis entitled “A critical assessment of marine wildlife voluntourism in southern Africa” in terms of spelling, language and grammar and have made recommendations to the author concerning the changes necessary.



R. Taylor
MBA BSc DTM