Norwegian University of Life Sciences
Faculty of Environmental Sciences
and Natural Resource Management

Philosophiae Doctor (PhD)
Thesis 2021:43

Participant Experiences in Wildlife Watching Tourism

Deltakernes opplevelser med viltkikkingsturisme

Hilde Nikoline Hambro Dybsand

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"It was wonderful.. yeah it was.. it is kind of unreal in some way.. the fact that there are such amazing animals and that they exist in the same world as we live in. That's my opinion."

(Swedish woman, 26 years old. Interviewed in July 2018)

Preface

This dissertation is submitted as a particular fulfilment of the requirements for the degree of Philosophiae Doctor (PhD) at the Faculty of Environmental Sciences and Natural Resource Management (MINA), The Norwegian University of Life Sciences (NMBU), Norway. The project was funded by NMBU to contribute to the nature based tourism research group, and the associated master program. It was also associated with the larger research project BIOTOUR – From placed-based natural resources to value-added experiences: Tourism in the new bio-economy[1], which aims to explore key conditions for further development of nature-based tourism in the Norwegian bioeconomy (BIOTOUR, 2019). The project focuses on four case study themes of significance to the Norwegian nature based tourism sector: adventure, wildlife, trails and events. This PhD project provides knowledge on the theme wildlife by investigating participant experiences with non-consumptive wildlife tourism experiences, mainly at Norwegian study sites. The dissertation consists of four papers and a synopsis that presents the theoretical background, the aim, problem definition and research questions, the study sites and methods, the results, and finally the main contributions and implications for theory and practice.

[1] BIOTOUR is funded by The Research council of Norway (NFR), under the project number 255271

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First, I would like to thank my main supervisor, Associate Professor Stian Stensland. When the position that resulted in this PhD project became available, I would not have decided to apply if it wasn't for a conversation with Stian who encouraged me to do so. This decision turned into an amazing journey which culminated in this thesis. Additionally, his continued support, kindness, enthusiasm and wisdom guided me throughout the entire PhD project. I would also like to thank my co-supervisors Professor Peter Fredman and Professor Øystein Aas. They were both incredibly involved, competent and helpful throughout the entire process, and provided invaluable feedback on the work presented here. Additionally, I would like to thank Professor Mehmet Mehmetoglu from The Norwegian University of Science and Technology (NTNU) for his guidance on quantitative data analysis, and particularly structural equation modeling. I would also like to thank Professor Stein Ragnar Moe and Professor Jan Vidar Haukeland who served as opponents at my start, middle and end seminars for their feedback and support. I am also grateful to the BIOTOUR-project for allowing me to participate in the project as an associated researcher and for our collaboration on the participant surveys conducted in Hornøya, Varanger.

I would also like to thank Dovrefjell nasjonalparkstyre, Oppdal Safari, Moskussafari Dovrefjell, Magalaupe Camping, Moskusopplevelse, Mountain Experience, Furuhaugli Camping, Kongsvoll hotell, Hjerkinn Fjellstue, and Norsk Villreinsenter i Nord for their help with data collection and information about the area in Dovrefjell-Sunndalsfjella national park. Additionally, I would like to thank the harbor personnel at Vardø havn KF for their help with data collection in Hornøya, Varanger. I would also like to thank everyone that participated in the two surveys that were conducted in these areas, and especially the guides and participants who shared their experiences with me at organized musk ox safaris in Dovrefjell-Sunndalsfjella national park.

Furthermore, I would like to extend my gratitude to all my other present and previous coworkers in the nature based tourism research group at the Norwegian University of Life Sciences; Knut Fossgard, Kathrin Stemmer, Hannah Harrison, Lusine Margaryan, Sofie Kjendlie Selvaag and Lovisa Molin, and all of my fellow PhD candidates at the Faculty of Environmental Sciences and Nature Management (MINA) and the Society of Doctoral Candidates at NMBU (SoDoC). You have all contributed to an amazing academic working environment, and without your encouragement, support and advice, my thesis would not have turned out the way it did. I would also like to thank the Fulbright program, and the department of Human Dimensions of Natural Resources at Colorado State University (CSU) for an amazing semester abroad as a visiting student researcher in Fort Collins, Colorado.

I also thank my friends and family for their continued support and encouragement, and finally my better half Håkon Vangsøy Bachken Eikeland. Thank you for all your patience, kindness and support, for helping me get through the difficult times and for celebrating all my victories, big and small, throughout the entire PhD project.

Moss, Norway. 21/3 – 2021. Hilde Nikoline Hambro Dybsand

Abstract

This dissertation contributes to the wildlife watching tourism literature by investigating which elements are important to participants' overall experiences and how these elements can contribute to the desired outcomes and/or reduce the negative impacts of wildlife watching tourism activities. Moreover, wild animals are unpredictable as main attractions, and attempts to make encounters more predictable often have negative impacts on the animals involved. Certain exploitative practices such as food provisioning and habituation are also illegal in many areas. Therefore, the thesis emphasizes how other elements than the actual target species encounters can enhance overall wildlife watching experiences, and results provide suggestions on how providers can facilitate high quality experiences while reducing negative impacts on wildlife. To achieve these goals, the thesis investigates participants' main motivations, whether participant characteristics influence overall wildlife watching tourism experiences, destination loyalty and pro-environmental behavioral intentions, as well as which elements are important to participants during wildlife watching tourism activities. These issues were mainly investigated at Norwegian wildlife watching tourism destinations, and the thesis is a novel contribution to the literature on Norwegian wildlife watching tourism. The mixed methods research approach was adopted, and data collection was based on the convergent research design, in which different but complementary data on the same topic are obtained to investigate a research topic. Empirical results are based on participants surveys, participant observations, travel party interviews and digital content analysis.

This is a compilation thesis, which consists of a synopsis and four research articles. The synopsis provides a snapshot of the main findings of the four papers, frames them theoretically and discuss the overall findings as well as their practical implications and main theoretical contributions. Article 1 investigates participants' main motivations to participate in wildlife watching tourism and links between motivational factors, overall satisfaction and destination loyalty. Article 2 and Article 3 investigate which elements are important to participants during wildlife watching tourism experiences when the target species is encountered and when the target species is not encountered. Finally, Article 4 contributes to the discussion on wildlife watching tourism's potential to foster pro-environmental attitudes and behaviors among participants, by investigating the relationships between two of the concepts used to study this issue: The theory of planned behavior (Ajzen, 1985) and involvement (Burke & Stets, 1999; Havitz & Dimanche, 1999), measured by centrality to life.

Findings underline that there are several elements of importance to a wildlife watching tourism experience besides the actual target species encounter and that it is, in some cases, possible for participants to have positive experiences even in the absence of their target species. Elements

that were important to participant experiences included the natural surroundings, encounters with other wildlife in the area, secondary more guaranteed side experiences and guiding, which was especially important both when the target species was encountered and when it was not encountered. Thus, findings indicate that providing high quality guiding should be a priority for wildlife watching tourism providers. The other supporting elements became more important to participants in cases when the target species was not encountered, indicating that they are especially important to consider when the target species is considered difficult to encounter. Another key priority is expectations management, as findings indicate that participants who are warned that encounters are not guaranteed are more likely to remain positive towards the wildlife watching activity provider in the absence of their target species. Additionally, findings indicate that participant characteristics influence overall experiences and at least two of the desired outcomes of wildlife watching tourism: destination loyalty and intentions to perform pro-environmental actions after joining a wildlife watching tourism activity. Therefore, wildlife watching tourism providers and managers of areas that are rich in wildlife should carefully consider which participants they would like to reach when they implement marketing and communication strategies.

Sammendrag

Denne doktoravhandlingen bidrar til litteraturen om viltkikkingsturisme gjennom å undersøke hvilke elementer som er viktige for deltakernes totalopplevelser, og hvordan disse elementene kan bidra til ønskede utfall og/eller redusere negative effekter av viltkikkingsaktiviteter. Ville dyr er uforutsigbare som hovedattraksjoner, og forsøk på å gjøre møter med ville dyr mer forutsigbare har ofte negativ innvirkning på dyrene som er involvert. Enkelte praksiser slik som bruk av åte eller habituering er også ulovlige i mange områder. Derfor fokuserer avhandlingen på hvordan andre elementer enn møtet med dyret man ønsker å se kan bidra til å forbedre totalopplevelsene til viltkikkingsturister, og resultatene inkluderer forslag til hvordan tilbydere kan legge til rette for gode opplevelser samtidig som de reduserer negative effekter på dyr. For å oppnå disse målene undersøker avhandlingen deltakernes hovedmotivasjon for å delta, hvorvidt deltakernes egne egenskaper påvirker opplevelsene deres, lojalitet til destinasjonen og intensjoner om å utføre miljøvennlige handlinger, samt hvilke elementer som er viktige for deltakere når de tar del i viltkikkingsaktiviteter. Disse temaene ble hovedsakelig undersøkt på norske destinasjoner for viltkikkingsturisme, og avhandlingen er et av de første studiene på norsk viltkikkingsturisme. Avhandlingen benyttet en kombinasjon av flere metoder, også kalt «mixed methods», og tok utgangspunkt i et konvergent forskningsdesign, hvor forskjellige men komplementære data om det samme temaet samles inn for å forstå et forskningsspørsmål eller tema. Funnene i avhandlingen er basert på spørreundersøkelser, deltakende observasjon, dybdeintervjuer og digital innholdsanalyse.

Avhandlingen består av en kappe og fire frittstående artikler. Kappen inneholder en introduksjon til artiklene, teoretisk bakgrunn, sammendrag av de overordnede hovedfunnene, samt en diskusjon av de praktiske betydningene og teoretiske bidragene til avhandlingen. Artikkel 1 undersøker deltakernes hovedmotivasjon for å delta i viltkikkingsturisme og koblinger mellom motivasjonsfaktorer, fornøydhet og lojalitet til destinasjonen. Artikkel 2 og Artikkel 3 undersøker hvilke elementer som er viktige for deltakere når de deltar i viltkikkingsturisme, både når dyret de ønsker å se blir funnet og når det ikke blir funnet. Artikkel 4 bidrar til diskusjonen om viltkikkingsturismes potensial for å styrke intensjoner om å utføre miljøvennlige handlinger gjennom å undersøke koblinger mellom to konsepter som har blitt benyttet til å studere dette temaet: «*The theory of planned behavior*» (Ajzen, 1985) og «*involvement*» (Burke & Stets, 1999; Havitz & Dimanche, 1999), målt som «*centrality to life*».

Funnene i avhandlingen understreker at det er flere elementer ved viltkikkingsopplevelser som er viktige ved siden av det å oppleve dyret man ønsker å se, og at det i noen tilfeller til og med er mulig for deltakerne å ha gode opplevelser selv om de ikke får se dette dyret. Andre viktige elementer ved opplevelsen inkluderer naturomgivelsene, møter med andre dyr i området,

sekundære men mer garanterte sideopplevelser og guiding, som var spesielt viktig både når man fikk se dyret man ville se og når man ikke fikk se det. Dermed bør det å tilby guiding av høy kvalitet være et fokusområde for tilbydere av viltkikkingsturisme. De andre støtte-elementene ved opplevelsen ble viktigere for deltakere i tilfeller hvor de ikke fikk se dyret de hadde lyst til å se. Dette betyr at slike elementer er spesielt viktige å utvikle for opplevelser som er basert på arter som ansees som vanskelige å finne. Et annet viktig fokusområde er det å styre forventningene til deltakerne, da funnene viser at deltakere som fikk beskjed på forhånd om at det ikke var garantert at de fikk se dyret de ville se i mange tilfeller fortsatt var positive til tilbyderen sin da de ikke fikk det. Videre viser funnene i avhandlingen at deltakernes egne egenskaper også påvirker minst to ønskede utfall av viltkikkingsturisme: lojalitet til destinasjonen og intensjoner om å utføre miljøvennlige handlinger. Derfor bør tilbydere av viltkikkingsturisme og forvaltere av områder som har rikt dyreliv vurdere nøye hvilke deltakere de ønsker å nå når de iverksetter markedsføring og kommunikasjonsstrategier.

Contents

Appended papers 1-4

The present thesis is based on the following papers, which will be referred to by their numerals:

1. Dybsand, H.N.H., Stensland, S. & Aas, Ø. (Manuscript). *The influence of motivation on birdwatcher satisfaction and destination loyalty: The case of Hornøya, Norway.*

2. Dybsand, H.N.H. & Fredman, P. (2020). *The wildlife watching experiencescape: the case of musk ox safaris at Dovrefjell-Sunndalsfjella National Park, Norway*. Scandinavian Journal of Hospitality and Tourism, published online.

3. Dybsand, H.N.H. (2020). *In the absence of a main attraction – Perspectives from polar bear watching tourism participants*. Tourism Management, 79

4. Dybsand, H.N.H. & Stensland, S. (2021). *Centrality to life and the theory of planned behavior: the case of musk ox safaris in Dovrefjell-Sunndalsfjella National Park, Norway*. Human Dimensions of Wildlife, published online.

Appendix 1-4: Data collection instruments

- Appendix 1: Onsite questionaire distributed at Hornøya (English version)
- Appendix 2: Online follow-up survey distributed by e-mail to visitors to Hornøya (English version)
- Appendix 3: Short response cards distributed among participants at organized musk ox safaris in Dovrefjell-Sunndalsfjella national park (English version)
- Appendix 4: Online follow-up survey distributed by e-mail to participants at organized musk ox safaris in Dovrefjell-Sunndalsfjella national park (English version)
- Appendix 5: Interview guide used for travel party interviews in Dovrefjell-Sunndalsfjella national park (English version)

Synopsis

1. Introduction

1.2 Background

Experiences of wild animals have fascinated people and made them travel to new places for a long time (Lovelock, 2007). Wild animals are considered the backbones of many countries' tourism industries (Fredman & Margaryan, 2020), and are the main attractions of the group of tourism activities known as wildlife tourism. Wildlife tourism is often considered a form of nature based tourism, and includes activities based on interactions with non-domesticated animals (Borges de Lima & Green, 2017a). Wildlife tourism is a broad term which includes a variety of activities that range from observations of wild animals from a distance at walking safaris (Dybsand & Fredman, 2020) to close encounters with dangerous predators (Ziegler et al., 2018), swimming with marine mammals (Curtin, 2006), taking selfies with animals in captive settings (Meer et al., 2019) or trophy hunting (Batavia et al., 2019). As these examples illustrate, interactions can be consumptive, such as fishing or hunting, or non-consumptive, such as watching wildlife, and occur in captivity, semi-captivity or in the animals' natural environments (Higginbottom, 2004). Therefore, wildlife tourism is often divided into three main groups: hunting and fishing tourism, zoo tourism and wildlife watching tourism. There are also activities that are somewhere between these main groups, such as wildlife encounters at feeding stations (Knight, 2010) and catch and release fishing (Stensland et al., 2013). The number of wildlife tourism destinations and products are increasing worldwide, indicating a universal and growing appeal (Ayazlar, 2017; Curtin, 2013a). Research interest is also increasing, with recent publications focusing on topics such as motivations to participate (Mutanga et al., 2017), recreation specialization among participants (De Salvo et al., 2020; Needham & Vaske, 2013), negative impacts on wildlife (Penteriani et al., 2017; Thomson et al., 2017), psychological benefits for participants (Curtin, 2013a; Curtin & Kragh, 2014), guiding and interpretation (Ballantyne et al., 2018; Lück, 2015), the activities' potential to foster pro-environmental attitudes and behaviors (Ballantyne et al., 2011b; Ballantyne et al., 2011a; Hughes, 2013; Miller et al., 2020), participants' own perceptions of their environmental and social impacts (Curtin, 2010a; Ziegler et al., 2018), and ethical implications (Burns, 2017; Carr & Young, 2018b; Green, 2017). As wildlife tourism continues to grow as an important sector of the tourism industry, care needs to be placed into how participants interact with the natural world (Fennell & Yazdan panah, 2020). Therefore, it has also been argued that the nature of the wildlife tourist experience is a major research priority for the ultimate sustainable management of wildlife-based tourism attractions and destinations (Curtin, 2005).

Understanding the relationship between wildlife as a resource, product management and the experiential needs of the participants is particularly important in wildlife tourism, as the

sustainability of the resource can be compromised by inappropriate management, such as allowing participants to get too close to the wildlife, damage to the habitat, overcrowding or poor interpretation (Curtin, 2013a). Moreover, a meaningful understanding of the constituents of a memorable wildlife encounter is required to underpin providers' and destinations' marketing, product development and management strategies (Curtin, 2010c). An experience can be defined as a constant flow of thoughts and feelings, occurring during moments of consciousness (Carlson, 1997). Experiences are personal, subjectively perceived, intangible and continuously on-going, but are also frequently viewed as commodified phenomena, actively pursued by tourists and offered by destinations and tourism providers (O'dell, 2007). These two views of the experience may appear contradictive. However, even if experiences are highly individual and it is not possible to produce them for tourists, providers can create circumstances and environments that tourists can interact with in order to create their own experiences, often referred to as experiencescapes (Blumenthal & Jensen, 2019; Chen et al., 2019). According to Mossberg (2007), there are several supporting elements in the tourism experiencescape in addition to the main attraction that are all important parts of the overall experience, such as the physical surroundings, personnel and other tourists. Moreover, if the main attraction is disappointing or lacking, these supporting elements may in some cases fully compensate for this deficiency. Additionally, given that experiences are personal and subjectively perceived (O'dell, 2007), participants' own characteristics are also key components of their experiences. Meanwhile, it has also been argued that an experience is better understood as a whole, rather than as the sum of its parts (Curtin, 2005). However, information on which elements are included in a wildlife tourism experience besides the target species, and how these elements contribute to participants' overall experiences may be useful, due to the unpredictable nature of wild animals as main attractions (Margaryan & Wall-Reinius, 2017).

As the natural evasiveness of wild animals indicate that they should be difficult to interact with, it has been suggested that wildlife tourism on the scale that exists today is only possible because animals have been *made* viewable through human intervention (Knight, 2009, 2010). For example, exploitative practices such as food conditioning and habituation are commonly used to make wildlife more predictable in many parts of the world (Margaryan & Wall-Reinius, 2017; Ziegler et al., 2018). There are also examples of tourists who harass animals in the wild for "action photos", and captive animals that are kept in small enclosures, broken down, made to perform or mistreated for financial gain (Borges de Lima & Green, 2017c; von Essen et al., 2020). Such practices often have substantial negative animal welfare and conservation impacts, including alterations of natural behavior, crowding, stress, contamination, relocation or displacement, habitat degradation and in serious cases local extinction (Green & Giese, 2004;

Moorhouse et al., 2017). Some participants are unaware of the negative consequences on wildlife, while others are aware and chose to participate regardless (Moore et al., 2015; Ziegler et al., 2018). Meanwhile, proponents of wildlife tourism often focus on the educational value of introducing people from all walks of life to animals and their ecological needs, preservation or restoration of wild habitats, monetary contributions to conservation projects, breeding programs for vulnerable species and alleviation of poverty in developing countries (Borges de Lima & Green, 2017c). Furthermore, the experiences may lead to improved conservation attitudes and behavior, reawaken urbanized participants' connection with nature and provide psychological benefits such as stress relief, improved cognitive capacities and opportunities for reflection (Ayazlar, 2017; Ballantyne et al., 2011b; Curtin, 2009, 2013a; Curtin & Kragh, 2014). While these arguments stem from different views of what wildlife tourism involves and which of its effects on wildlife and/or other stakeholders one should focus on, the negative and positive arguments are both valid and do not necessarily contradict each other. Positive and negative effects vary greatly from one situation to another, and are strongly dependent on the target species as well as the nature of the tourism activity and the amount and frequency of people accessing the site (Newsome et al., 2005). Impacts also depend on the location, modes of access, visitor expectations, levels of visitor education and awareness, interpretation provided (or not provided), whether the interactions are consumptive or not, whether the wildlife is captive or not and whether providers attempt to manipulate wildlife to increase chances of encounters (Bulbeck, 2005; Burns, 2017; Jacobs & Harms, 2014; Margaryan & Wall-Reinius, 2017). Furthermore, the policies dictating which interactions with wildlife are allowed vary from site to site. These can include both public policies made by governments and "private" policies, such as codes of conduct or certification schemes made by tourism companies, industry groups and environmental non-government organizations (Newsome et al., 2005).

Two major research directions in the wildlife tourism literature are tourism studies and studies on the human dimensions of wildlife. Literature from tourism researchers often focus on how to develop high quality commercial wildlife experiences, and include studies on destination management, product development, segmentation, participant motivation and satisfaction (Beh & Bruyere, 2007; Curtin, 2013b; Moscardo, 2000; Nduna Lesedi & van Zyl, 2020). Literature from researchers focusing on the human dimensions of wildlife often study the human side of wildlife tourisms' impacts, and include studies on participants' behaviors during wildlife encounters, perceptions of wildlife, norms, values, attitudes and beliefs, and how wildlife experiences influence participant behaviors after the experience is over (Daigle et al., 2002; Lemelin & Wiersma, 2007; Manfredo et al., 2020; Skibins et al., 2013; Stensland et al., 2013; Vaske et al., 2011). These two traditions also represent different understandings of wildlife

tourism activities and participants. For example, while tourism researchers often refer to wildlife tourism participants as tourists or visitors (Cong et al., 2014; Lindsey et al., 2007; Margaryan & Wall-Reinius, 2017), researchers who focus on the human dimensions of wildlife do not limit their studies to human tourists, and often use other terms, such as outdoor recreationists, wildlife viewers, hunters, birdwatchers or fishermen (Daigle et al., 2002; Needham & Vaske, 2013; Shipley et al., 2019). There are also a number of studies investigating topics relevant to both of these traditions, including studies on the experiential aspects of wildlife tourism, how the experiences benefit participants, edutainment and environmental interpretation (Ballantyne et al., 2018; Ballantyne et al., 2009; Ballantyne et al., 2011a; Curtin, 2005, 2009, 2013a; Curtin & Kragh, 2014; Hill et al., 2014; Jacobs & Harms, 2014; Marschall et al., 2017; Pratt & Suntikul, 2015). As these studies show, insights from both tourism studies and human dimensions of wildlife studies are useful when investigating the human aspects of wildlife tourism. In this thesis, the focus is on which elements are important to participants' overall experiences at non-consumptive wildlife watching tourism activities in non-captive natural surroundings, and whether these elements can contribute to pro-environmental outcomes and/or reduce negative impacts. This topic is somewhere between tourism and the human dimensions of natural resources, and the work presented in the thesis draws inspiration from both research traditions.

1.2 Aim, problem definition and research questions

The overall aim of this thesis is to analyze participants' wildlife watching tourism experiences. To examine this issue, the thesis considers which elements are included in a wildlife watching tourism experience and which elements are most important to participants. The thesis also aims to assess how these elements can be amplified to improve participants' overall experiences with wildlife watching tourism. Additionally, the thesis studies how the elements can be managed to reduce the negative impacts of wildlife watching tourism activities and/or contribute to positive outcomes. To analyze the abovementioned topics, the following overall problem definition was used:

Which elements of wildlife watching tourism experiences are important to participants, and how can these elements contribute to the desired outcomes and/or reduce the negative impacts of wildlife watching tourism?

This problem definition represents the overall aims of the PhD project, and include several sub-topics which were investigated to answer it. To investigate these subtopics, the following research questions were developed:

1. *Which elements are important to wildlife watching tourism participants' overall experiences besides encountering the target species?*
2. *Can wildlife watching tourism participants have positive experiences in the absence of their target species?*
3. *How can the supporting elements of the wildlife watching tourism experience be amplified to support high quality wildlife watching tourism products?*
4. *How can the supporting elements of the wildlife watching tourism experience be managed to reduce negative impacts on wildlife and/or contribute to positive environmental outcomes?*

2. Concepts and theoretical perspectives:

Wildlife tourism can be defined as a niche nature-based tourism activity, based on interactions with non-domesticated animals (Borges de Lima & Green, 2017a). While the view of wildlife tourism as a form of tourism that is nature-based remains largely unchallenged, wildlife tourism can also be influenced by other forms of tourism (Burns et al., 2011). Reynolds and Braithwaite (2001) define wildlife tourism as an area of overlap between nature-based tourism, eco-tourism, consumptive use of wildlife, rural tourism, and human relationships with animals. The niche has also been described as a main category of adventure tourism (Swarbrooke et al., 2003). Depending on the nature of the activity, wildlife tourism can be linked to all these other forms of tourism and recreation. Some activities based on captive or semi-captive wildlife are related to rural tourism, while wildlife watching, fishing or hunting activities in remote nature areas can be considered a form of adventure tourism. Definitions often include both non-consumptive activities such as viewing or photographing wildlife, and consumptive activities such as fishing or hunting (Higginbottom, 2004). However, some scholars deliberately exclude consumptive activities on the grounds that killing wildlife does not fit an ecocentric world view (Newsome et al., 2005). Others claim that making a distinction between consumptive and non-consumptive wildlife tourism fails to acknowledge the potential negative impacts of non-consumptive activities (Lemelin, 2006; Zwirn et al., 2005). As these arguments highlight, there are many views on how wildlife tourism should be defined, and which activities should be included in the concept. Given that this thesis' focus is wildlife experiences involving participants who watch wildlife in natural surroundings, the more specific term wildlife watching tourism is adopted.

Wildlife watching tourism has been defined as tourism that is organized and undertaken to watch wild animals in natural settings (Tapper, 2006). Moreover, it involves observational activities that do not purposefully harvest or remove wildlife from their habitats, in which the death of the wildlife is not the intended outcome (Burns et al., 2011; Hassan & Sharma, 2017). Although wildlife watching tourism is a more specific term than wildlife tourism, the activities involved are still linked to several forms of tourism. They are partly adventure travel, are generally nature based, and can involve ecotourism's key principles of being sustainable and educative as well as supporting conservation (Newsome et al., 2005). It follows that the study of wildlife watching tourism is very broad in its scope, and it is additionally complex because of the wide range of species, locations and management scenarios involved worldwide (Newsome, 2017).

Consequently, several theoretical perspectives can contribute to a better understanding of wildlife watching tourism. To investigate participants' overall wildlife watching tourism

experiences, it is important to understand topics such as the main characteristics and elements of an experience, expectations management, the participants involved in wildlife watching activities, the contributions of guiding and interpretation, as well as human relationships with wildlife. Therefore, the thesis is based on several theoretical perspectives rather than applying a single theoretical framework. An overview of these perspectives is provided in Figure 1.

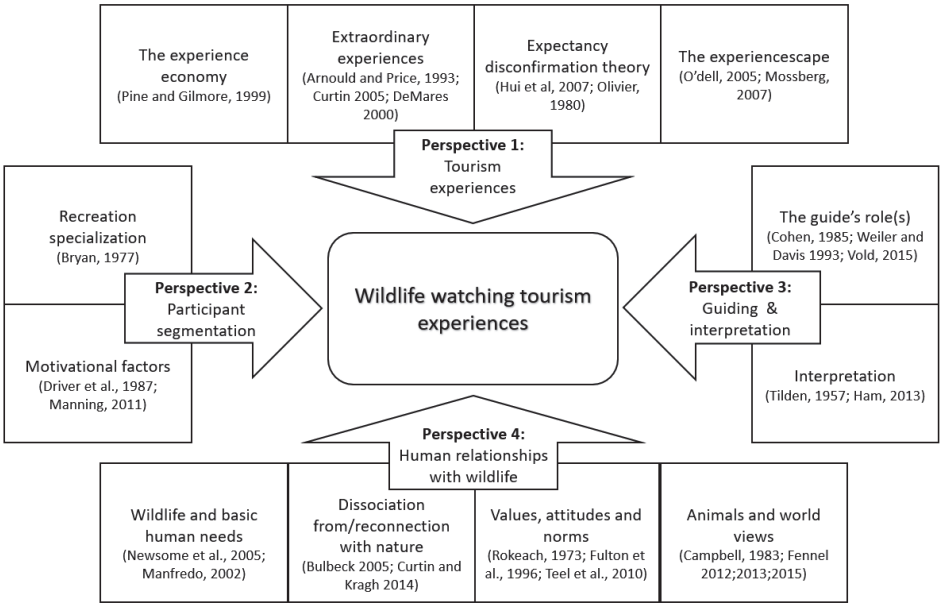

Figure 1 Theoretical perspectives investigated in this thesis

As shown in Figure 1, the literature presented in this thesis is divided into four main perspectives: tourism experiences, participant segmentation, guiding & interpretation, and human relationships with wildlife. Perspective 1 was included to examine the general literature on tourism experiences, while Perspectives 2, 3 and 4 takes a closer look at some of the elements that are considered key aspects of wildlife watching tourism experiences. Perspective 2 examines the participants who join wildlife watching tourism activities and explains two of the main frameworks used to segment them. Perspective 3 considers the importance of guiding and interpretation. Finally, perspective 4 takes a closer look at human relationships with wildlife and provides some background on why experiences of wild animals have become so popular. In the following segments, frameworks and literature from each of these sections are presented and the linkages to wildlife watching tourism experiences are presented and discussed.

2.1 Perspective 1: Tourism experiences

The notion of the experience first entered the field of consumption and marketing with Holbrook and Hirschman's pioneering article; *The Experiential Aspects of Consumption: Consumer Fantasies, Feelings and Fun (1982).* They questioned the traditional view of consumption as information processing, on the grounds that it neglected important consumption phenomena such as various playful leisure activities, sensory pleasures, daydreams, esthetic enjoyment, and emotional responses. Pine and Gilmore then coined the concept "experience economy" in the late 1990's, arguing that the economy was evolving from a service paradigm into an experience paradigm with revenues increasingly deriving from staging exciting and engaging experiences (Pine & Gilmore, 1999). Consumption is now understood to include more than the tangible product, and the experiential approach, which considers the importance of satisfying hedonistic and pleasure seeking goals is gaining popularity (Curtin, 2005; Rather, 2020).

One of the pioneer examples of the experience economy is tourism, which is considered one of the largest industries in the world with 1.5 billion international tourist arrivals in 2019 (Quan & Wang, 2004; UNWTO, 2020)[2]. The World Tourism Organization (2008, p.9) defines tourism as the trips a traveler makes outside of his/her environment that last less than a year, with a main purpose other than to be employed by a resident entity in the place visited. It has been argued that tourists' perceived benefits first and foremost lie in the experience (Rather, 2020). Furthermore, everything that tourists go through at a destination can be viewed as an experience, due to tourisms concern with the tourist experience of visiting, seeing, learning, enjoying, and living in a different mode of life (Oh et al., 2007). The importance of experiences is also apparent in several definitions of nature based tourism. For example, the niche has been defined as peoples' activities and experiences while visiting natural areas outside of their regular environments (Fredman et al., 2009), and as experiences and activities which directly depend on nature (Mehmetoglu, 2007). These experiences increasingly include wild animals, and it has been argued that wildlife watching tourism is essentially a hedonistic activity (Curtin, 2005). In the following subsections, three topics in the experience literature that are especially relevant to this thesis are presented: extraordinary experiences, expectations management and the experiencescape.

[2] In 2020, many countries around the world had to shut down large parts of their societies and close international borders, due to the COVID-19 pandemic. Since then, whether international and domestic travel have been allowed or not has varied. The data collection of this PhD project was carried out from 2017 to 2019. Therefore, the effects of COVID-19 are not reflected in the results.

2.1.1 Extraordinary experiences

Researchers from fields such as psychology, tourism, consumer behavior and marketing have developed several concepts identifying a special class of intense, positive and intrinsically enjoyable experiences (Privette & Hogan, 1983; Wittgenstein, 1965). According to Arnould and Price (1993), certain qualities unify this class of experiences, that they refer to as extraordinary experiences. These qualities include the merging of action and awareness, attention or clear focus, power, joy and valuing, as well as a spontaneous letting-be of process. Wildlife watching experiences may in many cases include these qualities, and people often have intense and deeply personal reactions when watching wild animals in their natural environments (Valentine & Birtles, 2004). Wildlife has the power to evoke lasting memories and ignite feelings of excitement and passion (Ballantyne et al., 2011a; McIntosh & Wright, 2017). Moreover, experiences of wildlife can be so intense that participants have difficulties describing them, as the embodied experiences and subsequent emotions appear to remain on the edge of speech (Curtin, 2009; McIntosh & Wright, 2017). Three of the concepts used to describe extraordinary experiences have also been discussed in the wildlife watching tourism literature – namely wonderment, flow and peak experiences.

Maslow's concept of peak experiences can be characterized as moments of the highest happiness and fulfillment, more special than other experiences, which provoke intense feelings in participants and create lasting memories that stand out in the consumers' minds (Privette & Hogan, 1983). Curtin (2009) suggests that simply being in the presence of wildlife can evoke feelings of profound happiness in which is incorporated all the identified elements of the human peak. In his study of human-cetacean encounters, DeMares (2000) found that human-cetacean encounters incorporated the elements of emotional peak, demonstrating that cetaceans can serve as triggers for peak experiences. Furthermore, he suggests the concept *Wild Animal Triggered Peak* which limits the concept to wild animal triggered experiences rather than experiences in general. In the human experience of these unpredictable moments, there is also a distinct kinship between peak experiences and the theory of flow (Curtin, 2009). Flow can be defined as an enjoyable, intrinsically rewarding, or autotelic, experience (Privette & Hogan, 1983). Furthermore, the concept includes the two dimensions skill and challenge, that both need to be maximized in order to experience a flow experience (Carù & Cova, 2003). According to Hansen and Mossberg (2013), flow experiences emerge from situations in which individuals are using all of their abilities at the optimal level. This may also be applicable to some wildlife watching tourism activities. A prime example is birdwatching, where there is a progression through the niche, and the more skilled birdwatchers are able to enjoy the activity at another level than novices (Connell, 2009). However, there are also wildlife watching tourism activities that are more passive in nature and do not require participants to use their abilities at the

optimal level, such as joining a wildlife tour or visiting a wildlife sanctuary. Therefore, a concept that may be better suited to explain the wide range of experiences included in wildlife watching tourism is wonderment. Wittgenstein (1965) originally defined wonderment as the experience of absolute awe at the existence of the world, or the feeling that it is extraordinary that anything should exist. Curtin (2009) adapts the term to wildlife tourism and defines it as an aroused state of cognition whereby wildlife tourists marvel at the magnificence of the objects of their gaze. While the concepts peak and flow appear to be more closely linked to the specific activity within wildlife watching tourism that the participant is a part of, wonderment is more closely linked to the surroundings and the wildlife involved in the activity. However, just like peak and flow experiences, wonderment is defined as a positive, aroused state of mind. Although none of these three concepts were originally developed for wildlife watching tourism experiences, DeMares' (2000) adaption of peak experiences and Curtin's (2009) adaption of wonderment both show that wildlife watching tourism may in many cases result in the special class of intense, positive and intrinsically enjoyable experiences described as extraordinary experiences by Arnould and Price (1993).

2.1.2 Managing expectations: the expectancy disconfirmation model

All forms of nature based tourism experiences depend on nature, which is mainly outside of tourists' and providers' control (Mehmetoglu, 2007). However, some natural attractions are more reliable than others. For example, tourists who would like to visit a fjord or climb a mountain are in most cases able to achieve this goal during their holiday, depending on weather conditions and their timeframe. Meanwhile, wildlife watching tourism and a few other forms of nature based tourism, such as northern lights tourism (Heimtun & Lovelock, 2017) and wildflower tourism (Kruger et al., 2015), rely upon temporally and spatially discontinuous natural phenomena that may or may not be possible to experience during a holiday. Thus, providers build their products on promises they may not be able to fulfill – showing their customers these unpredictable natural attractions, and participants risk spending time and money on main attractions which they may not be able to experience (Margaryan & Wall-Reinius, 2017). Moreover, wild animals are especially unpredictable as main attractions, due to their behavioral elusiveness, geographical remoteness and sometimes nomadic or ranging behavior (Knight, 2009, 2010). Considering these challenges, wildlife watching tourism's increasing popularity may seem unexpected or even paradoxical. Moreover, it has been argued that wildlife watching tourism's growth is only possible because wild animals have been *made* viewable through human intervention, including exploitative practices such as feeding and conditioning (Knight, 2010; Walpole, 2001; Ziegler et al., 2018). These practices are applied to minimize uncertainty under the pressure to deliver a guaranteed close encounter with an otherwise elusive animal, and ensure a continued stream of visitors and source of revenue for

wildlife areas and the surrounding communities (Knight, 2009; Margaryan & Wall-Reinius, 2017). Negative impacts on wildlife include alterations to natural behavior, habituation, crowding, stress, contamination, relocation or displacement and habitat degradation (Green & Giese, 2004). Given these negative effects there are also providers and governments who choose not to use or allow exploitative practices (Margaryan & Wall-Reinius, 2017). In these cases, it is particularly important to manage participants' expectations.

Expectations are linked to participants' pre-visit knowledge, thoughts and desires, consumer-driven images and personal needs (Andersson & Mossberg, 2004; Skinner & Theodossopoulos, 2011). Studies show that participants' perceptions of their experiences and satisfaction are related to the confirmation or disconfirmation of expectations (Pleger Bebko, 2000; Rodríguez del Bosque et al., 2009). One of the most widely accepted models of satisfaction is the expectancy disconfirmation paradigm (EDP), which can be traced back to early definitions of satisfaction (Churchill & Surprenant, 1982; Howard & Sheth, 1973; Pizam et al., 1978). According to the EDP, satisfaction or dissatisfaction is a function of disconfirmation arising from discrepancies between prior expectations and actual performance. It has also been suggested that expectations indirectly affect tourist loyalty through effects on overall satisfaction. In their study on tourists' intentions to revisit Singapore, Hui et al. (2007) suggested an expanded model of tourist satisfaction, combining the expectancy disconfirmation model (Oliver, 1977; Oliver, 1980) and the service quality model (Grönroos, 1984) to show expectations relationships with overall satisfaction and the likelihood of visitors recommending or revisiting a destination (Figure 2).

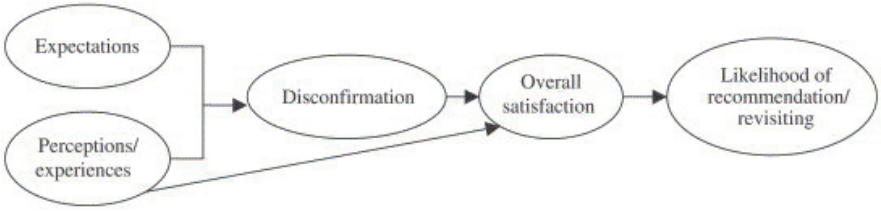

Figure 2 A conceptual model for the study of tourist satisfaction (Hui et al., 2007).

While disconfirmation can be negative when an experience falls short of a participant's expectations, it can also be positive when an experience is better than initially expected (Yüksel & Yüksel, 2001). When negative disconfirmation occurs, participants' typically react by amending or revising expectations, or by critiquing and complaining about their experiences (Skinner & Theodossopoulos, 2011). If participants decide to complain, social media also

provide numerous possibilities to do so in public (Einwiller & Steilen, 2015). The motivation to pursue a particular type of experience can also be modified through expectations management.

Managing expectations involves managing the uncertainty a consumer faces when buying a service, and successful providers make it possible for consumers to paint a realistic set of expectations (Pleger Bebko, 2000). While there are few studies on expectations management in wildlife watching tourism, a study on Swedish wildlife watching tourism providers found that pictures of wildlife were used to attract customers, and that information about the unpredictability of sightings was then provided in person (Margaryan & Wall-Reinius, 2017). Furthermore, providers used the unpredictability of animal sightings as a signifier of an "authentic wilderness", or a proof that animals' autonomy was not violated. A study on northern lights tourism providers in northern Norway found that these providers took this one step further, and embraced the unpredictable nature of their main attraction through a narrative of the chase or hunt, seeking to bind the tourist and operator in a quest for an authentic tourism experience (Heimtun & Lovelock, 2017). Mossberg (2007) suggests that in some cases high quality supportive services may also fully compensate for a disappointing or lacking main experience. Given that supportive services have the potential to compensate for lacking or disappointing main experiences, information on which elements are involved in a wildlife watching tourism experience besides encountering the target species, and which of these elements are important to participants can be useful when developing wildlife watching tourism activities. A useful framework to investigate this issue is the experiencescape, which is presented in the following paragraph.

2.1.3 The experiencescape

Although tourism experiences are individual constructs, they are also connected to and highly dependent of the surrounding environments where they are created, which are often referred to as experiencescapes (Blumenthal & Jensen, 2019; Quan & Wang, 2004; Tung & Ritchie, 2011). An experiencescape can be defined as a meeting ground where diverse groups move about and come in contact with each other for pleasure, enjoyment and entertainment (O'dell, 2005). The concept has its roots in the servicescape (Bitner, 1992). However, while the servicescape focuses on the physical setting where a market exchange is performed, delivered and consumed (Rosenbaum & Massiah, 2011), the main focus of the experiencescape is the exchange of experiences and experience creation (Mei et al., 2018). An experiencescape can be a smaller entity such as a shop or a restaurant, but it can also cover a larger area such as an amusement park, a city or a nature reserve (Jernsand et al., 2015). The concept has been applied and adapted to study many different tourism experiences, and examples of adaptions include the

climbing experiencescape (Vespestad & Hansen, 2019), the farm tourism experiencescape (Mei et al., 2018) and the nature-based tourism experiencescape (Fossgard & Fredman, 2019; Margaryan, 2018). Although previous studies acknowledge that the nature-based experiencescape is also an important element of animal-based tourism (Bertella, 2016), the experiencescape has not been adapted to a concrete wildlife watching tourism setting. However, Mossberg (2007) suggests a general experiencescape for all tourism experiences, in which they are influenced by personnel, other tourists, products/souvenirs, the physical environment and an overall theme or story. While the importance of each of these elements vary depending on the experience, they are all supported in the tourism literature and several elements are also supported in the wildlife watching tourism literature.

The theme or story can be described as the "glue" binding together all the elements of an experience giving meaning and significance to it and contributing to tourists' involvement (Ihamäki, 2012; Mossberg et al., 2018). Furthermore, a certain degree of interaction with people other than travel partners is expected and other tourists can influence overall experiences, perceptions of quality and overall satisfaction (Chen et al., 2018; Cutler & Carmichael, 2010). The type and quality of souvenirs offered at a destination are tangible symbols of the tourists' consumption (Mossberg, 2007). In the context of wildlife watching tourism, souvenirs may also bring tourists into contact with animals through wildlife themed souvenirs (Gibson, 2014; Ramsay, 2009). Photographs taken by the tourists themselves are also in some cases considered souvenirs, as they are taken to remember experiences and provide evidence of where the tourists have been, what they saw and what they did there (Belk & Yeh, 2011). The physical environment serves as a facilitator which enhances many tourism activities, and pleasing physical aspects of destinations can lead to more positive evaluations of tourist experiences (Cutler & Carmichael, 2010; Mossberg, 2007). In the case of wildlife watching tourism and other forms of nature-based tourism, nature is simultaneously a setting where the experience happens and an important part of the experience itself (Margaryan & Fossgard, 2021). Therefore, access to impressive natural surroundings can play a strategic role, and facilitate or restrain experiences so that the place itself structures the nature of the experience that tourists receive (Curtin, 2005; Mathisen, 2013). Finally, the personnel are a key element of the tourist experience. In controlled environments, such as shops, restaurants or museums, customers meet several members of the personnel, such as shop clerks or waiters (Andersson & Mossberg, 2004). In nature-based tourism experiences this is not always the case, but commercial experiences often involve guiding or nature interpretation. In these cases, guides are generally seen as key members of the personnel (Ap & Wong, 2001; Mossberg et al., 2018).

2.2 Perspective 2: Participant segmentation

Given the variety of wildlife watching tourism opportunities available, it follows that wildlife watching participants are not a homogeneous group. For example, Curtin and Wilkes (2005) found that two markets coexist in the UK outbound wildlife watching tourism sector; a specialized market with high involvement in particular species (usually birds) and a more general market looking for an interesting, pleasant and relaxing holiday based on a general interest in nature and the environment. Segmenting wildlife watching tourism participants can be helpful to both private sector tourism managers and managers of protected areas rich in wildlife, as it provides information on markets that can be used to develop and adapt products, facilities and plans on permitted activities and levels and types of use (Moscardo, 2000). In the tourism literature, several forms of segmentation have been applied to better understand tourism behavior. Some studies apply traditional segmentation variables such as psychographics (Galloway, 2002), demographics (Connell & Page, 2019), personal values and lifestyle (Thrane, 1997) and benefits sought (Nduna Lesedi & van Zyl, 2020). Furthermore, tourists are often segmented based on their personalities, and Plog's (1974) travel personality framework is one of the most cited tourist typologies. In studies on wildlife tourism, participants have also been segmented based on a variety of factors, such as how important viewing wildlife was to their trip (Moscardo, 2000), which wildlife species they prefer (Woods, 2000), and their attitudes towards wildlife conservation (Udaya Sekhar, 2003). However, two of the most applied forms of segmentation in this setting are segmentation based on motivational factors and recreation specialization.

2.2.1 Motivational factors

Although there is no universally accepted theory of tourist motivations, several frameworks have been suggested, including the sign-gestalt paradigm (Dann, 1977; Iso-Ahola, 1982), Maslow's hierarchy of needs (Maslow, 1943) and Pearce's (1988) Travel motivation theory, often referred to as the travel career ladder (TCL). A central framework when studying motivations for participation in nature based activities is the "Recreation Experience Preference Scale" (Driver et al., 1987). Based on previous studies applying this framework (e. g. Driver et al., 1987; Moore & Siderelis, 2006; Park & Yoon, 2009), Manning et al. (2011) suggest a standardized pool of motivational factors, consisting of 21 basic categories: Achievement/stimulation, Autonomy/Leadership, Risk Taking, Equipment, Family Togetherness, Similar People, New People, Learning, Enjoy Nature, Introspection, Creativity, Nostalgia, Physical Fitness, Physical Rest, Escape Personal/Social pressures, Escape Physical Pressure, Social Security, Escape Family, Teaching/Leading Others, Risk Reduction and Temperature. Similarly, studies on wildlife watching tourism show that participants are

motivated by a variety of factors, such as appreciating or photographing wildlife, studying fauna and flora, recreation, educational opportunities, entertainment, cultural interactions, contributing to conservation, feeling close to or reconnecting with nature, visiting a family destination, experiencing luxury, curiosity, novelty seeking and escaping everyday life (Buckley & Mossaz, 2018; Curtin, 2010b, 2013a; Kruger et al., 2017; Lemelin, 2006; Miller et al., 2020; Moscardo, 2000; Mutanga et al., 2017). These motivational factors vary from participant to participant. For example, Moscardo (2000) found three distinct groups of whale watching participants based on their motivations to visit in a study on visitors to a major whale watching destination in Australia; wildlife not important, wildlife somewhat important and wildlife very important. Miller et al. (2020) also identified three distinct groups based on motivations to participate in polar bear watching tourism in Kaktovik, Alaska. Holistic viewers indicated that all elements of the experience were of relatively equal importance to them, and another group of visitors had "no expectations". The last group of visitors, wildlife enthusiasts, were primarily interested in viewing polar bears. The findings of these studies illustrate that segmentation based on motivational factors can be helpful to understand the wildlife watching tourism market. Furthermore, motivations vary from participant to participant, but also between activities.

2.2.2 Recreation Specialization

While some wildlife watching tourism participants are lifelong enthusiasts who choose to visit destinations purely to see the indigenous flora and fauna, others merely partake in wildlife watching opportunities while on a typical rest and relaxation or independent holiday (Curtin, 2010b). A framework well suited for examining this wide range of engagement is Bryan's (1977) recreation specialization framework. The framework is defined as a continuum of behavior from the general to the specialized, reflected by equipment, skills used, and preferences for a specific recreation setting. Participants can become more specialized and progress in e.g. skills, knowledge, equipment uses, motivations, behavior and management preferences by investing time and resources in an activity (Backlund & Kuentzel, 2013). Recreation specialization is commonly seen as multidimensional, identified by three dimensions: activity behavior, skills & knowledge, and commitment (Scott & Shafer, 2001). Activity behavior concerns how much time and money one spends on the activity (Stensland et al., 2021). Skills and knowledge concerns how good a participant is at performing the activity and how much knowledge they have about the activity (Scott & Shafer, 2001). Finally, commitment concerns how important an activity is to one's everyday life and has often been measured by the centrality-to-life scale (Kim et al., 1997). While progression in an activity is often assumed, it does not always happen, and sometimes it happens along just one or two of

the three domains (Scott & Lee, 2010; Scott & Shafer, 2001). Participants may also "specialize" in doing multiple activities instead of becoming experts in one (Kuentzel, 2001).

Wildlife watching tourism participants range from highly specialized to novices. Activities based on charismatic megafauna are often popular with novice participants, as they generally do not require certain skills or knowledge to enjoy them (Bentz et al., 2016). Preferences diversify with increasing experience and more advanced wildlife watchers tend to show a greater interest in rarer, less easily observed and lower profile species (Lindsey et al., 2007). However, there are also exemptions to this trend. Novice participants may be interested in lower profile species, and activities based on charismatic megafauna species may also attract specialized participants such as wildlife photographers (Lemelin et al., 2008). An example of a wildlife watching tourism activity with a wide range of specialization levels among its participants is birdwatching, as the many bird species that exist provide opportunities for developing skills in identification by sound and vision (Connell, 2009). Similar to participants that "specialize" in doing multiple activities instead of becoming experts in one (Kuentzel, 2001), the literature suggests that there are also wildlife watching tourism participants who specialize in watching multiple types of wildlife rather than becoming experts on one species group (Curtin, 2010b; Lemelin et al., 2008). Segmentation based on the recreation specialization framework have been applied to numerous studies on birdwatchers (see for example Cheung et al., 2017; De Salvo et al., 2020; Hvenegaard, 2002; Miller et al., 2014), and to a handful of studies on other forms of wildlife watching tourism (Bentz et al., 2016; Lemelin et al., 2008).

2.3 Perspective 3: Guiding and interpretation

The importance of high quality guiding and interpretation has been acknowledged, both in studies on nature based tourism activities and studies on wildlife watching tourism activities (Curtin, 2010a; Ham & Weiler, 2002; Margaryan & Wall-Reinius, 2017; Mossberg et al., 2018; Powell & Ham, 2008; Randall & Rollins, 2009; Valkonen, 2009; Vold, 2015). The role of the guide was first conceptualized by Cohen (1985) who divided it into four main components. The interactional component involves acting as a link between the area and the tourist party through organization and representation. The social component involves tension-management, social integration, group morale and cohesion. The instrumental component involves leading the way, providing access, safety, and efficiency. Finally, the communicative component involves provision of information and interpretation as well as selecting which points of interests to show the party. When investigating the roles of guides in nature-based tourism, Weiler and Davis (1993) found that Cohen's work did not incorporate guides' responsibilities towards their surroundings. Therefore, they suggested two additional components for guiding in natural

environments. Environmental interpretation involves improving tourists' environmental behavior in the long term, and motivation involves managing tourists' behavior and impacts during the nature experience. In a study on kayakers in Pacific Rim National Park, Randall and Rollins (2009) found support for all six components, although support for the communicative component was slightly lower than for the other five.

In a study on nature guiding in Svalbard, Norway, Vold (2015) divides guiding in natural surroundings into four phases, following the course of a guided tour. In the first phase, *mapping*, guides construe different types of tourists. These initial perceptions of tourist typologies present in the group are significant to how tourists are viewed by the guides ahead of and at the start of the tours. In the second phase, *creating the group*, guides and tourists both assign each other, and play, various roles. In the third phase, *a shared vision*, guides work to bring out tourists' expectations, interpret what tourists say and use this to adjust and turn the tourists' expectations towards what they themselves perceive as being important about the tour. These actions can also create new expectations, or a shared vision of what should be involved in the tour. The fourth and final phase, *getting into tour mode*, is an ideal that nature guides strive for, in which everyone participates and sees what needs to be done. In this phase, relationships, roles and involvement/participation have changed and are influenced by guides and participants being friends on tour. In an ethnographic study of serious wildlife tourists at all-inclusive wildlife holidays, Curtin (2010a) found a number of key attributes that a wildlife guide or tour leader must have: versatility, excellent field skills, sound local knowledge, reputation and good administrative and organizational skills. Furthermore, she argues that to be able to escort participants to prime locations where focal species can be seen, guides must research the area well, know what species have recently been sighted and the best places from which to view the wildlife. They should also be experienced naturalists, who can identify wildlife by their calls, their tracks and even their distant silhouettes. These skills will allow guides to show participants more species than they would have encountered if they were travelling independently. As these studies show, guides are crucial to the success of organized nature-based tourism and wildlife watching tourism. It has also been argued that the environmental interpretation component of guiding is especially important in wildlife watching tourism, as it has the potential to contribute both intellectual and emotional elements to a tourist's wildlife experience, and allows guides to raise environmental awareness and educate tourists (Ballantyne et al., 2009; Lück, 2003).

2.3.1 Interpretation in wildlife watching tourism

Interpretation is a necessary element of wildlife watching tourism, because of its ability to shape the nature and quality of participants' experiences as well as participants' learning,

beliefs and actions toward wildlife (Ballantyne et al., 2011a). Tilden (1957) originally defined interpretation as an educational activity aimed at revealing meanings and relationships to people about the places they visit and the things they see and do there. More recently, Ham (2013) defined the concept as a mission-based approach to communication, aimed at provoking in audiences the discovery of personal meaning and the forging of personal connections with things, places, people and concepts. While interpretive tour guiding is important, interpretation can also include non-personal or "static" interpretation such as interpretative signs, GPS-based games, smartphone apps or videos (Ham & Weiler, 2002; Schneider & Schaal, 2018). According to Ham's (2013) TORE-framework, high quality interpretation has a theme (T), is organized for easy processing (O), is relevant to the audience (R), and is enjoyable to process (E). Successful interpretation can also contribute to wildlife watching tourism by satisfying customer demand, creating opportunities for local employment, influencing on-site visitor behavior and promoting a conservation ethic in tourists that may extend beyond their on-site experience (Ham & Weiler, 2002). Wildlife watching tourism participants' responses to interpretation can be divided in four dimensions: *Sensory impressions* include what participants see and hear, *emotional affinity* involve what they feel, *reflective response* involve what they think and *behavioral response* involve what they do about it (Ballantyne et al., 2011a). Participants who have an intellectual and emotional connection to what they experience at wildlife watching tourism activities are more likely to be positive towards protecting wild animals and the environment (Ham & Weiler, 2002).

Jacobs and Harms (2014) conducted an experiment at whale watching tourism vessels to assess the effects of 1) no interpretation, 2) interpretation that focused on knowledge, 3) interpretation that focused on responsibility and 4) interpretation that focused on feelings. They found that interpretation had effects on participants' conservation intentions, and that interpretation which focused on feelings had greater effects than interpretation that focused on knowledge or responsibility. However, Lück (2015) found that participants at whale and dolphin tours would like to learn more about wildlife and the sea in general, indicating that knowledge based interpretation is also important. Thus, which form of interpretation is most effective may vary depending on the activity and the participants involved. Ballantyne et al. (2011a) provides a list of suggestions for high quality interpretation at wildlife watching tourism activities, based on a study of four different forms of marine wildlife tourism. These suggestions include: incorporating multiple senses, showing animals from new and different perspectives, encouraging visitors to use their imaginations to enter animals' worlds, providing information on the dangers faced by the animals being observed, providing examples of how participants' everyday behaviors can impact the animals being observed, providing information

on practical and achievable things participants can do to contribute to the welfare of wildlife and the environment, set aside time and space for participants to reflect on the meaning of the experience and providing resources for participants to access after the experience to extend their learning and maintain their motivation to act.

2.4 Perspective 4: Human relationships with wildlife

Understanding our relationships with animals is important because these relationships shape our feelings and actions towards them and their natural habitats (Newsome et al., 2005). People have different reasons for caring about wild animals: they can for instance be a source of attraction and fear, have utilitarian value and symbolic meaning, be used for companionship, sport or entertainment, have religious or spiritual significance, be barometers measuring people's concern for environmental sustainability or be a point of connection with the natural world (Manfredo, 2008; Newsome et al., 2005). Additionally, one would be hard pressed to find a destination where animals were not used in some capacity for tourism purposes (Fennell, 2015). In the following paragraphs, some of the main reasons for human interest in wildlife are presented.

2.4.1 Dissociation from and reconnection with nature

Humans have always had close contact with animals, and it has been argued that our overall appreciation of wildlife dates back to times when human lives were linked with the animals that lived around them (Newsome et al., 2005). According to Manfredo (2002), humans are fascinated with wild animals because they are linked to our most basic needs; we have been organized in hunter and gatherer bands for more than 99 percent of our existence, and human survival used to depend on an ability to understand, pursue and harvest wildlife. It has been argued that there are two contradictory tales of human development since then; an ascent of humanity towards civilization, and a decent of humanity away from the meaning-filled lives of people in tune with their environments (Bulbeck, 2005). Yet, a significant portion of modern-day human responses to wildlife may still be genetically prepared, and biophilia suggests there is an innate human dependency on and positive affective response to natural environments and wild animals (Manfredo & Fulton, 2008). Meanwhile, urbanization has caused people to become distanced from nature, and it has been argued that this dissociation has in part fueled the growing interest in, and romanticized view of wild animals (Curtin, 2005). According to Curtin and Kragh (2014), the psychological benefits of experiencing wild animals in their natural settings is nature's cure for this disconnection. Another effect of the increased distance between urban societies and wild animals is that urban dwellers tend to build up their knowledge of wildlife through media representations, marketing programs and previous semi-captive and

captive situations rather than from authentic encounters with animals in the wild (Bentrupperbäumer, 2005). These representations tend to apply anthropomorphism (Rodger & Calver, 2005).

2.4.2 Anthropomorphism

Anthropomorphism can be defined as the attribution of human-specific characteristics to non-human objects or beings (Geerdts, 2016). Cultural shifts due to modernization has been found to increase anthropomorphic attributions which leads to seeing wildlife as more human-like (Manfredo et al., 2020). As attributing human characteristics to non-human animals is considered misleading, anthropomorphism has long been considered a cardinal error when describing animals (Karlsson, 2012). There is also a stigma associated with anthropomorphism in research, because it may preclude unbiased data and compromise fact based results (Chan, 2012). However, while extremely anthropomorphic depictions of animals can infer with factual learning about real animals and encourage human-focused reasoning, more realistic depictions (e.g. those using only anthropomorphic language) may also support learning about real animals and help foster connections between humans and the natural world (Geerdts, 2016). Additionally, it has been proposed that anthropomorphism can contribute to conservation and management because it may help conservation biologists develop more empathy towards target species (Chan, 2012). According to Karlsson (2012), the worries about anthropomorphism expressed in the literature are adequate, to an extent. He argues that to misunderstand animals misguides empathy and that to misrepresent ethical reasoning invalidates justification or, more precisely, makes the justification to be about creatures that do not exist, for example human horses. However, instead of avoiding anthropomorphism, he argues that it is a communicative strategy that should be used critically. Moreover, Manfredo et al. (2020) found that anthropomorphism may provide a foundation for a shift in values from viewing wildlife as resources for human uses towards considering wildlife as a part of one's social community.

2.4.3 Values, attitudes and norms

It has been argued that the root causes of human-wildlife relationships stem from a cognitive foundation which shapes human thought and behavior toward wildlife (Teel et al., 2010). Cognitions and behaviors can be organized into a hierarchy from general values to specific attitudes, norms and behaviors, referred to as the cognitive hierarchy (Fishbein & Ajzen, 1975; Rokeach, 1973; Schwartz, 1992; Stern et al., 1999; Whittaker et al., 2006). At the foundation of this hierarchy we find values, which can be defined as trans-situational goals that serve as guiding principles in the lives of individuals (Schwartz, 1992), or as fundamental, affect-laden beliefs about desirable goals and modes of conduct (Manfredo & Dayer, 2004). In studies on

human dimensions of wildlife, values have been advanced as a means of understanding how people think about wildlife and the basis for wildlife-related behaviors (Teel et al., 2010). A central framework in this setting is the wildlife value orientations framework (Fulton et al., 1996), which assess basic wildlife beliefs and wildlife value orientations concerning issues of enduring relevance to wildlife management and planning. According to this framework, people with a domination wildlife value orientation believe wildlife should be managed for human benefit, while individuals with a mutualism wildlife orientation view wildlife as part of an extended family, deserving of rights and care (Vaske et al., 2011). Moreover, the theory contends that individual behavior toward wildlife is driven by specific attitudes, and that these attitudes are directed by wildlife value orientations (Teel et al., 2010).

An attitude can be understood as an evaluation of an object, interwoven with beliefs, affect or feelings and behavior (Manfredo, 2008). According to Bulbeck (2005), attitudes towards animals, and even towards the very same animal, are often paradoxical. Pets are loved and controlled, the hunter admires his or her prey but also destroys it, and rangers kill feral cats and culls indigenous animals. A possible explanation for this variation is offered by Manfredo (2008), who adopts a differentiation between implicit and explicit attitudes. While an implicit attitude occurs automatically and is simply present in memory with little conscious awareness of how it emerged, an explicit attitude is an evaluative judgement that the individual consciously creates by deliberating relevant information. Furthermore, explicit and implicit attitudes can coexist in memory, and they may be inconsistent. Therefore, even when explicit attitudes are activated, the implicit attitude can influence a person's response towards an attitude object. Thus, while someone might for example explicitly see wildlife as a resource, they may implicitly feel that certain wildlife species have additional value beyond its use to humans. For example, people often project their own dreams and desires to dolphins, although the dolphin is generally not seen as a species that has utilitarian value to humans (Bulbeck, 2005). Why a person holds a particular attitude might not be readily apparent, and according to Manfredo (2008), they may hold it for utilitarian purposes, value expressive purposes, social adjustment reasons or ego defensive reasons.

Attitudes are also affected by norms, a term which covers a variety of entities providing guidelines for how people ought to behave, should behave, or may behave in some way (Koller, 2014). There is no consensus in the literature on what a norm is (Interis, 2011), and the concept is defined and used differently depending on the issue of concern. Two main approaches exists within studies of human relationships with wildlife (See Vaske & Whittaker, 2004 for a review). In the first approach, norms are considered as a standard. In this approach, the structural

characteristics model has frequently been used to assess acceptable social and resource conditions in recreation settings, such as crowding and vegetation loss (Manning, 2011). The second approach considers norms as motivations for individual behaviors. Heywood (2002) suggests that all behavioral norms consist of the cognitive component obligation and the emotional component sanctions. Sanctions can be understood as feelings and physiological states that result when actual behavior is consistent or inconsistent with obligation, and are critical when determining the intensity, power, and prevalence of behavioral norms. Two types of behavioral norms that have been applied to studies on human relationships with wildlife are social and personal norms (Vaske et al., 2020). Social or subjective norms can be understood as an individual's subjective perception of social pressure, and are considered a main influence on behavioral intentions in theories such as the theory of planned behavior (Ajzen, 1985) and the theory of reasoned action (Fishbein & Ajzen, 1975). Personal norms can be understood as self-expectations or feelings of moral obligations that are activated by various activators, such as awareness of need and situational responsibility (Harland et al., 2007). Personal norm activation frameworks such as Schwartz' (1977) norm activation theory (NAT) describes the relationship between these activators, personal norms and behaviors. Vaske and Whittaker (2004) argue that personal norm activation models are appropriate for understanding factors that influence responsible environmental behaviors, while social norms are better suited for highlighting the effects of social influences. Human relationships with wildlife are also influenced by our worldviews. For example, Newsome et al. (2005) suggest that attitudes towards wildlife watching tourism are influenced by the anthropocentric or the ecocentric world view.

2.4.4 Animals and world views

Wildlife co-exist with humans but have historically been viewed as a resource by them (Newsome et al., 2005). For example, in twentieth-century North America people protected wildlife for utilitarian reasons, and the conservation leaders of that time were guided by a desire to ensure a sustainable yield of natural materials, moving wildlife management away from exploitation towards systematic cropping (Manfredo, 2008). Traditional approaches like this one centered around animals' use to humankind, and were influenced by an anthropocentric or human-centered worldview (Newsome et al., 2005). The term anthropocentric was first coined in the 1860's amidst the controversy over Darwin's theory of evolution, to represent the idea that humans are the center of the universe (Campbell, 1983). The anthropocentric world view considers humans to be the most important life form, and suggests that nature has moral consideration because degrading or preserving nature can harm or benefit humans (Kortenkamp & Moore, 2001). Postmodern relationships with animals are typically

characterized by a stronger emotional and moral content, and a greater zoological range of involvement (Curtin, 2010c). People's appreciation of animals has become linked to issues concerning human related impacts on the natural world such as environmental degradation, ecological sustainability, and the loss of biodiversity (Newsome et al., 2005). The almost lost wilderness and its wild animals is still desirable and desired, but humans now recognize that we are superior in the relationship and owe wild animals protection of their environment and assistance even in their species' survival (Bulbeck, 2005). Therefore, the eco-centric worldview, that propose nature exists for all of earth's species and that people are not apart from or in charge of the rest of nature, has gained popularity (Newsome et al., 2005). Ecocentrism stems from the term first coined "biocentric" in 1913 by the American biochemist Lawrence Henderson to represent the idea that the universe is the originator of life (Campbell, 1983).The term was later adopted by deep ecologists in the 1970s to refer to the idea that all life has intrinsic value, and in this worldview nature has moral consideration because of its intrinsic value aside from its usefulness to humans (Kortenkamp & Moore, 2001). Moreover, Aldo Leopold and his landmark work, *A Sand County Almanac* (1949) has had a significant impact. According to Leopold, "A thing is right when it tends to preserve the integrity, stability and beauty of the biotic community. It is wrong when it tends otherwise" (Leopold, 1949, p 224-225). This main maxim has been a mainstay for environmentalists, and indicates that as long as the consequences of our actions do not compromise the integrity of the biotic community as a whole, these actions are morally praiseworthy (Fennell, 2015).

Ecocentrism has been criticized for deliberately placing the wellbeing of all creatures below the needs of the broader community (Regan, 2004). Two views that take the wellbeing of individual animals into consideration are the animal welfare and animal rights views (Fennell, 2015). According to the animal welfare view, it is morally acceptable to sacrifice the interest of animals to the benefit of humans, as long as the animals' mental and physical needs are taken care of (Fennell, 2013). There is concern for the quality of animal's lives, but not for whether animals should be used by humans or not (Bekoff & Nystrom, 2004). The animal rights view is based on inherent value, which means that individual animals have value in their own right (Regan, 2004). According to this view, animals should not be used by humans unless the activities prioritize the interests of individual animals over commerce and pleasure (Fennell, 2012). While there is a growing concern for animals in discussions on human-wildlife encounters (Borges de Lima & Green, 2017a, 2017b), none of the four world views presented here are universally accepted. For example, perceptions vary widely between residents of rural, urban, and peri-urban areas (König et al., 2020), and between materialists and post-materialists

(Manfredo et al., 2003). Thus, views on human-wildlife interactions including wildlife watching tourism vary greatly depending on the stakeholders involved.

3. Ethical issues in wildlife watching tourism

Wildlife Watching Tourism is often promoted as an economic benefit to local communities and to the environment through conservation revenue and local support, securing wildlife for future generations (King & Nair, 2017). Meanwhile it has been argued that up until recently, little concern has been demonstrated in the tourism research discussion with regard to the interests of non-human animals (Fennell, 2015). However, there is a growing concern about potential negative impacts, and ethical and moral issues pervade discussions on human-wildlife encounters, particularly in situations where the wildlife appears to have been over-exploited for the purpose of entertaining visitors (Borges de Lima & Green, 2017a, 2017b). Moreover, recreation and tourism is often in conflict with other deeply held public values such as concern for protection of wildlife and for environmental quality (Manfredo, 2008). The need for effective management of human interactions with wildlife is also becoming increasingly apparent due to a decrease in the number of species of wildlife on the planet (Burns, 2017). Wildlife watching tourism's positive and negative impacts vary greatly from one situation to another and tend to lie along a spectrum rather than falling clearly into discreet categories (Green, 2017). While very few activities could claim a zero impact on wildlife, the impact is in some cases less than alternative land uses, and small disturbances can make very little difference to many individual animals or wildlife populations (Burns, 2017). Thus, while extreme cases such as obvious abuses of animal welfare and practices are easy to condemn, the debates are often not so easy to resolve with the simple answers that many may hope for (Borges de Lima & Green, 2017b).

One of the issues which complicates the discussion of wildlife watching tourism and its impacts is the lack of specific policies addressing the sector. According to Newsome et al. (2005), policies affecting wildlife watching tourism activities vary greatly depending on the species and location involved, and few policies exist at any jurisdictional level addressing tourism or more specifically wildlife watching tourism. This lack is particularly apparent at international and supranational levels, and while the reasons for this lack of attention are unclear, possibilities include the relative newness of tourism, lack of recognition of the need for policy guidance and other more globally pressing environmental and social concerns. However, there are a few international policies that are relevant to wildlife watching tourism, including those addressing wildlife, biodiversity, sustainability, protected areas and tourism. Furthermore, on a local level, there are examples of wildlife viewing programs. In the US, for example, every state fish and wildlife agency has some form of wildlife viewing program (Manfredo, 2002). There are also a few examples of policies on wildlife watching tourism at national levels. In Bangladesh, the 2010 tourism policy prioritized sustainable tourism development based on wildlife and nature (Howlader & Chowdhury, 2017). However, there are many also tourism policies that do not

specifically address wildlife watching. In Norway the 2017 white paper on tourism emphasize a focus on sustainability, and a partial focus on nature based experiences as a whole, but not on wildlife watching specifically (Nærings- og fiskeridepartementet, 2017). In a content analysis of 123 tourism policies, Sheppard and Fennell (2019) found that there has been a shift from policies that were mostly focused on economics in the 1990s towards the inclusion of a broader range of topics including concern for the welfare of social and natural environments. However, they temper this positive finding by suggesting that until animals are considered a stakeholder in the tourism industry, their rights to exist and thrive will be considered only as it relates to their ability to enhance the attractiveness of and economic potential of a destination. Lack of specific policies can make wildlife watching tourism development challenging. Without clear rules, operators may be tempted to engage is exploitative practices such as feeding or otherwise conditioning wildlife, and it has been argued that tourist revenue has become the ultimate arbiter of what constitutes acceptable use of animals in wildlife watching tourism in the absence of global regulatory authorities (Moorhouse et al., 2017). However, there are also examples of codes of conduct developed by providers or tourism organizations to promote sustainable practices, both for wildlife tourism in general (Wildlife Tourism Australia Inc, 2007) and for activities based on specific species groups such as whales (Garrod & Fennell, 2004).

According to Newsome et al. (2005), the impacts of wildlife watching tourism can also be strongly linked to the attitude and behaviors of participants. Potential impacting behaviors consist of close approach, touching, feeding and attempting to illicit a response from the target species. Initial responses of wildlife include vigilance or alert behavior that can lead to the displacement of an animal from normal activities or from its preferred location. Ongoing reactions of this kind can lead to chronic stress, especially when avoidance of humans results in increased competition with the same or other species for cover and food or there is a greater susceptibility to predation. Furthermore, habituation to tourism conditions may render an animal less able to cope with natural conditions and stressors, increase risk of wildlife contracting disease from humans, put a species at risk from inappropriate human behaviors and/or promote the chance of collision with a vehicle. While animal welfare is generally a significant concern for participants in wildlife watching tourism experiences, it is not necessarily a priority when human desires come up against the welfare needs of animals (Carr & Young, 2018a; Curtin & Green, 2018). For example, in a study on whale shark tourism Ziegler et al. (2018) found that respondents mainly supported food provisioning, despite being aware of the ethical complications of provisioning sharks for tourism purposes. Moorhouse et al. (2017) argue that participants are not adequate assessors of wildlife watching tourism's welfare

and conservation impacts as they lack the specialist knowledge required and are subject to several psychological biases that obscure the ethical dimensions of decisions to participate.

There are several suggestions on polices and management strategies for the future in the wildlife watching tourism literature. Bulbeck (2005) advocates for the respectful stewardship of a hybrid nature. She argues that we need to forge a postmodern relationship with the non-human world, one that accepts the vast imbalance in power and destructive potential between humans and the wild world. Furthermore, she claims that we will need to relinquish our desire for authenticity and learn to love and nourish a hybrid nature. Whittaker et al. (2002b) argues for experience-based management, urging the use of a systematic and deliberate process for choosing actions to meet planning objectives and standards. This process follows the three steps problem definition, brainstorming and evaluation. Furthermore, they stress that problem definition might be the most important step in the process, as when the type of recreation opportunity to be provided is clear; this provides the context for selecting the "right" actions. Newsome et al. (2005) promotes adaptive management as a key platform in the ongoing sustainable management of what they view as the uncertain and complex world of wildlife watching tourism. The key characteristics of adaptive management are to include the natural and social sciences, to recognize uncertainty, complexity and long time-scales regarding policy, management as objective-driven and experimental, with monitoring as an integral part, including stakeholders and using feedback. They link this to the importance of an ecological understanding (underscoring the importance of science and wildlife biology) in the development of wildlife watching tourism, as the knowledge gained from research in this area provides a firmer base to make decisions upon which to include or exclude populations and/or habitats in wildlife watching tourism. Such knowledge can also provide directions for impact management and monitoring. Moving forward, elements from all these forms of management can contribute to a more systematic and sustainable development of future wildlife watching tourism.

4. Wildlife watching tourism in Norway

Norway is promoted as the last refuge for some of Europe's most intriguing wildlife by Lonely Planet (2021) and Visit Norway (2018). Species found on the Norwegian mainland and by the Norwegian coast include several rare and/or endemic species of birds, such as white tailed eagle (*Haliaeëtus albicilla*, also known as sea eagle), arctic warblers (*Phylloscopus borealis*), Atlantic puffins (*Fratercula arctica*), thick-billed murre (*Uria lomvia*), auk (*Alcidae*), pomarine skuas (*Stercorarius pomarinus*) and several species of grouse (Tetraoninae). Land mammals include moose (*Alces alces*), wolves (*Canis lupus*), Arctic foxes (*Vulpes lagopus*), brown bears (*Ursus arctos*), wolverines (*Gulo gulo*), Eurasian lynx (*Lynx lynx*), wild reindeer (*Rangifer tarandus*), musk oxen (*Ovibos moschatus*), beavers (*Castor fiber*) and otters (*Lutra lutra*). There are also several species of marine mammals such as humpback whales (*Megaptera novaeangliae*), sperm whales (*Physeter macrocephalus*), killer whales (*Orcinus orca*), narwhal (*Mondon monoceros*), Atlantic white sided dolphins (*Globicephala melas*), white beaked dolphins (*Lagenorhynchus albirostris),* hooded seals (*Cystophora cristata),* bearded seals *(Erignatus barbatus),* Grey seals *(Halichoerus grypus)* and ringed seals *(Phoca hispida).* In the Arctic island group Svalbard, which is Norwegian territory, there are also local populations of polar bears (*Ursus maritimus*), walruses (*Odobeneus rosmarus*) and Svalbard reindeer (*Rangifer tarandus platyrhunchus)*.

Norwegian wildlife tourism has historically been associated with hunting and fishing tourism, which has been popular since the early 1830's when British "sporting gentlemen" came to fish and hunt (Lovelock, 2007; Sillanpää, 2002). While there are many Norwegian studies on fishing and hunting tourism (see for example Moksness et al., 2011; Stensland & Aas, 2014; Stensland et al., 2013; Øian et al., 2017; Øian & Skogen, 2016), only a handful of studies investigate other forms of Norwegian wildlife tourism (Jørgensen, 2018; Pagel et al., 2017; Pettersen, 2011), and wildlife watching tourism is viewed as a relatively new and small part of the country's nature-based tourism offering (Gildestad, 2015). However, interest is increasing. According to Innovation Norway (2018), wildlife watching experiences were among the top 15 activities both for foreign and domestic tourists in Norway in 2017. Moreover, a survey of Norwegian providers of nature based tourism products conducted in 2014 showed that 23% of the providers offered birdwatching as one of their commercial activities and 15% offered wildlife safaris (Stensland et al., 2014). A follow-up survey conducted in 2018 showed that 22% of the providers offered birdwatching as one of their commercial activities and 24% offered wildlife safaris (Stensland et al., 2018). Although wildlife watching tourism is seen as a new form of tourism in Norway, there are also examples of providers who have offered wildlife watching tourism activities for decades (Hvalsafari AS, 2021; Oppdal Safari, 2021). This indicates that

Norwegian wildlife watching tourism activities have existed for a relatively long time, but have only recently been discovered by tourism researchers. Wildlife watching tourism activities promoted on the national tourism agency's website include musk ox safaris, whale safaris, giant king crab safaris, birdwatching activities, moose safaris, beaver safaris, seal safaris and walrus safaris (Visit Norway, 2018). There are fewer activities based on the large Norwegian carnivores (i.e., bears, wolves, lynx and wolverines), that are thought of as threats to livestock and traditional uses of the in rural areas in mainland Norway (Brennodden, 2017). There is also potential for future growth in Norwegian wildlife watching tourism, and a recent Delphi study with Norwegian an international experts on nature-based tourism identified wildlife watching tourism as one of the nature based tourism activities with most potential for future growth in Norway (Haukeland et al., 2021).

5. Study sites

As shown in Figure 3, four study sites were used to investigate wildlife watching tourism in this thesis: the three Norwegian wildlife watching destinations Dovrefjell-Sunndalsfjella National Park, Hornøya and Svalbard, as well as the Canadian wildlife watching destination Churchill (Manitoba).

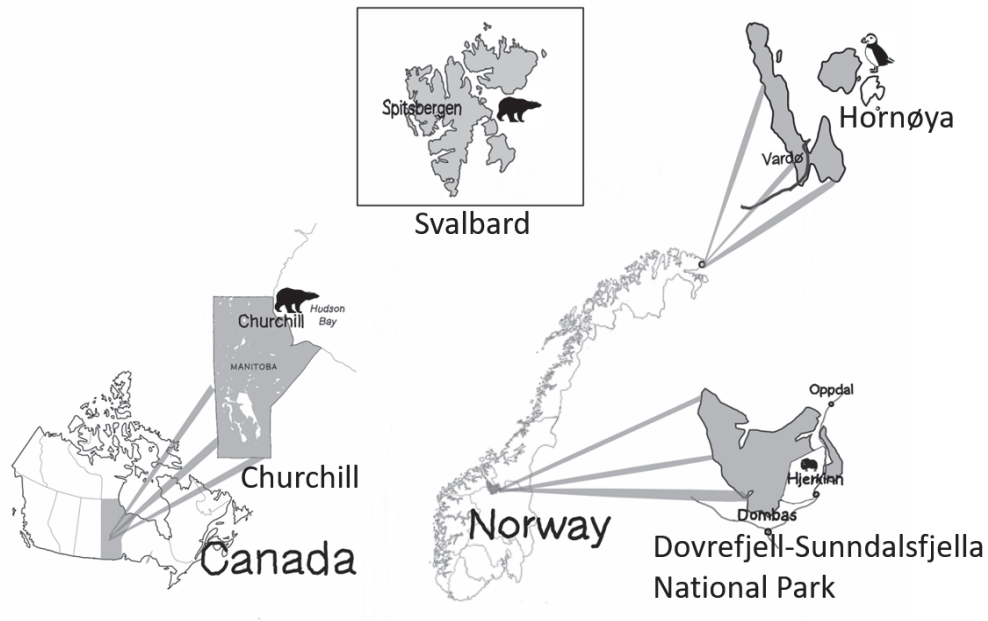

Figure 3 A map of the four study sites included in this thesis

These sites were selected because they offered activities based on three different groups of wildlife species (birds, large carnivores and large herbivores) and represented different conditions for and approaches to wildlife watching tourism. Thus, the study sites collectively represented some of the variety in wildlife watching tourism activities offered in Norway. The sites were also selected because the activities they offered were well suited to answer the research questions included in this thesis. Musk ox safaris in Dovrefjell-Sunndalsfjella national park was considered one of the larger commercial wildlife watching activities on the Norwegian mainland. Therefore, it provided a good basis for studying which elements were important to participants at commercial wildlife watching activities. However, as success rates were very high it was difficult to study participants' reactions when their target species was not found at this site. Therefore, polar bear tourism in Svalbard was included to study this issue, as activity providers in this area are not formally allowed to actively seek out polar bears, and chances of encounters with the target species were considered lower than at other activities. Churchill in

Canada is famously referred to as "*the polar bear capitol of the world*" and was included to compare participants' reactions when polar bears were not encountered in Svalbard to reactions from participants at a site where chances of encounters were higher. The comparison of Svalbard and Churchill also highlighted some of the differences between Norway's approach to wildlife watching tourism and the approach to wildlife watching tourism in North America. Hornøya was selected to investigate the important subgroup birdwatchers and their motivations to visit.

5.1 Hornøya - home of Arctic sea birds

Hornøya island is famous for its birdwatching cliff, which gives visitors the opportunity to view many species of Arctic sea birds up close (Reiertsen et al., 2018). The colony of approximately 80 000 sea birds include 7800 Atlantic puffins (*Fretercula arctica*) and 500 pairs of the rare thick-billed murre (*Uria lomvia*) among other species (Biotope, 2021). The abundance of species and opportunities to get close to the birds have made the island a popular birdwatching destination, and the number of visitors has increased from approximately 500 per year in the period from 1991 to 2000, to 1700 visitors in 2016 (Reiertsen et al., 2018). The island is Norway's easternmost point, located at 70° north and 31° east, close to the city of Vardø in the Varanger area. It became protected by the Norwegian government in 1983 along with the neighboring island Reinøya in the Hornøya/Reinøya nature reserve, to protect of the large number of nesting birds found on the islands (Visit Varanger, 2017). The island is relatively easy to access as it is only a short boat ride from the harbor in Vardø and the local port authority operates boat trips every day during the birdwatching season (April-September). Yet, the island is one of the more extreme places in Northern Norway, with storms in the winter and midnight sun in the summer, and it has fascinated polar explorers, scientists and nature enthusiasts for a long time (Biotope, 2021). Visitors mainly access the island by the boat from Vardø and experience the sea bird colony on their own. Although access is restricted to certain parts of the island, a marked pathway allow birdwatchers to get relatively close to the birds (Martinussen, 2014).

5.2 Dovrefjell-Sunndalsfjella National Park – home of the musk ox

Dovrefjell-Sunndalsfjella National Park is the home of Europe's only viable herd of musk oxen (*Ovibos moschatus*). The iconic species has become an important tourist attraction, and in 2018 there were five operators organizing walking musk ox safaris in the area. There are between 3000 and 3500 participants at these safaris every year, and many tourists also attempt to encounter musk oxen on their own (Rangbru & Seljevoll, 2017). Dovrefjell-Sunndalsfjella national park and the surrounding areas cover 4367 km^2, making it one of the largest protected areas on the Norwegian mainland (Miljødirektoratet, 2013). The national park was first

established in 1974 to: 1) conserve a large, mainly untouched mountain area with an intact ecosystem and 2) preserve the habitat of the wild reindeer herds of Snøhetta and Knudshø (Dovrefjell nasjonalparkstyre, 2017). It was expanded in size in 2002 and 2018 to include former military sites (Nasjonalparkriket, 2019). The musk ox was native to the in the area in pre-historic times, but became locally extinct in Europe after the last ice age. However, musk ox remains from this period were found during the construction of the Dovre railway in 1932, inspiring a reintroduction of the species from 1932 to 1953 (Miljødirektoratet, 2019). There are approximately 250 individuals found in the area today, that mainly derive from 21 calves brought from Greenland (Miljødirektoratet, 2018). The species is now formally considered reintroduced in Norway. However, the individuals found in the national park are not considered a threat to other wildlife or ecosystems in the area and are therefore allowed to develop as naturally as possible in a designated area of 340 km^2, marked in white on the map shown in Figure 3 (Miljødirektoratet, 2019). Individuals that leave this designated area are removed by the Norwegian Environment Agency (Rangbru & Seljevoll, 2017).

5.3 Svalbard and the paradox of Norwegian polar bear tourism

The arctic island group Svalbard is famous for its wildlife, which include walruses (*Odobeneus rosmarus)*, Svalbard reindeer (*Rangifer tarandus platyrhunchus)*, as well as several species of seals and whales and approximately 3000 polar bears (*Ursus maritimus*)(Visit Svalbard, 2018a). The polar bear is the most popular wildlife species, and many tourists visit the area in hopes of encountering it. However, Norwegian law states that it is forbidden to lure, pursue or in any other active act seek polar bears out to interfere with them or endanger humans or polar bears (The Svalbard Environmental Protection Act, 2001), and the local tourism organization, Visit Svalbard (2018b) warns potential visitors that there are no polar bear safaris. Nevertheless, it is possible to book snowmobile trips and boat cruises that deliberately enter polar bear territory in hopes of encounters (Better Moments AS, 2017; Visit Svalbard, 2018b). As companies offering such trips are formally not allowed to actively pursue Polar Bears, the chances of encountering the target species are considered relatively low, and when polar bears are found they are mainly seen from a distance. Yet, eight companies offering this type of trip was found in Svalbard in 2019. Images of polar bears and information on polar bears in the area are frequently used to market such trips. Svalbard is one of Norway's most popular tourism destinations, and in addition to its wildlife, the island group features arctic natural attractions such as glaciers, midnight sun and northern lights as well as the northernmost urban community in the world – Longyearbyen (Visit Svalbard, 2021). The Arctic island group is located approximately 74°-81° north, and is included in the Kingdom of Norway (Thuesen & Barr, 2018).

5.4 Churchill – the polar bear capitol of the world

Churchill is famously referred to as "the *polar bear capitol of the world*", due to large numbers of polar bears who aggregate along the shores of Hudson bay once a year in early to mid-November awaiting the formation of sea ice (Lemelin, 2006). To protect the polar bears, the number of commercial tour operators and vehicles permitted in the high-use areas east of the town site is limited, and measures are taken to restrict travel to existing trails (Manitoba.ca, 2018). However, polar bear tourism in the area is possible on a larger scale than in Svalbard, as providers are allowed to approach the polar bears and encounters are relatively predictable during the peak season when the polar bears await the formation of sea ice. There are several polar bear-based activities available in the area including safaris in specialized tundra vehicles, safaris on foot, boat trips and specialized tundra lodges where visitors can spend the night near polar bears. Nine companies offering at least one of these activities were found in the area in 2019. In addition to being the polar bear capitol of the world, Churchill is the northernmost seaport of Canada, located on the west coast of Hudson Bay. The area is also known for its beluga whales (*Delphinapterus leucas*), northwestern wolves (*Canis lupus occidentalis*) and 225 identified species of birds (Manitoba.ca, 2018).

6. Methods

6.1 Methodological approaches to the study of wildlife watching tourism

The study of wildlife watching tourism is very broad in its scope, and additionally complex because of the wide range of species, locations and management scenarios involved (Newsome, 2017). Depending on the location and the activity, there are also a range of stakeholders: the wildlife, host communities, landowners, tourists, operators and managers, environmental organizations, businesses, government bodies and any other person or group who expresses an interest and/or involvement in wildlife watching tourism (Newsome et al., 2005). Considering wildlife watching tourism's impacts on all of these stakeholders and the natural environment, research from multiple disciplines has been encouraged (Fatima & Khan, 2017). Natural sciences such as applied ecology and wildlife biology are important in order to understand impacts on wildlife, monitoring techniques for habitat restoration sites as well as animal behavior and physiology (Borges de Lima & Green, 2017c; Rodger & Calver, 2005). Additionally, studies on the social dimensions of wildlife watching tourism can increase our understanding of how to access and view nature while minimizing disturbance, develop high quality wildlife tourism products, increase public trust in nature management bodies and provide information on the interests of human stakeholders (Manfredo, 2008; Newsome, 2017).

The disciplinary diversity is also reflected in a variety of methodological approaches to the study of wildlife watching tourism participants. Some of the most common methods when identifying participant motivations, indicators of quality, participant satisfaction, skill levels, norms, values, attitudes, beliefs and intentions on relatively large scales is through questionnaires and quantitative analyses (Ballantyne et al., 2018; De Salvo et al., 2020; Mutanga et al., 2017). There are also in-depth studies on smaller samples of wildlife tourism participants, applying traditional qualitative methods such as focus groups, participant interviews and participant observation, seeking to gain a deeper understanding of participants' experiences, behaviors, reactions and perspectives on wildlife watching tourism (Curtin, 2010a, 2010c; Lemelin, 2006; Margaryan et al., 2018). Recently, several studies have also been based on analyses of digital content shared in online travel forums or social media (Ayazlar, 2017; Cong et al., 2014; Harman & Dilek, 2017). There are also a few studies applying more than one of these methodologies (D'Lima et al., 2018; Ziegler et al., 2018), highlighting the benefits of investigating wildlife watching tourism participants from more than one perspective in the same study. The topic of this thesis, participant experiences with wildlife watching tourism, is complex and calls for both the in-depth understanding offered by qualitative methods and the quantifications that can be made using quantitative methods. Therefore, a mixed methods approach was adopted.

6.2 Mixed methods, the pragmatic research paradigm and the convergent research design

According to Creswell and Clark (2017), a number of factors have contributed to the evolution of mixed methods from the late 1980s to the approach applied today. The complexity of modern research problems call for answers beyond simple numbers in a quantitative sense or words in a qualitative sense. Therefore, it has been suggested that a combination of both forms of data provides the most complete analysis of complex problems, as it allows researchers to situate numbers in the context and words of participants, and frame the words of participants with numbers, trends, and statistical results (ibid). Moreover, mixed methods research has been hailed as a response to the long-lasting debates discussing the advantages and disadvantages of qualitative versus quantitative research as a result of the "paradigm wars" (Feilzer, 2009). A paradigm, also called a philosophical perspective or a worldview, can be defined as basic set of beliefs that guide action (Guba, 1990; Moon & Blackman, 2014). The main paradigms or worldviews that have traditionally been presented as fundamentally opposed to each other are the positivism/post-positivism approach and the constructivism/interpretivism approach (Creswell & Clark, 2017). While positivists emphasize the objective reality independent of an observation, constructionists/interpretivists emphasize the role of participants' subjectivities (Pansiri, 2005). The positivist notion of a singular reality, waiting to be discovered by "objective and value-free inquiry" underpins quantitative research measures, while constructivists argue that there is no such thing as a single objective reality and favor qualitative research (Feilzer, 2009).

In mixed methods research, researchers combine elements of both qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the purposes of breadth and depth of understanding and corroboration (Johnson et al., 2007). By doing so, one seeks to combine the strengths and thereby reduce the weaknesses of both quantitative and qualitative research (Creswell & Clark, 2017). It follows that the mixed methods research methodology does not fit into neither the positivism/post-positivism approach nor the constructivism/interpretivism approach (Feilzer, 2009). Therefore, researchers have attempted to find an alternative framework which accommodates the diverse nature of the mixed methods research methodology, and the approach most commonly applied is the pragmatic research paradigm (Creswell & Clark, 2017; Teddlie & Tashakkori, 2009). Pragmatists reject both the positivist/post-positivist paradigm and the constructivism/interpretivism paradigm, and avoid the "paradigm wars" by focusing on a theory's ability to facilitate a problem solution (Pansiri, 2005; Powell, 2001). Furthermore, they apply "what works", and use diverse approaches from both qualitative and quantitative research, valuing both subjective and objective knowledge (Creswell & Clark, 2017). The mixed

methods research methodology and pragmatic research paradigm have also been the targets of criticism and debate. For example, it has been argued that pragmatism is an ideological position available within any paradigm rather than a research paradigm in its own right, because the focus is on "getting the job done" rather than on epistemological integrity (Giddings & Grant, 2007). Furthermore, as both definitions and applications of mixed methods research are diverse, it has been argued that little consensus exists about exactly what constitutes a mixed methods approach (Mortenson & Oliffe, 2009). Additionally, it has been argued that many contemporary studies labeled as "mixed methods" lack qualitative-quantitative data integration, an issue which often diminishes the quality and significance of the research results generated (Castro et al., 2014).

Keeping the abovementioned arguments in mind, the methodological framework applied to this thesis is based on the convergent research design. The intent of the convergent research design is "to obtain different but complementary data on the same topic" to best understand the research problem (Morse, 1991, p 122). Considered a mixed methods research design, the convergent research design is used when the researcher wants to compare statistical results with qualitative findings for a [more] complete understanding of the research problem (Creswell & Clark, 2017). When applying this design, researchers typically collect both forms of data at roughly the same time and then integrates the information in the interpretation of the overall results (Creswell & Creswell, 2018). While both quantitative and qualitative methods have been applied in the thesis, there is a slight emphasis on quantitative methods. Two of the articles included combine quantitative and qualitative methods; one combining participant surveys with participant observations and interviews, and one using content analysis, thematic analysis and basic statistical analyses to analyze digital content. The other two articles apply purely quantitative methods and are based on participant surveys. In the discussion section of the synopsis, findings from all four articles are integrated in the interpretation of the overall findings.

6.3 Participant surveys

The quantitative data for the thesis was collected through participant surveys at island Hornøya in northern Norway (Article 1) and at organized musk ox safaris at Dovrefjell-Sunndalsfjella national park in central Norway (Article 2 and Article 4).

Figure 4 Participants at an organized musk ox safari filling out short onsite questionnaires

6.3.1 Survey distribution

In 2017 and 2018, two participant surveys were conducted in collaboration with the BIOTOUR research project at the birdwatching island Hornøya. Respondents were recruited through a short onsite questionnaire, which was followed by an online survey. The onsite questionnaire (Appendix 1) was distributed during the summer season of 2017 (May-August) by trained Vardø harbor service personnel and at a lodging property primarily used by birdwatchers. In total, 648 birdwatchers completed the onsite form, 521 with valid e-mail addresses. This was approximately 34% of the 1799 visitors to the island during the summer season of 2017. The respondents who provided valid e-mail addresses were sent an online follow-up survey (Appendix 2) during March and April 2018. First, the survey was pre-tested among a convenience sample of students following the nature based tourism master program at The Norwegian University of Life Sciences (NMBU). The survey was then pilot tested among a portion of the respondents before it was distributed to the full sample. The survey was available in English, Norwegian, German and Finnish, and up to five reminders were sent to those respondents who had not completed the survey at the time of each reminder. In total, 248 birdwatchers (48%) completed the online survey.

In 2018 and 2019, data was collected with a similar approach at organized musk ox safaris in Dovrefjell-Sunndalsfjella national park. Short response cards (Appendix 3) were distributed to participants in collaboration with five companies offering musk ox safaris in the area during the peak season of 2018 (June-September). In total 1000 response cards were given to the safari companies and 487 participants completed them, 417 with valid e-mail addresses. This was approximately 12% of all participants at guided musk ox safaris in Dovrefjell-Sunndalsfjella national park in 2018, as there are between 3000 and 3500 participants each year (Rangbru & Seljevoll, 2017). From November 2018 to January 2019, an online follow-up survey (Appendix 4) was distributed by e-mail to all participants who provided valid e-mail addresses on the response-cards. Before this survey was distributed to the full sample, it was pre-tested among a convenience sample of coworkers at The Norwegian University of Life Sciences (NMBU) and PhD candidates studying tourism, marketing and natural resource management at Norwegian and Swedish universities. The survey was available in English, Norwegian, German and French. Up to five reminders were sent out during this period to respondents who had not completed the survey at the time of each reminder. In total 219 participants (52%) completed the online survey.

6.3.2 Survey design

Both of the online questionnaires included several questions about specialization, motivation, satisfaction and loyalty. These variables were mainly measured by seven-point scale questions, and were based on previous studies on the same topics (Glowinski & Moore, 2014; Kim et al., 1997; Manning, 2011; Scott & Shafer, 2001). Furthermore, the questionnaire distributed among musk ox safari participants in Dovrefjell-Sunndalsfjella national park included an expanded section measuring satisfaction with different elements of the musk ox safari experience. The questions included in this section measured satisfaction with each of the elements included in Mossberg's (2007) model of the tourism experiencescape, as well as satisfaction with the target species encounter and the possibilities to encounter other wildlife. These questions were partly based on a previous study that applied a similar model to dining experiences (Andersson & Mossberg, 2004) and partly created for the purpose of this thesis. Moreover, a section designed to investigate participants' perspectives on pro-environmental behaviors was included. This section was based on Ajzen's (1985) theory of planned behavior. The multi-item standard direct measures of attitudes, subjective norms, perceived behavioral control and intentions by Ajzen (2006) was used as a basis when formulating questions. Participants were also asked to evaluate whether the safaris had changed their attitudes toward wild animals and the environment, and if they were more likely to perform pro-environmental behaviors after participating. More detailed explanations of the development of the questionnaire distributed in Dovrefjell-Sunndalsfjella national park is provided in Stensland et al. (2021), Dybsand and

Stensland (2019) and articles 2 and 4 in this thesis. A more detailed explanation of the development of the questionnaire distributed in Hornøya is provided in Stensland et al. (2021) and Article 1 in this thesis.

6.3.3 Analyses of survey data

Survey data were analyzed applying explorative factor analysis, cluster analysis, ANOVA analysis, multiple regression analysis and partial least square structural equation modelling (PLS-SEM). For the purpose of these analyses, the seven-point questions included in the surveys were considered as continuous, even if they consisted of categories on a scale. According to Tabachnick and Fidell (2007), when the number of categories is seven or more and the underlying scale is thought to be continuous the variables can be treated as continuous even though the actual measure scale or item is ordinal, as long as the data meet other assumptions of the analysis. It has also been argued that ordinal data often more closely resemble interval scales than nominal scales and thus can be used in parametric analyses (Agresti & Finlay, 2009; Carifio & Perla, 2007).

Exploratory factor analysis is applied when researchers encounter a large set of observations or scores and want to investigate whether the scores can be more parsimoniously represented (Fabrigar & Wegener, 2011). Exploratory factor analysis was applied in both Article 1 and Article 2, in both cases to reduce the number of variables before conducting further analyses. The analyses were conducted in SPSS statistics, using principal component analysis as the extraction method. Prior to performing the factor analyses, the suitability of using the data sets for factor analyses was assessed applying guidelines provided by Pallant (2016) and Field (2009). Both data sets were deemed suitable, and the factors extracted were used as a basis for performing three multiple regression analyses and a cluster analysis. Cluster analysis can be used to find out which objects in a set are similar to each other, and is most commonly applied when making classifications (Romesburg, 2004). In Article 1, cluster analysis was applied to classify birdwatchers. To check the robustness of the cluster solutions, hierarchical clyster analysis, non-hierarchical (K-means) cluster analysis and a combination of these two analyses were applied as recommended by Hair et al. (1998). The analyses were also applied on a random half-split of the sample. The clusters were then compared using ANOVA, combined with a Tamhane post hoc test with unequal variances assumed for continuous variables, and a Pearson's chi square test for categorical variables. Multiple regression analysis may be used when a quantitative (dependent) variable is to be studied as a function of, or in relationship to, any factors of interest, known as independent variables (Cohen et al., 2013). In this thesis, multiple regression analysis was applied in Article 1 and Article 2. The analyses were done using the SPSS software, and the linear regression tool. They were conducted to investigate the

relationships between the factors extracted in the exploratory factor analyses and predetermined dependent variables (overall satisfaction and loyalty). Preliminary analyses were conducted to ensure no violations of the assumptions of normality, multicollinearity and homoscedasticity, following guidelines provided by Pallant (2016). Any outliers identified by inspecting the standardized residuals were removed from the datasets before conducting further analyses.

Structural equation modeling (SEM) is applied when researchers want to measure both the direct and the indirect relationships between concepts, or when they would like to investigate multiple relationships in the same analysis (Kline, 2016). It was applied in Article 4. There are two main approaches to SEM; covariance based structural equation modeling (CB-SEM) and partial least squares structural equation modeling (PLS-SEM)(Hair et al., 2011). CB-SEM is primarily used for confirming or rejecting theories, while PLS-SEM is primarily used for developing theories in exploratory research and to identify key driver constructs (Hair et al., 2017). Small sample sizes cause identification issues when applying CB-SEM, while PLS-SEM mainly achieves high levels of statistical power even with smaller samples (ibid). Given that the final sample size of the survey conducted in Dovrefjell-Sunndalsfjella national park was relatively small with 219 respondents and the article aimed to identify key driver constructs, PLS-SEM was applied. Smart PLS 3.3 (Ringle et al., 2015) was used for computing the models, and the path weighing scheme (Henseler et al., 2009) was applied when estimating parameters. As PLS-SEM relies on variances to determine an optimum solution instead of covariances, covariance-based goodness-of-fit measures developed to evaluate CB-SEM-models are not fully transferrable to a PLS-SEM context (Hair et al., 2017). Therefore, alternative measures have been developed to evaluate PLS-SEM models. These measures were evaluated, following guidelines for evaluating PLS-SEM-models and reporting results provided by Chin (2010) and Hair et al. (2017,2011).

6.4 Participant observation and travel party interviews

To gain a more in-depth understanding of what it was like to participate in a wildlife watching tourism activity, participant observation was conducted at 14 randomly selected musk ox safaris in Dovrefjell-Sunndalsfjella national park during the peak season of 2018 (June-September) in conjunction with the survey described above. This analysis was conducted applying guidelines from DeWalt and DeWalt (2010), Guest et al. (2013) and Thaagard (2009). Observations were conducted during the entire safari experience, including pre-safari briefings, hiking with the group while searching for musk oxen, navigating challenging terrain, short stops on the way with guiding and interpretation, lunch breaks with the group, encounters with musk oxen and on some occasions encounters with other wildlife in the area such as birds, wild

reindeer and lemming. Participants were informed about the presence of the researcher and short jot notes were taken during the safaris. More detailed field diaries were written after the safaris, recording each days' events, participants' responses to the musk ox encounters and other aspects of the safari experience, as well as the author's own observations. The participants appeared positive towards this practice, and often initiated conversations about their experiences at the musk ox safari and their holidays in Norway.

Figure 5 Participants observing and photographing a musk ox at an organized musk ox safari in Dovrefjell-Sunndalsfjella national park

To learn more about how the participants experienced the musk ox safaris, the participant observations were combined with short on-site interviews. The 33 travel parties interviewed ranged from one to four participants per party and consisted of 49 participants in total. The travel parties were selected at random, based on which travel parties were willing to be interviewed at the 14 musk ox safaris the author joined to conduct participant observation. The interviews were semi-structured, using an interview guide (Appendix 5) as a starting point, but allowing the freedom to change the order and phrasing of the questions and to ask follow-up questions (Kvale et al., 2009). Interviews lasted from five to fifteen minutes and were either conducted during the safaris or directly after the safaris. When interviews were conducted during the safari, they were done after the first musk ox encounter during the group lunch. When the first musk ox encounter happened after the group lunch, the interviews were either conducted directly after the encounter while participants waited for the group to gather, or after the group had gathered to say goodbye at the end of the musk ox safari. During the interviews there was mainly one main spokesperson per travel party, with other members of

the travel party offering opinions on one or two questions. All interviews were recorded and transcribed.

6.4.1 Analyses of interviews and field diaries:

Interview transcripts and participant interviews were analyzed using thematic analysis (Clarke, 2006). A combination of predefined and open coding was applied so that both responses and observations linked to the model investigated in Article 2 and other aspects of the experience not implemented in the model could be included in the analysis. To improve the reliability of these codes, they were quality controlled by the co-author of Article 2. Examples of pre-defined codes included in the analysis are *Personnel/guide* and *Focal species encounter*. Other themes and sub-themes found when using open coding included "*difficult to explain how the encounter made him/her feel*" and "*comments about difficult terrain and rivers*". Field journals and interview transcripts were analyzed manually rather than using automated software or word searches, because different expressions and languages were often used to describe similar aspects of the wildlife watching experience.

6.5 Digital content analysis

Digital content was the source of data for one of the articles included in the thesis (Article 3). The content chosen for the analysis was reviews about polar bear tourism, written on TripAdvisor.com, considered one of the largest online travel forms in the world (Ayazlar, 2017) and the websites of selected polar bear tourism providers. When analyzing the digital content, a combination of content analysis (Joffe & Yardley, 2004), thematic analysis (Clarke, 2006) and basic statistical methods was applied. First, all reviews found mentioning polar bear tourism or polar bear safaris were included, resulting in 925 reviews in total (154 from Svalbard in Norway, 697 from Churchill in Canada, 64 from Alaska in the US and 10 from Wrangel Island in Russia), written from 2012 to 2017. Content analysis with pre-defined categories was applied to all these reviews, to identify which reviews were relevant to the article topic. The pre-defined categories were: *1) Reviewer perspectives on unpredictable wildlife, 2) Polar bears not found* and *3) Fewer polar bears found than reviewer expected*. In total, 152 reviews belonged to at least one of the predefined categories; 64 from Svalbard and 87 from Churchill. These reviews were included in the next phase, in which reviews were analyzed more thoroughly, applying thematic analysis with open coding to find reoccurring themes and patterns. Examples of reoccurring themes include "*statements that there are no guarantees with wildlife*" and "*Staff skill and dedication".* In this phase the author also identified 14 polar bear tourism companies that were mentioned in reviews from participants who belonged to one of the pre-defined categories (Polar bears not found). The websites of these companies were analyzed, applying content

analysis with predefined coding. This analysis was limited to the home page of the companies' websites (the first page shown when visiting), lists of activities offered by the companies, and descriptions of each individual activity. Predefined codes included "*warnings that polar bear sightings are not guaranteed present*" and "*polar bear sightings guaranteed*". Furthermore, the number of pictures displayed in total, and the number of pictures displayed showing at least one polar bear were counted. The results of this analysis were compared to the results of the TripAdvisor reviews analyses to look for connections between participants' reactions and the information and marketing displayed online. In addition to the content analyses and the thematic analysis, independent t-tests were conducted in SPSS statistics to compare star ratings given by participants who encountered polar bears and participants who did not encounter polar bears.

Several researchers confirm online user generated content content's trustworthiness as a data source and it has been applied in many studies on tourism and wildlife watching tourism (e. g. Ayazlar, 2017; Kladou & Mavragani, 2015; Lee et al., 2011; Yu et al., 2017; Ziegler et al., 2018). However, some are also skeptical, arguing that trusting electronic word of mouth relies on source-receiver relationships, channel variety and presentation of contents (Zeng & Gerritsen, 2014). Furthermore, the data lack uniformity, as some reviews are brief comments, while others are more extensive and can be classified as blogs (Cong et al., 2014). Users are also in complete control of whether they would like to share their opinion or not, and as a result the content is not typically a representative sample of the tourism population at the sites assessed. However, by using online user generated content, it was possible to compare more than one case area, and access data generated over the course of five years. Additionally, participants' complete control of what they shared and not shared made it possible to study what was most important to participants with no interference from the author, allowing access to unprompted, honest opinions.

6.6 Reliability and Validity:

Reliability and validity are the two most common measures for evaluating the quality of data. A study is generally considered valid if it actually measures what it claims to measure, and if there are no logical errors in drawing conclusions from the data (Garson, 2013). While validity can be understood in many ways, Ruane (2005) divides it into three main types: measurement validity which concerns whether one successfully measure what one intends to measure, internal validity which concerns whether findings are consistent with reality, and external validity which concerns whether findings can be generalized to other situations. Measurement validity was especially relevant to the surveys conducted at Dovrefjell-Sunndalsfjella national park and Hornøya. Ruane (2005) divides measurement validity into face validity, content validity,

criterion validity and construct validity. Face validity concerns whether a measure "looks good" on surface inspection (ibid). To ensure face validity, findings from the surveys were subjected to the scrutiny of independent members of the scientific community. This was done through presentations at academic conferences and seminars attended from 2018 to 2020. Additionally, three of the articles included in the thesis were submitted to scientific journals for blind peer-reviews and an extended abstract was submitted for the fourth article. Content validity concerns how good the fit between nominal and operational definitions is (Ruane, 2005). To improve content validity, the questions included in the surveys were based on previous studies and/or guidelines for measuring the theories and concepts investigated (e. g. Ajzen, 2006; Manning, 2011; Scott & Shafer, 2001) whenever possible, as explained in the survey design section. Criterion validity, also known as empirical validity, uses objective empirical evidence to explicitly demonstrate the validity of measures (Ruane, 2005). It was tested though closely inspecting and cross-checking measurements that were expected to generate related results, e.g. through factor analysis (Articles 1 and 2) and evaluations of the measurement models included in the PLS-SEM models (Article 4). Construct validity is established through a combination of theories and hypothesis testing to demonstrate that measures are valid (Ruane, 2005). Construct validity was tested through statistical analyses such as multiple regression (Article 1 and 2) and PLS-SEM (Article 4). While measurement validity cannot be tested in the same manner for qualitative data collections, both articles applying qualitative methods (Article 2 and 3) were also presented at academic conferences and submitted to academic journals for double-blind peer reviews.

Internal validity concerns whether findings are consistent with reality (Merriam, 1998). In quantitative research, internal validity is related to causal validity which concerns whether the research can detect causal relationships when they exist (Ruane, 2005). Achieving internal validity in this setting means that it is possible to demonstrate that changes in one entity are due to changes in another (ibid). Causal validity was assessed through evaluations of the coefficients of determination (R^2) in the PLS-SEM models (Article 4), and the adjusted coefficients of determination ($R^2_{adjusted}$) in the multiple regression models (Article 1 and 2). In qualitative research, internal validity can be secured through long term involvement, detailed and varied data, methods triangulation and double checking responses with respondents to avoid misunderstandings (Maxwell, 2005). When conducting the qualitative analysis in Dovrefjell-Sunndalsfjella national park, participant observations and interviews were combined. Additionally, results were compared to the results of the participant surveys. To secure as detailed and varied data as possible, all the five companies that offered musk ox safaris in the area were included in the analysis conducted at Dovrefjell-Sunndalsfjella national park, and

observations were conducted during the entire safari as well as at pre-safari briefings. When conducting digital content analysis, detailed and varied data was secured through including all TripAdvisor reviews mentioning polar bear safaris in the initial content analysis. All reviews were analyzed manually to ensure that every review that was relevant to the article's topic were included in the thematic analysis. Additionally, the validity of the qualitative findings was strengthened by reporting results as directly as possible, using quotes from informants whenever possible.

External validity refers to whether findings can be generalized and transferred to other situations (Merriam, 1998). Establishing external validity is challenging in studies on wildlife watching tourism, due to the variety of activities and species involved, and Newsome et al. (2005) argues that every wildlife watching tourism site should be assessed as a unique case. However, they stress that this does not mean that related studies cannot be relevant to similar situations. However, awareness must be made that the same species may respond differently in differing geographic locations, and that tourism situations differ according to varying visitor expectations, level of visitor education and awareness. This point was stressed in each of the articles included in the thesis. Additionally, external validity can be improved through thorough descriptions of findings so that readers can evaluate whether they are relevant also to their situation, descriptions of how the phenomenon which is studied is compared to other phenomena, or through comparisons of several cases (Merriam, 1998). This was done through including four case areas in the PhD project, providing as thorough descriptions of the findings as possible and by comparisons to other forms of nature-based tourism (e.g. northern lights tourism) when applicable. While it was not possible to compare multiple cases in each individual article within the timeframe of the PhD, Churchill and Svalbard are compared in Article 3. The findings of all the included articles are also discussed and compared in the discussion section of this synopsis.

Reliability concerns the results' credibility and consistency and is often evaluated as the extent to which results can be reproduced under the same conditions if the study is conducted again at another time and/or by different researchers (Kvale et al., 2009). To improve the reliability of the quantitative findings, the two main surveys included in the project were pilot-tested among smaller samples so that the measurements were tested before running the full studies. Additionally, the questions included in the surveys were mainly closed rather than open-ended. Reliability is more challenging in qualitative research, as these methods are not carried out in ways that isolate human behaviors (Merriam, 1998). However, measures can be taken to achieve as reliable results as possible, including thorough descriptions of research strategies and methods, as well as securing theoretical openness through clear descriptions of the theories

behind interpretations of the results (Silverman, 2014). To improve the reliability of the qualitative findings, the pre-defined codes that were used in the thematic analyses were quality-controlled by the co-author of Article 2, and by the main thesis advisor for Article 3. Additionally, the research process is described as thoroughly as possible in both articles, and findings are compared to previous studies and theories.

7. Article summaries

7.1 Article 1: The influence of motivation on birdwatcher satisfaction and destination loyalty: The case of Hornøya, Norway

Because there are opportunities for wildlife watching tourism in almost any type of environment (Valentine et al., 2004), a variety of activities, wildlife species and participants are involved in wildlife watching tourism activities worldwide. Furthermore, participants are motivated by a variety of factors: appreciating or photographing wildlife, studying fauna and flora, recreation, educational opportunities, entertainment, cultural interactions, contributing to conservation, feeling close to or reconnecting with nature, visiting a family destination, experiencing luxury, curiosity, novelty seeking and escaping everyday life (Buckley & Mossaz, 2018; Curtin, 2010b, 2013a; Kruger et al., 2017; Lemelin, 2006; Miller et al., 2020; Moscardo, 2000; Mutanga et al., 2017). In Article 1, participants' motivations to participate in Norwegian wildlife watching tourism activities are investigated, using the birdwatching island Hornøya as a case study. Birdwatchers are often perceived as a relatively homogeneous group of dedicated visitors willing to spend significant sums of money in their pursuit to see rare, exotic and endemic birds (Scott & Thigpen, 2003). Although birdwatching often extends far beyond a hobby or pastime (Amundsen & Fisk, 2015), participants are increasingly a diverse group (Connell, 2009; Hvenegaard, 2002; Scott & Thigpen, 2003). Studies often classify birdwatchers based on their degree of recreation specialization (De Salvo et al., 2020; Harshaw et al., 2020; Miller et al., 2014). Yet, studies on other forms of tourism show that motivational factors also influence participants' experiences, satisfaction and loyalty (Sato et al., 2018; Suhartanto et al., 2020). Visitors to the island during the 2017 summer season were asked to fill out a short on-site questionnaire (n = 649), followed by an online survey (n = 248, 48% response rate). Participant motivations were measured by 23 variables in the online survey. These variables were reduced to six motivational factors (*Escape everyday life*, *family time*, *experience nature*, *experience birds*, *ability and fitness*) using explorative factor analysis. A cluster analysis was then performed based on these factors. Two standard multiple regression analyses were carried out to assess the effects of motivational factors, specialization levels, satisfaction dimensions, and socio-demographic variables on (1) participants' overall satisfaction and (2) loyalty.

Three groups of birdwatchers were identified by the cluster analysis: *Holistic wildlife viewers* (32.7%), *Birds & nature enthusiasts* (41.7%) and *Individualists (25.5%)*. These groups were similar when it came to socio-demographic variables and overall loyalty, and all groups had a high birdwatching activity level. However, the group *holistic wildlife viewers* were more likely to visit Hornøya again than *Birds & nature enthusiasts*. Furthermore, there were differences between groups when it came to how satisfied participants were with the number of people present at Hornøya and the other visitors' behaviors towards birds. Although there was some

variation in our sample's degree of recreation specialization, the three groups did not score significantly different on the three main specialization domains: *activity behavior*, *skills & knowledge* and *centrality*. Additionally, none of these three domains had significant relationships with loyalty or overall satisfaction in our multiple regression analyses. This indicates that, although recreation specialization is a widely applied and recognized basis for participant classification among birdwatchers (De Salvo et al., 2020; Harshaw et al., 2020; Scott et al., 2005), even birdwatchers with relatively similar degrees of recreation specialization can have different motivations to visit a destination.

The three groups all ranked the motivational factors *experience nature* and *experience birds* high, and the largest group in the sample, *birds and nature enthusiasts* (41%), gave all motivational factors except for *experience nature* and *experience birds* low scores. Thus, the two most important motivations to visit Hornøya were to experience birds and the natural surroundings. Additionally, the results of the two multiple regression analyses showed that the motivational factor *experience birds* made a significant individual contribution to participants' overall satisfaction, while the motivational factor *experience nature* made a significant individual contribution to participant loyalty. These findings are in line with Beh and Bruyere's (2007) study on motivations among visitors to Kenyan wildlife reserves, who ranked nature and general wildlife viewing as very important, and Miller et al. (2020) study on polar bear tourism participants in USA, who gave high scores to wildlife watching. Moreover, these findings indicate that facilitating and promoting birdwatching experiences and more general experiences of the natural surroundings should be a priority for Hornøya and similar birdwatching destinations.

7.2 Article 2: The wildlife watching experiencescape: the case of musk ox safaris at Dovrefjell-Sunndalsfjella National Park, Norway

Understanding the relationships between experiences, product delivery and the setting is particularly important in the wildlife watching tourism context, because the main attraction (wild animals) can be threatened if activities are managed incorrectly (Curtin, 2005). Moreover, research investigating the dynamics of participants' experiences, also beyond encounters with their target species can help providers develop more enjoyable products that participants will recommend to others. First-rate supporting services may in some cases fully compensate for the deficiency in cases when a main experience is disappointing or lacking (Mossberg, 2007). Additionally, high quality wildlife watching experiences that rely on more elements than the actual encounters with the target species can also reduce the pressure to provide close-up wildlife encounters. Article 2 is an investigation of which elements of the wildlife watching tourism experience are important to participants besides the target species encounter. The concept of the experiencescape was used to theoretically frame the study, and Mossberg's (2007) model of the tourism experiencescape was used as a starting point when identifying which elements could potentially influence the overall experience. According to this model, tourist experiences are different from daily routine experiences. Furthermore, they are influenced by the theme/story, the physical environment, products/souvenirs, other tourists and the personnel. Organized musk ox safaris in Dovrefjell-Sunndalsfjella was used as a case study, and data were collected with a combination of participant surveys, on-site observations and interviews. Participants who joined musk ox safaris during the 2018 peak season were asked to fill out a short on-site form (n = 487), followed by an online survey (n = 219, 52% response rate). Additionally, the author conducted participant observation combined with short travel party interviews at 14 randomly selected musk ox safaris. Short jot notes (DeWalt & DeWalt, 2010) were taken during these safaris, and more detailed field diaries were written after the safaris were over. Interviews were recorded and transcribed. Interview transcripts and field diaries were analyzed applying thematic analysis (Clarke, 2006). Furthermore, the online survey included 19 questions designed to study which parts of the experiencescape were most important to participants, adapted from Mossberg's (2007) model of the tourism experiencescape. They were analyzed applying explorative factor analysis and multiple regression analyses.

As a result of these two data collections, five key factors that influence wildlife watching tourism experiences are suggested: 1) Guiding and interpretation, 2) The focal species encounter, 3) Other wildlife sightings 4) Other participants and 5) Local souvenirs and natural surroundings. These factors are similar to the elements included in Mossberg's (2007) model of the tourism

experiencescape. However, some of the elements were merged because both quantitative and qualitative findings indicated that they were more connected in a wildlife watching tourism context (e.g. personnel and theme were merged in the factor Guiding and interpretation). Additionally, two factors related to the specifics of wildlife watching tourism were added (The focal species encounter and other wildlife sightings). The importance of each of these factors were also assessed through interviews and the multiple regression analysis. Findings indicated that guiding and interpretation was the most important factor for participants' overall satisfaction with the experience, followed by the focal species encounter. The other three factors did not make significant individual contributions to the multiple regression model. However, qualitative data indicated that they had positive effects on participant experiences in some cases. The finding that guiding and interpretation was especially important to wildlife watching tourism participants supports the findings of other studies on wildlife watching tourism (Ballantyne et al., 2011a; Curtin, 2010a; Lück, 2003, 2015). The findings of this article are useful to musk ox safari providers and other wildlife watching tourism providers to better understand the visitors' experiences. They can also be used by managers of national parks and other recreational areas that feature wildlife as a visitor attraction.

7.3 Article 3: In the absence of a main attraction – Perspectives from polar bear watching tourism participants

Encounters with wild animals in their natural surroundings are mainly outside of wildlife watching tourism providers' control. Therefore, wildlife watching tourism's growth and increasing popularity may seem surprising or even paradoxical. Therefore, it has been argued that wildlife watching tourism on the scale that exists today is only possible because animals have been *made* viewable through human intervention (Knight, 2009). In many parts of the world, the wildlife watching tourism industry employs exploitative practices such as food conditioning and habituation in its drive to increase chances of animal sightings (Knight, 2010; Walpole, 2001). However, as these practices have negative effects on wildlife, there are also many examples or wildlife watching tourism providers who do not use them (Margaryan & Wall-Reinius, 2017). In many cases, such practices are also illegal (e. g. Manitoba.ca, 2018; The Svalbard Environmental Protection Act, 2001). Therefore, it is important to understand participants' perceptions on the unpredictable nature of wild animals as main attractions, and which other elements of the experience are important to participants when their target species is not encountered. Article 3 investigated these issues, using polar bear tourism in Svalbard and Churchill as a case study. Digital content in the form of 925 TripAdvisor reviews from participants and information and images displayed on 14 providers' websites were the main sources of data. When analyzing the data, a combination of content analysis (Joffe & Yardley, 2004), thematic analysis (Clarke, 2006) and basic statistical methods was applied.

Results indicated that although seeing polar bears remained important to participants, they mainly respected that sightings were not guaranteed. Reviewer comments on unpredictable wildlife as a main attraction indicated positive feelings towards authentic experiences, as they positively differentiated the polar bear tourism experiences from television shows and zoos. These comments support a previous study on wildlife watching tourism providers, who claim that the possibilities of not encountering wildlife make experiences more authentic (Margaryan & Wall-Reinius, 2017), and claims that the market for authentic wildlife experiences is growing (Bulbeck, 2005). In cases when polar bears were not encountered, other aspects of the experience determined whether reviews were positive or negative, including staff dedication, other participants' behaviors, encounters with other wildlife in the area, signs of polar bears in the area and secondary experiences offered (or not offered). Reviews from participants who did encounter polar bears focused less on these other elements, indicating that they become more important in the absence of the target species. These findings support a previous study on whale watching tourism, where other factors than proximity to whales affected participant experiences (Orams, 2000). Furthermore, they support claims that secondary experiences may in some cases fully compensate for the deficiency in cases when the main experience is

disappointing or lacking (Mossberg, 2007). The findings are also in line with strategies used by Swedish wildlife watching tourism providers who try to provide positive experiences in the absence of the target species by shifting focus to other parts of the experience (Margaryan & Wall-Reinius, 2017). The factor mentioned most often in both positive and negative reviews was staff dedication or lack of staff dedication. This finding is in line with previous studies that highlight the importance of high quality guiding and interpretation in wildlife watching tourism (Ballantyne et al., 2011a; Curtin, 2010a; Lück, 2003, 2015), and the findings in Article 2.

Links found between polar bear tourism provider's websites and reviews indicate that managing expectations through messages and images displayed online was also important to ensure positive participant experiences in the absence of polar bears. This finding support claims that expectations are linked to pre-visit knowledge such as consumer-driven images, and that providers need to be cautious in promoting their reliability, as false advertisement can lead to unrealistically high expectations (Pleger Bebko, 2000; Prebensen et al., 2018; Skinner & Theodossopoulos, 2011; Ziegler et al., 2012). The destination visited also affected participant satisfaction, as reviewers who did not encounter polar bears mainly remained more positive in Svalbard than in Churchill. This is in line with claims that destination image and external communication are two of the main factors influencing visitor expectations of future destination experiences (Rodríguez del Bosque et al., 2009). The findings in this article are important to future development of wildlife watching tourism activities, as providers who understand that it is possible for participants to have positive experiences even in the absence of their target species are more likely to move away from exploitative practices. They also provide some guidance on which elements of the experience should be the main foci when developing wildlife watching tourism activities based on unpredictable target species; managing expectations, focusing on other more controllable aspects of the experience and providing high quality guiding and interpretation.

7.4 Article 4: Centrality to life and the theory of planned behavior: the case of musk ox safaris in Dovrefjell-Sunndalsfjella National Park, Norway

Ajzen's (1985) Theory of Planned Behavior (TPB) is one of the most recognized frameworks for understanding wildlife-related behaviors (Miller, 2017). According to this framework, intentions to perform behaviors can be predicted with high accuracy from attitudes, subjective norms, and perceived behavioral control. Behavioral intentions are usually evaluated as how likely a person is to perform a behavior in the future, with these intentions accounting for a considerable amount of the variance in actual behavior together with perceived behavioral control (Ajzen, 1991). Involvement is another useful concept when studying behavioral outcomes, as highly involved participants can hold more intense attitudes and emotions, that may in turn influence future behavior (Burke & Stets, 1999; Havitz & Dimanche, 1999). Understanding a possible relationship between involvement and TPB may provide further insight on wildlife-related behaviors, as the literature suggests both concepts have effects on behavioral intentions. However, to the best of the authors knowledge there are no previous studies combining TPB and involvement in a wildlife watching tourism context. Meanwhile, one of wildlife watching tourism's main justifications is its potential to improve participants' empathy and actions toward wildlife and the environment (Hughes, 2013). However, some activities are better suited for this purpose than others, and it has been argued that short duration and mass marketed activities oriented toward a single focal species may not have this effect (Curtin, 2013a; Daigle et al., 2002).

Article 4 investigates possible connections between TPB and centrality to life, a concept that is often used a measure of involvement when studying participants' degree of recreation specialization (Bryan, 1977; De Salvo et al., 2020; Scott & Shafer, 2001) and enduring involvement (Forgas-Coll et al., 2017; Jun et al., 2012; Tsai, 2020). Additionally, the article investigates participants' intentions to perform three pro-environmental behaviors that benefits wildlife following a wildlife watching experience: participating in volunteer work that benefits wildlife, donating money to an environmental organization and joining an environmental organization. Organized musk ox safaris in Dovrefjell-Sunndalsfjella National Park was used as a case study, as further research is needed on outcomes associated with charismatic megafauna (Skibins et al., 2013). Data was collected through participant surveys. Participants who joined musk ox safaris during the 2018 peak season were asked to fill out a short on-site form (n = 487), followed by an online survey (n = 219, 52% response rate). The survey included 15 questions designed to investigate participants' perspectives on pro-environmental behaviors based on TPB (Ajzen, 1985) and four questions measuring participants' centrality to life. Responses to these questions were analyzed using three partial

least squares structural equation models (PLS-SEM) that had R^2 values of .46,.49 and .47, indicating satisfactory predictive validity.

Results showed that centrality to life had statistically significant positive relationships with participants' attitudes and subjective norms, whereas its relationship with perceived behavioral control was not significant. This finding supports claims that highly involved participants are likely to hold more intense attitudes and emotions (Burke & Stets, 1999). Furthermore, centrality to life had a statistically significant positive direct relationship with intentions to participate in volunteer work that benefits wildlife, and indirect positive relationships with the other two pro-environmental behaviors through its effects on attitudes and subjective norms. The perceived effects of participating in a musk ox safari was also included in the models, and had a statistically significant positive direct relationship with intentions to participate in volunteer work that benefits wildlife, and indirect relationships with the other two pro-environmental behaviors through its effects on attitudes and subjective norms. This finding supports claims that wildlife watching tourism may lead to improved pro-environmental intentions (Ballantyne et al., 2011b; Ballantyne et al., 2011a). Moreover, it shows that short duration activities based on a single charismatic megafauna species can also have this effect. The findings of Article 4 can be useful to managers of national parks and other wildlife areas when deciding which wildlife watching tourism activities to allow. In areas with vulnerable species, it may not be possible to offer long duration wildlife watching tourism activities or involve all species found in the area. This study shows that a short duration guided wildlife watching experience based on one charismatic species may be a good option in these cases, as musk ox safaris typically lasted four to five hours and still had positive effects on behavioral intentions. Future product development should focus on fostering high involvement, positive attitudes and subjective norms, as both centrality to life and perceived effects of participating had stronger indirect effects through their effects on these elements than their direct effects on intentions to perform pro-environmental behaviors. Additionally, the findings show that centrality to life can add further insight to the TPB, as positive relationships were found between centrality to life and two of TPB's dimensions.

7.5 Connections between the articles

The relationships between the four articles included in the thesis and wildlife watching tourism experiences are shown in Figure 6.

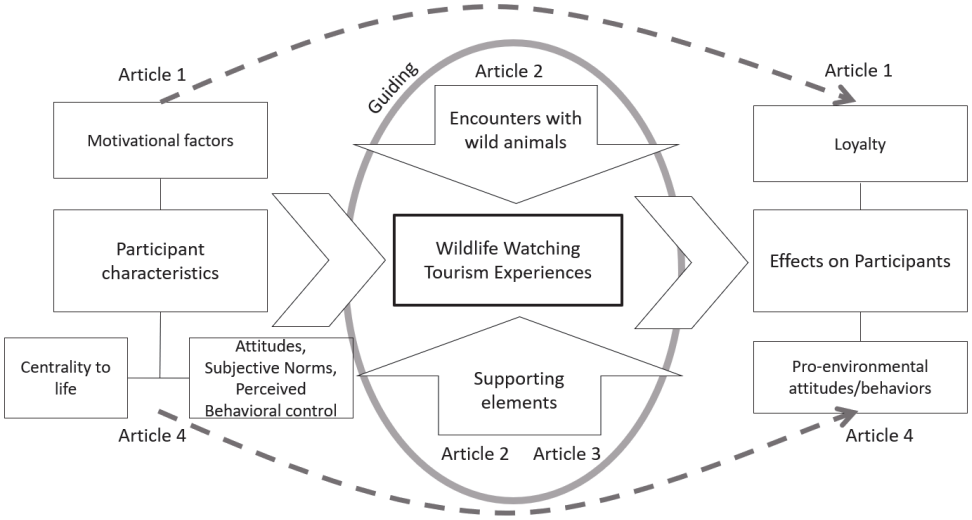

Figure 6 A model of the articles included in the thesis

Article 1 and Article 4 focus on how participant characteristics relate to the wildlife watching experience and two of the desired outcomes of wildlife watching tourism, while Article 2 and Article 3 focus on which elements are important to participants during the wildlife watching tourism experience. As wildlife watching tourism participants are different (Newsome et al., 2005) and experiences can be considered individual constructs (O'dell, 2007), participants' own characteristics have effects on their experiences, and whether the desired outcomes of wildlife watching tourism are possible. Participants' main motivations to visit a wildlife watching destinations were investigated, and positive relationships between some of the main motivations to visit and participant satisfaction and loyalty were found (Article 1). Learning more about which elements are important to participant experiences can help wildlife watching tourism providers design activities which rely on more than the wildlife encounter itself. This is important, because encounters with wild animals are mainly outside of providers' control and attempts to make wildlife more predictable through practices like habituation or food conditioning often have negative effects on the wildlife (Margaryan & Wall-Reinius, 2017). In many cases, such practices are also illegal (e. g. Manitoba.ca, 2018; The Svalbard Environmental Protection Act, 2001). Which elements were most important to participants during a wildlife experience were investigated both among participants who did encounter their target species

(Article 2) and among participants who did not encounter their target species (Article 3). A model of which elements are important to wildlife watching tourism experiences was suggested (Article 2), and participants' perspectives on the unpredictable nature of wild animals as main attractions were studied (Article 3). A main finding of both these articles was the importance of high quality guiding, which had the ability to amplify and connect the other elements of the experience. One of wildlife watching tourism's main justifications is its potential to foster pro-environmental attitudes and behaviors among participants (Ballantyne et al., 2018; Hughes, 2013). While the potential positive environmental outcomes of wildlife watching tourism have been addressed by several studies, positive outcomes vary depending on the location, activity and target species. To contribute to the discussion of this issue, the relationships between two of the concepts that have been used to study participants' environmental intentions following nature experiences were investigated: The theory of planned behavior (Ajzen, 1985) and involvement (Burke & Stets, 1999; Havitz & Dimanche, 1999), measured by centrality to life (Article 4).

8. Discussion

In the following sections, the main findings of the thesis are discussed and connected. The first sections discuss main findings on the participants of wildlife watching tourism, the wildlife encounter, the supporting elements of a wildlife watching tourism experience and the role of the guide. Then, the practical implications of these findings as well as the thesis' main theoretical contributions are discussed.

8.1 The wildlife watching tourism participants

The findings in this thesis confirm that the market for wildlife watching tourism is not homogeneous but consists of a range of different participants, also in the Norwegian setting. Differences were found both between participants at the four study sites that were investigated and between participants at each individual site. For example, the average visitor to Hornøya during the summer season of 2017 was 55 years old (Standard deviation = 13, range = 13 - 82 years old), Finnish or Norwegian and a highly specialized birdwatcher (Article 1). The average musk ox safari participant during the 2018 peak season was 44 years old (Standard deviation = 15, range = 15 – 81 years old), Norwegian or German, and not very specialized when it came to wildlife watching (Article 2 and Article 4). A slight majority of visitors to Hornøya were male (59%) while the genders were equally well represented among musk ox safari participants. The finding that visitors to Hornøya were more specialized than participants at musk ox safaris is similar to Curtin and Wilkes' (2005) finding that two markets coexists in the UK outbound wildlife watching tourism sector; a specialized market with high involvement in particular species (usually birds) and a more general market. However, there were also exceptions as a few musk ox safari participants were relatively highly specialized wildlife watchers/photographers and a few visitors to Hornøya were not specialized birdwatchers. While data on these variables was not available for polar bear tourism participants, the TripAdvisor reviews that were analyzed indicated that both Svalbard and Churchill attracted a variety of participants (Article 3). Furthermore, findings confirm that participants can be motivated by a range of factors when they decide to participate in wildlife watching tourism activities, as three distinct clusters were found among visitors to Hornøya (Article 1). The majority were motivated by experiences of birds and more general nature experiences. Other motivational factors such as escaping everyday life, spending time with family, enhancing one's own abilities and enhancing one's fitness were also important to some of the participants, but not to all of them. These findings are in line with the studies discussed in the second theoretical perspective (participant segmentation, see section 2.2), which found that the market for wildlife watching tourism is diverse, and that participants are motivated by a variety of factors (Buckley & Mossaz, 2018; Curtin, 2010b, 2013a; Curtin & Wilkes, 2005; Kruger et al., 2017; Lemelin, 2006; Miller et al., 2020; Moscardo, 2000; Mutanga et al., 2017).

Findings also showed that participants' own characteristics have effects both on their own experiences and on two of the desired outcomes of wildlife watching tourism:

1) loyal participants that will visit again and/or recommend the activity or destination to others (Article 1), and

2) pro-environmental attitudes and intended behaviors among participants following the wildlife watching experience (Article 4).

At Hornøya, one motivational factor (*experiencing birds*) had effects on participants' overall satisfaction, while another one had effects on participants' loyalty (*experiencing nature*). The other motivational factors did not have significant effects on loyalty or overall satisfaction. These findings indicate that some motivations have greater effects than others, but are also in line with Beh and Bruyere (2007), who found links between wildlife watching tourism participants' motivations and satisfaction with the experience. Furthermore, the findings indicate that promoting and facilitating experiences of both wildlife and nature in general should be a priority for wildlife watching tourism destinations. At Dovrefjell-Sunndalsfjella national park, relationships were found between participants' centrality to life ratings and their subjective norms, environmental attitudes and intentions to perform three pro-environmental behaviors (participating in volunteer work and joining or donating money to an environmental organization). As centrality to life was used as a measure of how involved participants were in wildlife watching tourism, this indicates that more involved participants are more likely to have pro-environmental attitudes and subjective norms, and to perform pro-environmental behaviors. This is in line with claims that individuals who are highly involved in a leisure activity are more likely to hold intense attitudes and emotions about the activity (Burke & Stets, 1999), and previous studies that found positive relationships between involvement and participation in volunteer activities and concern for the environment (Lu & Schuett, 2014; Tsai, 2020). These findings indicate that wildlife watching tourism providers and managers of areas rich in wildlife should aim to foster high involvement among wildlife watching tourism participants. Centrality to life has also been identified as one of the strongest measures of recreation specialization (Needham & Vaske, 2013; Needham et al., 2007), and previous studies indicate that recreation specialization has effects on other concepts measuring future behaviors. Oh et al. (2012) found a positive relationship between specialization and place attachment and De Salvo et al. (2020) found a positive relationship between recreation specialization and birders' travel intentions. Therefore, future studies on how the other dimensions of specialization are related to TPB can provide further insight on participant characteristics and how they influence intended behaviors.

Collectively these findings confirm that which participants a wildlife watching tourism activity attract have effects on the outcomes of the activity. Thus, when marketing wildlife watching tourism destinations or activities, providers and managers should consider their desired audience and adapt product development, marketing and communication accordingly. The findings of this thesis indicate that participants who are already highly involved in wildlife watching tourism are more likely to contribute to positive environmental outcomes. Furthermore, participants who are motivated by general nature experiences are more likely to revisit or recommend the destination or activity to others. Therefore, marketing and product development aimed at these groups may be preferable. However, attracting participants who are already highly involved in wildlife watching tourism may be challenging in cases when activities are based on charismatic megafauna species, because more advanced wildlife watchers tend to show a greater interest in lower profile species (Lindsey et al., 2007). For example, a comparative study of wildlife tourism participants in Norway found that birdwatchers considered birdwatching to be of medium to large importance in their lives, while musk ox safari participants considered the activity to be of little importance in their lives (Stensland et al., 2021). Moreover, motivations also vary depending on the activity. Thus, which participants it is most beneficial to attract most likely varies depending on the site/activity. Nevertheless, the findings underline that it is important to consider which participants would be the best fit for the site/activity, both in terms of which participants it is realistic to attract and which participants are most likely to contribute to positive outcomes.

8.2 The wildlife encounter

Although motivations to join a wildlife watching tourism activity vary, most participants join in hopes of encountering a target group of wildlife species (e.g. arctic birds) or a specific target species (e.g. the polar bear) (Margaryan & Wall-Reinius, 2017). Findings from Hornøya confirm that experiencing birds was one of the main motivations to visit (Article 1), and quantitative findings from Dovrefjell-Sunndalsfjella national park indicate that participants' satisfaction with the musk ox encounter had a significant positive relationship with their overall satisfaction with the safari (Article 2). The importance of the wildlife encounter was also evident during participant observations, and travel party interviews (Article 2). This finding was expected, as the wildlife encounter is considered the main element of the wildlife watching experience. Minimizing the negative effects of the wildlife encounter was also a priority for (at least) one of the study sites. During participant observations of pre-safari briefings in Dovrefjell-Sunndalsfjella national park, guides told participants that their main goal was to make sure that we did not disturb the musk oxen. Their second most important goal was to make sure everyone in the group had a nice time. Moreover, to minimize disturbance they explained that they evaluated both the group and the musk oxen's behaviors when assessing how close they were

willing to let participants get to the musk oxen. While most participants respected this goal and did their best to follow guides' instructions, a few participants strayed from their groups and got too close. As a result, musk oxen became scared and ran away from the group at two of the fourteen safaris that were joined to conduct participant observation. These observations indicate that even at activities where providers have good intentions and make efforts to minimize disturbance on wildlife, some disturbance can happen. This is in line with previous studies, which suggest that participants may not always be aware of the negative consequences their actions have on wildlife and that very little wildlife watching tourism could claim a zero impact on wildlife (Burns, 2017; Moore et al., 2015). However, in the case of Dovrefjell-Sunndalsfjella national park, guides explained that musk ox safaris had greatly improved local perceptions of the musk ox, which is formally considered a reintroduced species. While it is difficult to estimate the effects of a positive image among local stakeholders, efforts to increase or maintain biodiversity are sometimes justified in terms of the perceived benefits to humans (Clergeau et al., 2001). As the musk ox is not considered endangered or even native to Norway, its status as a tourist attraction might be one of the reasons the individuals found in Dovrefjell-Sunndalsfjella national park can remain in the designated musk oxen area of 340 km^2. This example is in line with Green (2017), who claims that the pros and cons of wildlife watching tourism tends to lie along a spectrum rather than falling into discreet categories, and that sometimes compromises must be found between what is ideal for different stake-holders, including wildlife itself.

Another main finding was a strong link between the wildlife encounter and photography (Article 2). Musk ox safari participants who were interviewed in Dovrefjell-Sunndalsfjella national park often mentioned that taking photographs of the target species was the main reason they joined the safari. Furthermore, during musk ox encounters observed through participant observation, most participants spent the first few minutes in complete silence, taking pictures of the musk oxen. Thus, while photographs taken by the tourists can be considered souvenirs after a wildlife watching activity is over, the act of taking the photographs was identified as an important part of the interaction with the target species during musk ox safaris. This is in line with Curtin (2010b), who found that photographs can be taken as records of identification or to consolidate memories, but also purely for challenge and satisfaction. The importance of taking good photographs of the focal species has also been a cause of concern in the wildlife watching tourism literature. Fennell and Yazdan panah (2020) found that the codes of ethics for wildlife photography fail to provide participants with any rational to follow them. Additionally, Lemelin (2006) cautions that photography may increase the danger of wildlife watching tourism degrading into a gawk; a form of entertainment or a quest for collectables in

controlled, or worse, fabricated areas. Moreover, reproduction of animal-based tourism experiences in social media and the tendency to convey partly selective or false impressions may build expectations and contribute to a culture of commodification (von Essen et al., 2020). The act of self-photography, or taking a selfie with an animal can also quickly turn into a safety issue for participants (Weiler et al., 2021).

Even though findings showed that participants mainly joined the wildlife watching tourism activities investigated in hopes of encountering the target species, participants also mainly understood that these encounters were outside of providers' control. TripAdvisor reviews from polar bear watching tourism participants in Churchill and Svalbard indicated that the unpredictability of the wildlife encounter can make the experience more authentic (Article 3). Reviewers positively differentiated their experiences from television shows or zoos and provided advice on how future participants should behave and what to expect. Furthermore, readers were warned that sightings were not guaranteed, nor was the opportunity to view polar bears up close or to view polar bears that were active in cases when polar bears were found. These comments support a previous study discussed in the first theoretical perspective (Tourism experiences, see section 2.1.2) which claims that the possibility of not encountering wildlife make wildlife watching tourism experiences more authentic (Margaryan & Wall-Reinius, 2017). Conversations with musk ox safari participants during participant observation in Dovrefjell-Sunndalsfjella national park also indicated that they were prepared for the possibility that they would not be able to encounter a musk ox. One participant had heard that chances were about 50% and joined two musk ox safaris during his stay. Others mentioned that it was a nice nature hike in any case and that they understood that the musk oxen were wild animals that could not be controlled. While the findings of this thesis indicate that participants mainly respected that they might not be able to encounter their target species, other studies show that activities based on habituated or food provisioned wildlife also remain popular in many parts of the world and that some participants would rather join such an activity because these measures make the encounter more guaranteed (Knight, 2010; Walker et al., 2006; Ziegler et al., 2018). These differing findings indicate that participants' willingness to accept unpredictable wild animals as main attractions or the use of exploitative practices to make them more predictable vary greatly. Participants perceptions most likely depend on their own characteristics, including the concepts that were discussed in the fourth theoretical perspective (Human relationships with wildlife, see section 2.4): wildlife value orientations (Fulton et al., 1996), world views (Campbell, 1983), attitudes (Manfredo, 2008), and social or personal norms (Ajzen, 1985; Schwartz, 1977). However, the variation in findings may also be partially explained by differences in how wildlife activities are communicated and performed. Findings

from Churchill and Svalbard indicated that managing expectations through messages and images displayed on the tourism suppliers' websites were important to ensure positive participant experiences in the absence of polar bears (Article 3). Reviewers who did not encounter polar bears tended to be more negative when providers displayed many pictures of polar bears and indicated high chances of encounters on their websites, while reviewers mostly remained positive in cases when providers displayed warnings that encounters were not guaranteed. This finding supports previous studies discussed in the first theoretical perspective (Tourism experiences, see section 2.1.2) which claim that expectations are linked to pre-visit knowledge, including consumer-driven images (Skinner & Theodossopoulos, 2011), and that providers need to be cautions in promoting their reliability, as false advertising can lead to unrealistically high expectations (Chen et al., 2018; Pleger Bebko, 2000; Ziegler et al., 2012).

8.3 The supporting elements of a wildlife watching experience

Though encounters with the focal species were identified as main elements of the wildlife watching activities included in this thesis, findings indicate that other supporting elements may also greatly improve or worsen overall wildlife watching tourism experiences. These elements include the natural surroundings, encounters with other wildlife in the area, other participants or wildlife watchers at the site, souvenirs and secondary but more guaranteed side experiences. Findings from Dovrefjell-Sunndalsfjella national park indicate that these supporting elements are not the most important reasons for participants' satisfaction with the wildlife watching activity when the target species is encountered, because the relationships between satisfaction with supporting elements and overall satisfaction were not significant in the quantitative analysis (Article 2). However, participant observations and travel party interviews indicated that these elements made positive additions to many of the musk ox safaris. For example, several participants mentioned encounters with other wildlife in travel party interviews and a few participants were very excited that they had been able to find musk ox wool they could take home as souvenirs. Many participants also mentioned the natural surroundings as an important element of their musk ox safari. Thus, these supporting elements were often positive additions, even if they were not the main reasons why participants were happy or unhappy with their overall wildlife watching tourism experiences. Moreover, a main finding from Svalbard and Churchill was that these supporting elements become much more important in cases when the target species is not encountered (Article 3). Most reviewers who had not encountered polar bears mentioned other elements of their experiences as the main reasons why their review was positive or negative. The element mentioned most frequently in these reviews was staff dedication. However, supporting elements were also mentioned as main reasons why reviews were positive on several occasions, including other participants' behavior, the natural surroundings, encounters with other wildlife in the area, signs that polar bears were present in

the area as well as secondary more guaranteed side experiences (such as driving a snow scooter, having lunch by a glacier or getting to drive a tundra vehicle under the driver/guide's supervision). These findings are in line with claims that when the main experience is lacking or disappointing, first-rate supporting services may compensate for this deficiency (Mossberg, 2007). Furthermore, they support claims that a number of other elements are important to wildlife watching tourism besides encountering the target species, and that possible experiences are possible even in the absence of the target species (Orams, 2000). However, there are also several studies on wildlife watching tourism that indicate the wildlife encounter itself is necessary for participants to have positive experiences (Davis et al., 1997; Valentine et al., 2004; Ziegler et al., 2018). The somewhat conflicting findings of these studies and the findings of this thesis confirm that wildlife watching tourism experiences can be framed and performed very differently. Nevertheless, the findings from Svalbard and Churchill indicate that other elements do in some cases determine whether participants are happy or unhappy with their overall experience when the target species is not found (Article 3). This indicates that it is possible to provide wildlife watching tourism based on unpredictable target species without the use of exploitative practices, and that expectations management and more predictable side experiences can be used to facilitate positive experiences. One important aspect of how a wildlife watching experience is framed and performed is the guiding provided or not provided during the experience.

8.4 The role of the guide

The findings of this thesis support previous studies on guided wildlife watching tourism and other forms of nature based tourism discussed in the third theoretical perspective (see section 2.3), that acknowledge the importance of high quality guiding and interpretation (Ballantyne et al., 2011a; Curtin, 2010a; Ham & Weiler, 2002; Lück, 2003, 2015; Vold, 2015; Weiler & Davis, 1993). Having a dedicated and capable guide was important, both to participants who encountered their target species and participants who did not encounter their target species. Moreover, guides were able to improve participants' experiences by adapting to participants' characteristics, as well as enhancing and connecting the wildlife encounter and the supportive elements of the experience. At musk ox safaris in Dovrefjell-Sunndalsfjella national park, satisfaction with the musk ox encounter was expected to have the strongest relationship with overall satisfaction. However, the relationship between satisfaction with guiding and interpretation and overall satisfaction was slightly stronger in the quantitative analysis (Article 2). This was also supported by qualitative findings; participants often mentioned the guiding as one of the main reasons they were happy or unhappy with the musk ox safari and participant observation showed that the guides oversaw most aspects of the safaris. Guiding was also

mentioned most frequently as the main reason polar bear tourism participants in Svalbard and Churchill wrote positive or negative reviews on TripAdvisor when they had not encountered polar bears, indicating that it is also important to the overall experience when the target species is not found (Article 3).

Moreover, findings from these three areas show that there are several elements included in the guides' roles during wildlife watching tourism experiences. Participant observations in Dovrefjell-Sunndalsfjella national park showed that guides actively attempted to improve participants' experiences by providing expected services such as locating musk oxen and navigating the natural surroundings to the best of their abilities (Article 2). Furthermore, they often attempted to go beyond these expected services by, for example, surprising their travel party with cinnamon buns from the local bakery, bringing a telescope so that participants could take better pictures of the musk oxen, or finding musk ox wool for participants to bring home with them after the safari. Guides also provided nature interpretation, focusing on musk oxen, other wildlife in the area such as reindeer, lemming and the arctic fox, plants in the area, the national park and threats to the local ecosystem and musk oxen. Two of the travel parties that were interviewed had enjoyed the guiding provided at a previous safari so much that they had stayed in touch with their guide and was now participating in their second musk ox safari. In these cases, the relationships between the guides and the participants had evolved and were close to friendships. This is in line with Vold (2015), who found that a goal nature guides strive for is for their group to become friends on tour. TripAdvisor reviews from polar bear watching tourism participants in Churchill and Svalbard indicated that guides' skills and dedication was very important also when the target species was not found (Article 3). When guides gave up the search for polar bears early, spoke in a language the participants did not understand or appeared not to be looking for polar bears the entire time, this resulted in negative reviews. When guides tried their best to find polar bears, shifted participants' attention to other more controllable aspects of the experience, showed participants signs of polar bears in the area, were friendly and provided high quality interpretation reviews were mainly positive even in the absence of polar bears.

Collectively, these findings support previous studies (Cohen, 1985; Randall & Rollins, 2009; Weiler & Davis, 1993) that suggest guiding in natural surroundings consist of the instrumental, interactional, social, communicative, motivational and environmental interpretation components. However, although support was found for all six components, the findings suggest that there are additional sub-elements of guiding wildlife watching tourism activities that are not fully covered by these components. Examples include the many ways guides can improve experiences when the target species is not encountered, and the ways guides can improve

experiences of the target species when it is encountered. The relationship between Cohen's (1985) four original components, the two additional components suggested for guiding in natural surroundings (Randall & Rollins, 2009; Weiler & Davis, 1993) and the findings from Svalbard, Churchill and Dovrefjell-Sunndalsfjella national park are summarized in Figure 7.

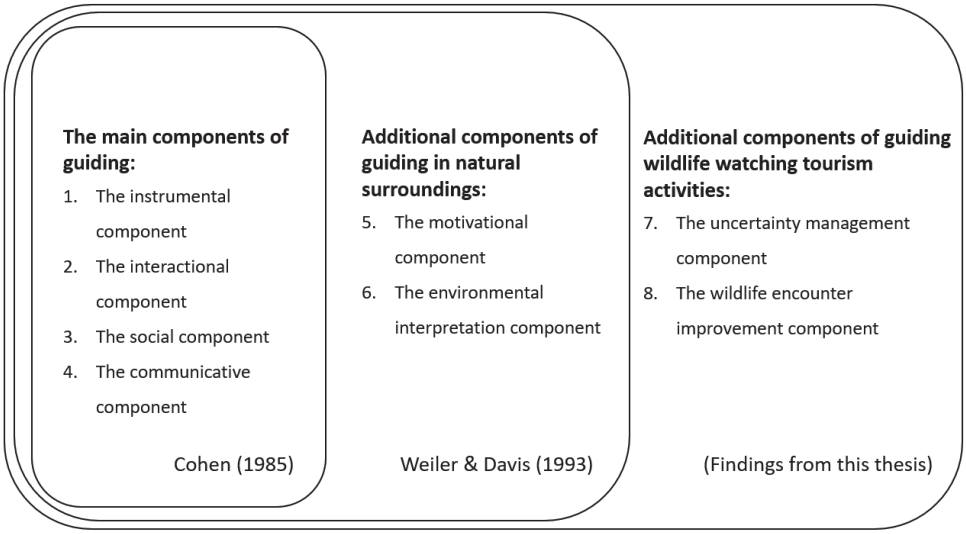

Figure 7 The main component of guiding, guiding in natural surroundings and guiding wildlife watching tourism activities (adapted from Cohen, 1985 and Weiler & Davis, 1993)

As shown in the figure, two additional components (the uncertainty management component and the wildlife encounter improvement component) are suggested for guiding wildlife watching tourism activities, based on the studies in this thesis (Article 2 and Article 3). Findings suggest that a very important element of guiding wildlife watching tourism activities in natural surroundings is to make any encounters with the target species or other wildlife in the area as good as possible (Article 2). This element is partially covered by other components, such as the instrumental component which includes providing access and safety, the communicative component which includes providing information and interpretation, and the motivational component which includes managing participants impacts onsite (Cohen, 1985; Weiler & Davis, 1993). Wildlife watching tourism guides who master these components can provide safe wildlife encounters for their participants, improve the encounters through information/interpretation and manage the encounter to avoid or reduce negative impacts on wildlife. However, some musk ox safari guides in Dovrefjell-Sunndalsfjella national park also improved encounters by bringing equipment that helped participants view and photograph wildlife, such as telescopes or binoculars. Others improved encounters by arranging for

participants to have their packed lunch at a spot where it was possible to view the target species or other wildlife. Given that these ways of improving the wildlife encounter are not fully covered by the other components of guiding in natural surroundings, and that there are only certain aspects of the existing components that are applicable to the wildlife watching encounter, the additional component *wildlife encounter improvement* is suggested. This component involves managing encounters with wildlife through securing correct behavior from participants (distance to wildlife, correct ways of approaching the wildlife and so on) and finding ways to enhance these encounters through staging, interpretation and equipment.

Another important aspect of guiding wildlife watching tourism activities is to manage the uncertainty surrounding whether encounters with the target species is possible (Article 3). Again, this aspect is partially covered by existing roles such as the social component which includes tension-management and securing group morale, and the communicative component which involves providing information and selecting points of interest to show the party (Cohen, 1985). However, these components only partially cover all the ways that wildlife watching tourism guides deal with the unpredictable nature of their main attractions. Examples of good uncertainty management from polar bear watching tourism guides in Svalbard and Churchill included providing secondary but more guaranteed side experiences, keeping participants expectations at realistic levels and shifting participants attention towards other elements of the natural environment. The uncertainty element was also challenging to musk ox safari guides, even if most safari companies had success rates of around 99% (Article 2). Participant observations revealed that how far the party would have to hike and in what type of terrain varied greatly depending on where the musk oxen were located. This also affected the length of the musk ox safaris, as guides generally kept on hiking until musk oxen were encountered, and whether the encounter happened at the beginning, middle or end of the safari. To reduce the uncertainty element, the musk ox safari guides all worked together to locate the musk oxen and informed each other about the location of the animals they encountered. They also managed participants expectations by explaining how they worked to find musk oxen, where the musk oxen were last seen, how far they estimated that the hike to find musk oxen would be and what type of equipment participants should bring. Given that not all these elements are covered by the existing components of guiding in natural surroundings, the additional component *uncertainty management* is suggested. This component includes managing participants expectations, shifting participants attention to other elements of the natural surroundings, providing secondary experiences and reducing uncertainty through securing information on the target species last known location. This component is also in line with findings from previous studies on guided wildlife watching experiences and northern lights tourism which also rely on

a spatially and temporally discontinuous natural main attraction (Heimtun & Lovelock, 2017; Margaryan & Wall-Reinius, 2017).

8.5 Practical implications

Results from a survey of nature based tourism providers in Norway indicate that providing excellent nature experiences was considered one of the most important factors for success for firms offering nature based activities, including wildlife watching tourism (Fossgard & Stensland, 2021). Thus, the knowledge on Norwegian wildlife watching tourism activities provided in this thesis may be useful to the future development of wildlife watching tourism activities in Norway and for nature based tourism firms offering such activities. The findings underline that there are more elements of importance to a wildlife watching tourism experience than the target species encounter. Furthermore, they underline the importance of managing wildlife watching tourism participants' expectations and how they behave during wildlife watching tourism activities. This is in line with Fennell and Yazdan panah (2020) who emphasize that, as wildlife tourism continue to grow as an important sector of the tourism industry, care needs to be taken into how tourists interact with the natural world. This point is also stressed by Lemelin (2006), who suggests that a central question to ask is: "*What do you want to provide the wildlife tourist with? The opportunity to photograph a big cuddly animal? Or the opportunity to see and understand an extraordinary rare and complex creature, living its life in its natural environment*." (Lemelin, 2006, p 531). While very few wildlife watching tourism activities can claim to have zero negative impacts on wildlife, the extent of these impacts vary depending on how the activities are executed (Burns, 2017). This thesis' emphasis on how other elements than the target species encounter itself can enhance the wildlife watching tourism experience is an effort to help providers find ways to provide high quality experiences while reducing negative impacts on wildlife and contributing to positive outcomes. Findings indicate that other elements wildlife watching tourism providers should focus on include:

1) Carefully considering which participants marketing and communication should be aimed at
2) Managing expectations, both before and during the wildlife watching tourism activity
3) Shifting participants focus towards the supportive elements of the experience including the natural surroundings and other wildlife
4) Providing high quality guiding and/or interpretation, and
5) Supplementing the wildlife watching tourism experience with secondary more guaranteed activities

While some of the supporting elements of a wildlife watching tourism experience, such as the natural surroundings and other wildlife, are not necessarily within the activity providers'

control, other elements such as guiding, interpretation and secondary activities is possible to enhance (Article 2 and Article 3). However, some of the supporting elements that are outside of the providers' control are more predictable than the encounters with the target species, such as the natural surroundings. While the thesis does not suggest providers should manipulate these elements, they should be given enough attention during the experience for participants to appreciate them. The findings of the thesis also suggest that participants' own characteristics have effects on at least two of the potential positive outcomes of wildlife watching tourism (Article 1 and Article 4). This does not suggest that participants who do not have the characteristics associated with positive outcomes should be avoided altogether. However, it does indicate that wildlife watching tourism providers should carefully consider which participants they would like to participate in their activities, and which participants are likely to participate. They can then adapt marketing and communication strategies accordingly. Furthermore, if providers are aware of who their participants are, they can also adapt guiding and other elements of the activity to facilitate wildlife encounters that are as safe and enjoyable as possible for both participants and wildlife.

The findings also have implications for managers of natural areas rich in wildlife. Guiding was identified as a key component of wildlife watching tourism experiences (Article 2 and Article 3), indicating that guided experiences should be facilitated and promoted when possible. In addition to improving participants' experiences, high quality guiding can help prevent visitor behaviors that put unnecessary stress on the target species. For wildlife watching tourism guiding to have these effects, quality control and/or certification is needed. While there is no national guidelines for certifications of wildlife watching tourism guides in Norway, some areas have local requirements. For example, only certified guides can legally offer commercial musk ox safaris in Dovrefjell-Sunndalsfjella National park, and to become a certified musk ox safari guide, potential guides must complete a course and an apprenticeship with one of the already certified guides (Rangbru & Seljevoll, 2017). Requirements such as this one are advisable for all wildlife destinations that offer guided experiences to secure high quality guiding that improves participant experiences and reduces negative impacts on wildlife.

It is also important to facilitate high quality participant experiences at unguided wildlife watching sites. This can among other things be done by providing facilities such as birdwatching sheds, viewing platforms or hiking trails. It can also be done through interpretation materials such as interpretative signs, GPS-based games, smartphone apps or videos (Ham & Weiler, 2002; Schneider & Schaal, 2018). In this setting it is also important to manage interactions to reduce negative impacts on wildlife. Managers should develop impact standards for the viewing experiences to know when to take action, and potential management actions which can be taken

to reduce negative impacts include education, development and regulation (Vaske et al., 2002; Whittaker et al., 2002a). According to Abrams et al. (2020), interpretative messaging should not only cover the negative impacts humans could have on wildlife, but also communicate the benefits following rules can have on visitors' experiences. The finding that participant characteristics have effects on at least two of the desired outcomes of wildlife watching tourism (Article 1 and Article 4) are also relevant to unguided wildlife watching sites when they decide which participants marketing and communication efforts should be aimed at. Additionally, to design actions and influence behavior, managers need to build on knowledge about their visitors (Vaske et al., 2002). Another key finding in this setting is related to expectations management. Participants who did not encounter polar bears during their wildlife experience in Churchill were more negative than participants who did not encounter polar bears in Svalbard (Article 3). While this finding is partially related to the price levels and success rates at the two destinations, it is also related to participants' perceptions of Churchill and Svalbard as wildlife watching areas. This indicates that managers of wildlife watching areas should be cautious when marketing wildlife attractions, as false advertising can lead to unrealistically high expectations (Chen et al., 2018; Pleger Bebko, 2000; Ziegler et al., 2012) and decrease visitors' overall satisfaction. Additionally, findings from Dovrefjell-Sunndalsfjella national park indicate that short-duration wildlife watching activities based on a single species can be positively related to participants' intentions to perform pro-environmental behaviors when high quality guiding and interpretation is provided (Article 4). This finding may be useful when deciding which WWT activities to allow. In areas with vulnerable species, it may not be possible to offer long duration or frequent WWT activities. In such cases, short duration guided wildlife watching experiences may be a better alternative.

8.6 Theoretical contributions

This thesis is a novel contribution to the literature on Norwegian wildlife watching tourism. More information on wildlife watching tourism in this area is important, as Norway is promoted as the last refuge for some of Europe's most intriguing wildlife (Lonely Planet, 2021; Visit Norway, 2018) and there is potential for future growth in Norwegian wildlife watching activities (Haukeland et al., 2021). There are many studies on wildlife watching tourism activities in other countries (See for example Abrams et al., 2020; Ayazlar, 2017; Ballantyne et al., 2009; Curtin & Wilkes, 2005; Lemelin, 2006; Li et al., 2013). However, the existing literature suggest that the overall negative and positive impacts of wildlife watching tourism vary depending on a range of factors such as: the location and the species targeted, laws and regulations, modes of access, the nature of the interactions with wildlife, the amount and

frequency of people accessing the area, modes of access, visitor expectations, levels of visitor education and awareness, and whether the wildlife watching experience is accompanied by interpretation (Bulbeck, 2005; Burns, 2017; Jacobs & Harms, 2014; Newsome et al., 2005). Therefore, the knowledge on Norwegian wildlife watching tourism activities provided in this thesis may be useful to the future development of wildlife watching tourism in Norway.

The thesis supports previous studies that suggest motivational factors can be used to classify wildlife watching tourism participants (Miller et al., 2020; Mutanga et al., 2017), and confirm that they may also be used to classify birdwatchers, a group of wildlife watching participants that has previously mainly been classified by applying recreation specialization (Article 1). Three distinct clusters of birdwatchers were found, and while all three clusters were motivated by experiences of birds and nature, the importance of other motivational factors varied between groups. Moreover, links were found between the motivational factor *experience birds* and overall satisfaction, and the motivational factor *experience nature* and destination loyalty. These findings corroborate previous studies on other wildlife watching tourism experiences, which indicate links between motivation and overall satisfaction (Beh & Bruyere, 2007; Miller et al., 2020), and suggest that motivations also influence destination loyalty towards wildlife watching sites. The findings also contribute to the literature discussed in the second theoretical perspective (Participant segmentation, see section 2.2). The thesis is also one of few studies that focus on the unpredictable nature of wild animals as main attractions, and how other more controllable elements can improve the overall wildlife watching tourism experience in the absence of wildlife (Article 3). Wildlife watching tourism providers' perceptions and strategies for dealing with this issue has been assessed in a previous study (Margaryan & Wall-Reinius, 2017). However, the findings of this thesis provides information on the participants' perspectives by analyzing their reactions when they were not able to encounter their target species. A key finding on this issue was that it is possible to provide positive experiences for wildlife watching tourism participants even in the absence of their target species, and that other more controllable elements of the experience can be used to achieve this goal. Additionally, the thesis provides further insights on how these other elements improve the overall wildlife watching tourism experience when the target species is encountered, and suggests a wildlife watching tourism experiencescape, based on Mossberg's (2007) model of the tourism experiencescape (Article 2). While the experiencescape has been applied to several other forms of tourism (Fossgard & Fredman, 2019; McLeay et al., 2019; Tresidder & Deakin Emmie, 2019; Vespestad & Hansen, 2019), it has not been applied to other studies on specific wildlife watching tourism activities until now. These findings contribute to the literature discussed in the first theoretical perspective (Tourism experiences, see section 2.1).

Additionally, the thesis corroborates previous studies on wildlife watching tourism and other forms of nature based tourism, that underline the importance of high quality guiding (Ballantyne et al., 2011a; Curtin, 2010a; Ham & Weiler, 2002; Lück, 2003, 2015; Vold, 2015; Weiler & Davis, 1993). Previous studies and findings from the thesis are combined in a model highlighting the different components required for guiding in general, guiding in natural surroundings and guiding wildlife watching tourism experiences (Figure 7). This finding is important, as it not only underlines the importance of high quality guiding but assess which specific elements of high quality guiding are important at wildlife watching tourism activities. It also provides some insight on how guiding wildlife watching tourism activities is different from guiding other nature based tourism experiences. Moreover, it contributes to the literature discussed in the third theoretical perspective (Guiding & interpretation, see section 2.3). The thesis also contributes to the discussion of wildlife watching tourism's ability to enhance participants pro-environmental attitudes and behavioral intentions by connecting participants' involvement (Burke & Stets, 1999; Havitz & Dimanche, 1999), measured by centrality to life to the theory of planned behavior (Ajzen, 1985; Article 4). Findings indicated positive relationships between centrality to life and both attitudes and social norms, indicating that the concept can add further insight to the theory of planned behavior. Finally, previous studies indicate that there is a subset of participants who are more likely motivated by contributions to conservation than the majority (Buckley & Mossaz, 2018), and the finding that centrality to life was connected to the pro-environmental behaviors tested in Article 4 may help identify pro-environmental segments. These findings contribute to the literature discussed in the fourth theoretical perspective (Human relationships with wildlife, see section 2.4), and the discussion of ethical issues in wildlife watching tourism.

9. Limitations and suggestions for further research

This thesis is based on a mixed methods study of four wildlife watching tourism sites, selected to study participants experiences with wildlife watching tourism activities. The mixed methods approach aims to combine the strengths of qualitative and quantitative data to develop a stronger understanding of the research problem or questions (Creswell & Creswell, 2018). However, it has been argued that little consensus exists about exactly what constitutes a mixed methods approach, and that many contemporary studies labeled as "mixed methods" lack qualitative-quantitative data integration (Mortenson & Oliffe, 2009; Teddlie & Tashakkori, 2009). As each of the four articles included in the thesis aim to explore different elements of the wildlife watching tourism experience and it was not possible to apply both qualitative and quantitative approaches at all of the study sites within the timeframe of the PhD, these are valid concerns also in this study. However, the overall findings discussed in this synopsis include findings from all four articles and discuss each individual article's contribution to the overall research topic. Another concern that has been raised is that maintaining a balance between the qualitative and quantitative research traditions may be a challenge because it is easy for any researcher to focus more on the tradition they are most comfortable with (Dawadi et al., 2021). This was also a concern when planning the data collections of this PhD project, and measures were taken to avoid focusing too much on qualitative research methods. As a result, the data collection consisted of two surveys, one traditional qualitative data collection with participant observations and short interviews, as well as one digital content analysis which mainly focused on qualitative thematic analysis. However, one of the qualitative data collections was conducted at the same site as one of the quantitative data collections (Dovrefjell-Sunndalsfjella National Park), and quantitative findings were included in two articles from this while qualitative findings were only included in one. The pragmatic research paradigm has also been criticized, most commonly for its focus on "getting the job done" rather than on epistemological integrity (Giddings & Grant, 2007). However, it is the most commonly applied research paradigm when applying mixed methods because it accommodates the diverse nature of these methods (Creswell & Clark, 2017; Teddlie & Tashakkori, 2009). It also provides a constructive alternative to the "paradigm wars" by allowing the researcher to focus on finding a solution to the problem being investigated (Pansiri, 2005; Powell, 2001). For these reasons it was deemed the most appropriate approach to the research presented in this thesis.

The findings of this thesis cannot be generalized to all wildlife watching tourism activities. However, they may provide some useful insights and suggestions for similar activities. To help readers evaluate whether the studies are relevant to their situation or not, both the findings and the methodological approaches applied are described as thoroughly as possible in the individual

articles and in this synopsis, as advised by Merriam (1998). Additionally, the overall study included activities based on three types of target species: birds, large herbivores and large carnivores, to capture some of the variety in wildlife watching tourism activities offered. To better capture this variety, future studies in Norway could address other species groups such as marine mammals or smaller carnivores. Moreover, this thesis investigated three guided activities and only one wildlife viewing site where visitors approached wildlife on their own. Thus, further research on unguided wildlife watching tourism experiences in the Norwegian setting can provide more insight on Norwegian wildlife watching tourism experiences.

There were also several topics of interest to the overall wildlife watching tourism experience that it was not possible to fully investigate within the timeframe of the PhD project. One of the main contributions of this thesis is the development of a wildlife watching tourism experiencescape (Article 2). However, the development of this experiencescape was based on musk ox safaris in Dovrefjell-Sunndalsfjella national park, and it was not possible to test the experiencescape at other wildlife watching tourism activities within the timeframe of the PhD project. Further research is needed to assess whether the elements from the general tourism experiencescape (Mossberg, 2007) which were merged in this setting should be considered the same element also at other wildlife watching tourism activities. For example, findings from Dovrefjell-Sunndalsfjella indicated that souvenirs and the local natural surroundings were connected in this setting. However, this finding was most likely influenced by the fact that most of the guides in the area did not sell traditional souvenirs but rather gave participants musk ox wool, edible mushrooms and other "souvenirs" they found in the natural surroundings free of charge. Additionally, further research is needed to test whether the two additional elements "*the focal species encounter*" and "*other wildlife sightings*" should be added to the model as two separate elements or as a single element which include all wildlife encounters. Another interesting finding that was not implemented in the final articles is that the safety of visitors who enter the designated musk oxen area without a guide has been a concern in Dovrefjell-Sunndalsfjella national park (studied in Article 2 and 4). In a few cases musk oxen have become aggressive and seriously injured visitors who came too close to them. Several participants who were interviewed explained that they were aware of these concerns and had decided to join a guided safari for safety reasons. Some participants had also been scared when the group encountered musk oxen, while others found this danger element exciting. Further research is needed to address how fears like these relate to participants' overall wildlife watching tourism experiences, and why participants who are afraid of the target species still choose to participate. Additionally, a key finding in this thesis was the connection between the wildlife encounter and photography (Article 2). Further research is needed to investigate how far wildlife viewers are

willing to go to take the perfect photograph, for example in terms of breaking or following rules about appropriate distances to wildlife or food provision. A related topic is camera traps, which can be used to take pictures of the target species without approaching it. Future studies can investigate whether images taken using this method can compensate in cases when the target species is not encountered. Additionally, the findings of Article 4 showed that centrality to life can add further insight to the Theory of Planned Behavior (TPB), as positive relationships were found between centrality to life and two of TPB's dimensions. As centrality to life is often used as one of the main dimensions of recreation specialization (Bryan, 1977), future studies on how the other dimensions of specialization are related to TPB can also provide further insight on participant characteristics and how they influence future behaviors.

Further research is also needed on the unpredictable nature of wild animals as main attractions. Although polar bear tourism was perceived as an activity with low success rates, most reviewers included in the initial analysis for Article 3 had seen polar bears, resulting in a smaller sample of TripAdvisor reviews than anticipated. Furthermore, TripAdvisor reviews do not provide data on the socio-demographics of the subsample that was examined. Thus, to better understand participant perceptions of the possibilities that their target species may not be found, an expansion of this study using interviews, focus groups and surveys with tourists and operators to triangulate the themes and outcomes identified in Article 3 may be useful. Further research on activities with lower success rates than polar bear watching tourism may also provide a larger sample of tourists who did not encounter their target species and provide further insight on which factors contribute to positive or negative experiences. Similarly, the results of Article 1, Article 2 and Article 4 were based on surveys with relatively small sample sizes (248 respondents at Hornøya and 219 respondents at Dovrefjell-Sunndalsfjella national park). While these samples were deemed representative for visitors to Hornøya during the summer season of 2017 and participants at organized musk ox safaris during the 2018 peak season, larger samples generated over longer periods of time might yield different results. Additionally, the sample from Dovrefjell-Sunndalsfjella national park was based on organized musk ox safaris. However, due to the right of public access (Friluftsloven, 1957), not all wildlife watchers in the area participated in guided activities, and similar studies on visitors searching for musk oxen on their own might also yield different results.

It is also important to keep in mind that the findings of this thesis do not account for the effects of the measures implemented in Norway and the rest of the world due to the global COVID-19 pandemic, as data were collected before these measures were implemented. The overall effects on Norwegian wildlife watching tourism are uncertain, as it has both been argued that the entire

tourism industry is facing an unprecedented crisis (NHO Reiseliv, 2021), and that the demand for nature based experiences has increased due to restrictions on indoor activities (Fredman et al., 2021). While there are few studies on how the global pandemic has affected wildlife watching tourism, an international study on birdwatchers showed that the most significant change in birdwatchers' behavior was related to the geographic coverage of their birdwatching activities, which became more local (Randler et al., 2020). Similarly, a few Norwegian wildlife watching tourism providers were interviewed by the media, and reported that the number of participants during the 2020 peak season remained the same, but that the share of Norwegians was much larger than before (Solheim & Jæger, 2020). As the world grappled with the pandemic and international tourism stopped in 2020, stories also surfaced on social media claiming that wildlife was returning to quarantined cities and that earth was healing itself. According to Crossley (2020) these stories represented hope that symbolizes life, regeneration and resilience, sentiments that may contribute to hopeful tourism in the post-COVID19 era. The COVID-19 pandemic may also have effects on wildlife watching tourism's impacts. On a global scale it has been argued that negative pressures associated with tourism appear to be reduced in many wildlife areas, but that the loss of tourism revenues can have negative effects on wildlife in the future, because tourism funds a lot of conservation initiatives and helps to protect wildlife (Newsome, 2020). However, further research is needed to investigate COVID-19's effects on both the Norwegian and the global wildlife watching tourism industry.

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Appendices

Appendix 1: Onsite questionnaire distributed at Hornøya (English version)

BIRDWATCHING IN VARANGER 2017

Hornøya and Vardø harbour

Within the research project "BIOTOUR", financed by the Research Council of Norway, we are conducting a survey among birdwatchers in Varanger to learn more about how we can develop better and more sustainable types of birdwatching tourism. At this point, we would like to invite you to register for the survey with your email address and a little bit of information about yourself and your trip. In autumn 2017, you will receive a web-based questionnaire about your experiences in Varanger. All personal data will be treated confidentially. Your answers will help to develop sustainable birdwatching tourism. All participants will be included in a prize drawing where the main prize is a set of binoculars worth about 10 000kr. Find more information about the survey on the back side – please turn over.

1. Please write your e-mail address on the lines below. *Please use capital letters, and discriminate clearly between a dash (-) and a space (_). Each character/letter or symbol must be placed in a separate box.*

1 ☐ Do not have an e-mail address 2 ☐ Do not wish to participate

2. Date today:_____

3. Where do you live? Country:_____

4. If you live in Norway, please give the first two digits of your postal code: _____

5. Gender and age: *1* ☐ female_____years 2 ☐ male_____years

6. Duration of your stay in Varanger in days? _____days

7. How many people are you travelling with (including yourself)? _____people.

8. Is this a professionally arranged holiday trip?

1 ☐ No 2 ☐ Yes, what operator?_____

9. How important is birdwatching and travelling to see birds for you?

Circle the number that fits best.

1 2 3 4 5 6 7

Not important Very important

THANK YOU FOR YOUR HELP – ENJOY THE REST OF YOUR TRIP!

INFORMATION ABOUT THE SURVEY

Varanger is one of few places in Norway where birdwatching tourism has been established successfully. Diversity in species and habitats allows for rich experiences and drives the development of income and employment in Varanger. Often rare and vulnerable species, and in several cases species that are protected or red-listed, form the basis of these developments. **Birdwatching needs to be developed in a way that takes care of the birds, the local community and the tourists, and finds a balance between the three.** If this is done right, tourism can help to promote environmental values and responsible development.

The Norwegian Institute for Nature Research (NINA) is already engaged in several projects connected to different bird species in Varanger, especially concerning sea birds on Hornøya. In cooperation with the tourism research project "BIOTOUR", the Norwegian University of Life Science (NMBU) and the Institute of Transport Economics (TØI), we want to conduct a survey among birdwatchers in Varanger. **The survey that you can register for now, will be conducted with a web-based questionnaire in the autumn of 2017.** We are interested in characteristics of birdwatchers, their travel and stay in Varanger, and their experience of birds and nature. We would also like to know how you as a tourist respond to different regulations, management and information measures. **The survey will be used to learn more about how we can develop better and more sustainable types of birdwatching tourism in Varanger.** The findings will also be important for other areas that develop experiences based on wildlife and birds.

The study has been notified to the Data Protection Official for Research, NSD - Norwegian Centre for Research Data. All personal data will be treated confidentially and you will not be recognizable in any publications. **The data will be fully anonymized** at the end of the project. Through your participation you contribute to a more sustainable development of birdwatching in Varanger.

All participants will be included in a prize drawing. The main prize is a set of binoculars worth about 10 000kr. In addition, there will be a drawing for 10 books about birdlife in Varanger and 10 t-shirts with bird design among those who respond.

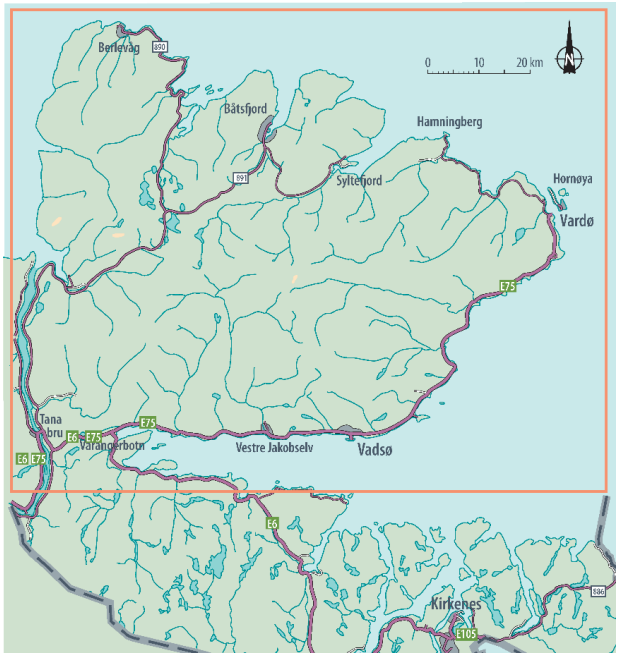
Contact: Kathrin Jathe, kathrin.jathe@nmbu.no
Sofie Selvaag, sofie.kjendlie@nina.no tel:+4746425187

Appendix 2: Online follow-up survey distributed by e-mail to visitors to Hornøya (English version)

Questionnaire

(the red sentences will not be shown in the questionnaire)

We would like to ask you some questions about birdwatching, particularly about your trip in spring/summer 2017 to the Varanger Peninsula (see map) and the Hornøya Island birding site (10 min boat ride from Vardø).



The first questions are about your trip to Varanger Peninsula this summer. If you had more than one trip this summer, please choose the most recent one:

1. Who were you travelling with? ***Tick off one or more boxes.***

1 O Travelled alone
2 O Spouse/partner
3 O Children age 0-6
4 O Children age 7-12
5 O Teenagers age 13-19
6 O Adult children/other family members
7 O Friends/colleagues/organized group

2. How important or unimportant were birdwatching opportunities in your decision to travel to the Varanger Peninsula? *Tick off the number that fits best on the scale from 1 to 7 below.*

Not at all important						Very important
1	2	3	4	5	6	7
O	O	O	O	O	O	O

3. On this trip, did you stay overnight on the Varanger Peninsula?

1 O Yes

2 O No *(move on to question 5)*

3 O I have my residence in Varanger *(move on to question 9)*

3 b. Please state number of nights you spent in Varanger: _____ nights

4. What kind of accommodation did you have on the Varanger Peninsula on this trip?
Tick off one or more boxes.

1 O Hotel room, bed & breakfast or paid for apartment
2 O Campsite (cabin, tent, camper-/caravan)
3 O Rented cabin
4 O Private cabin owned by you/your family or by friends
5 O In private home (family or friends)
6 O Other, *please specify*_____

5. Have you been to the Varanger Peninsula before?

1 O No, this is my first visit

2 O Yes, I have been here before, 1-5 times

3 O Yes, I have been here before, more than 5 times.

6. How many days did you spend birdwatching on the Varanger Pensinsula? (Any day that you spent at least some time birdwatching counts as one day)

On Hornøya Island: _____ days

Other places on the Varanger Peninsula: _____ days

7. Which activities other than birdwatching did you engage in during your visit to the Varanger Peninsula? *Tick off one or more boxes.*

1 O Saltwater/sea fishing
2 O Fishing in rivers/lakes
3 O Hiking in Varanger Peninsula National Park
4 O King crab activities/safari

5 O Other nature-based activities
6 O Culture-based activities (e.g. museums, events, city walks)
7 O None of these activities

8. **How was your visit to the Varanger Peninsula organized/booked?**
Please tick off one alternative only:

1 O Individual private travel, all organized and directly booked by myself/my travel partners
2 O Individual private travel, partly or fully organized and booked by travel agent/tour operator
3 O Organized group travel, excursion or similar

9. Sources of Information before the trip

How important or unimportant were the following sources of information in the decision and planning phase BEFORE your birdwatching trip to the Varanger Peninsula?

	Not at all important						**Very important**
	1	**2**	**3**	**4**	**5**	**6**	**7**
Birding-specific web-sites, blogs & social media (Facebook, Instagram, Pinterest, Flickr etc.)	O	O	O	O	O	O	O
Other web-sites (tourist information etc.), blogs & social media (Facebook, Instagram, Pinterest, Flickr etc.)	O	O	O	O	O	O	O
Birding-specific mobile apps	O	O	O	O	O	O	O
Other mobile apps	O	O	O	O	O	O	O
Books, magazines, brochures	O	O	O	O	O	O	O
Information from tour operator/travel agency	O	O	O	O	O	O	O
Other birders – "word of mouth"	O	O	O	O	O	O	O

10. Sources of Information during the trip

a) How important or unimportant were the following sources of information DURING your birdwatching trip on the Varanger Peninsula?

	Not at all important						**Very important**
	1	**2**	**3**	**4**	**5**	**6**	**7**
Birding-specific web-sites, blogs & social media (Facebook, Instagram, Pinterest, Flickr etc.)	O	O	O	O	O	O	O
Other web-sites (tourist information etc.), blogs & social media (Facebook, Instagram, Pinterest, etc.)	O	O	O	O	O	O	O
Birding-specific mobile apps	O	O	O	O	O	O	O
Other mobile apps	O	O	O	O	O	O	O
Books, magazines, brochures	O	O	O	O	O	O	O
Information from tour operator/travel agency	O	O	O	O	O	O	O
Other birders – "word of mouth"	O	O	O	O	O	O	O

b) Which mobile apps did you use DURING your birdwatching trip on the Varanger Peninsula?

Please specify: _____

11. How satisfied or dissatisfied were you with your overall birding experience on the Varanger Peninsula?
Tick off the value that fits best on the scale from 1 to 7.

Extremely dissatisfied						**Extremely satisfied**
1	**2**	**3**	**4**	**5**	**6**	**7**
O	O	O	O	O	O	O

12. Did you use a professional birding guide to other birdwatching sites than Hornøya Island on the Varanger Peninsula?

1 O Yes

2 O No

3 O I did not go to other birdwatching sites than Hornøya Island

13. On your trip to Hornøya Island, did you use a professional birding guide?

1 O Yes

2 O No

3 O I did not go Hornøya Island (go to Q 27)

HORNØYA SPECIFIC PART (only respondents that have visited Hornøya will get these questions)

The next questions are about your trip to Hornøya Island nature reserve.

14. If you were to go birdwatching on Hornøya again, how likely or unlikely is it that you would:

	Very unlikely						**Very likely**
	1	**2**	**3**	**4**	**5**	**6**	**7**
Walk outside the marked areas or trails where visitors are supposed to stay?	O	O	O	O	O	O	O
Try to get close to birds (less than 3 m) to get a special view or perfect photo opportunity?	O	O	O	O	O	O	O
Try to stand close (less than 3 m) to birds for some time to wait for the perfect photo shot?	O	O	O	O	O	O	O

15. Do you believe that any of the following people have <u>opinions</u> regarding whether you should walk outside the marked areas or trails where visitors are supposed to stay, in order to get close to birds at Hornøya?

Please select one of the alternatives 1 – 7 (or don't know) for each of the following categories of people below:

	No, no opinions						**Yes, strong opinions**	**I don't know**
	1	**2**	**3**	**4**	**5**	**6**	**7**	
Your closest family	O	O	O	O	O	O	O	O
Your closest bird watching friends	O	O	O	O	O	O	O	O
Other visitors present at Hornøya during your visit	O	O	O	O	O	O	O	O
Rangers, or researchers working at Hornøya	O	O	O	O	O	O	O	O

16. What do you believe the following people would <u>prefer you to do</u> when visiting Hornøya, considering staying inside or outside the marked areas/ trails where visitors are supposed to stay?

Please select one of the alternatives 1 – 6 below for each of the following categories of people below:

	Stay in marked areas/ trails all the time	Stay in marked areas/ trails most of the time, but move outside if no birds are close by	Stay in marked areas/ trails most of the time, but get outside just **once or twice** if it makes for a special view or perfect photo opportunity?	Stay in marked areas/ trails most of the time, but get outside **three or four times** if it makes for a special view or perfect photo opportunity?	Walk outside marked areas/ trails as it suits me to get a special view or perfect photo opportunity?	I don't know
	1	**2**	**3**	**4**	**5**	**6**
Your closest family	O	O	O	O	O	O
Your closest bird watching friends	O	O	O	O	O	O
Other visitors present at Hornøya during your visit	O	O	O	O	O	O
Rangers, or researchers working at Hornøya	O	O	O	O	O	O

17. If you chose to walk inside or outside the marked areas and trails, how <u>important or unimportant is it to you</u> what the following people think you should do?

	Not at all important						Very important	I don't know
	1	2	3	4	5	6	7	
Your closest family	0	0	0	0	0	0	0	0
Your closest bird watching friends	0	0	0	0	0	0	0	0
Other visitors present at Hornøya during your visit	0	0	0	0	0	0	0	0
Managers, or researchers working at Hornøya	0	0	0	0	0	0	0	0

18. What do you believe <u>the consequences</u> would be if every visitor at Hornøya Island at least once walked outside the marked areas/ trails, and moved close (less than 3 m) to birds to get a special view or perfect photo opportunity?

Mark the value that you think fits best on the scale from 1 to 7.

	1	2	3	4	5	6	7
Consequences for bird populations →	No consequences for bird populations 0	0	0	0	0	0	The reproduction success of the birds would decline so much that the bird populations would decrease in the long run 0
Consequences for visitor experiences →	The birds would still stay near marked areas/trail, with no consequences for visitor experiences 0	0	0	0	0	0	The birds would move away from places near marked areas/trails, and hence reduce visitor experiences 0
Consequences for visitor access →	No consequences for visitor access 0	0	0	0	0	0	The Island would be completely closed to visitor access 0

19. To what extent do you agree or disagree with these statements?

	Strongly disagree						Strongly agree
	1	2	3	4	5	6	7
It would have no consequences for the bird populations at Hornøya Island, if I and all other persons on my boat trip to Hornøya at least once walked outside the marked areas/ trails, and moved close (less than 3 m) to birds to get a special view or perfect photo opportunity	0	0	0	0	0	0	0
Individual birds that are approached outside the marked areas and trails, and do not flee do just fine, and are not stressed or experience any long-term impacts	0	0	0	0	0	0	0
I know how close one could get to a bird before it gets stressed and negatively impacted from encounters	0	0	0	0	0	0	0
The sea birds at Hornøya are an important part of the ecosystem	0	0	0	0	0	0	0
Allowing visitors only in certain areas at Hornøya, helps people understand the vulnerability of seabirds	0	0	0	0	0	0	0

20. To what extent do you agree or disagree with these statements?

	Strongly disagree						**Strongly agree**
	1	**2**	**3**	**4**	**5**	**6**	**7**
I should stay inside the marked areas and trails where visitors are supposed to stay, all the time while being on Hornøya	O	O	O	O	O	O	O
I should walk outside the marked areas and trails, as it suits me get a special view or perfect photo opportunity	O	O	O	O	O	O	O
Visitors to Hornøya should walk outside the marked areas and trails, to get a special view or perfect photo opportunity	O	O	O	O	O	O	O
Visitors to Hornøya should stay inside the marked areas and trails all the time	O	O	O	O	O	O	O
Visitors to Hornøya should tell other visitors when they are too close to birds	O	O	O	O	O	O	O

21. If others saw you walk outside the areas and marked trails, to get a special view or perfect photo opportunity: how would you feel on a scale from 1 to 7 where,

	1	**2**	**3**	**4**	**5**	**6**	**7**
1 = ashamed, 7 = proud	O	O	O	O	O	O	O
1 = guilty, 7= guiltless	O	O	O	O	O	O	O
1= embarrassed, 7= admired	O	O	O	O	O	O	O

22. Did you notice in which areas visitors legally could or could not walk on the island?

1 O Yes 2 O No 3 O Uncertain

23. **What do you consider the appropriate minimum distance you should keep to a nesting bird at Hornøya to avoid inducing stress?**

Please state a number in meters:_____

24. Please mark how important or unimportant each of these listed reasons were for you going birdwatching at Hornøya Island.

Please tick the number that fits best for you on a scale from 1 (not at all important) to 7 (very important).

	Not at all important						**Very important**
	1	**2**	**3**	**4**	**5**	**6**	**7**
To view the scenic beauty	O	O	O	O	O	O	O
To be close to nature	O	O	O	O	O	O	O
To reduce stress and tensions	O	O	O	O	O	O	O
To get away from the usual demands of life	O	O	O	O	O	O	O
To experience peace and quietness	O	O	O	O	O	O	O
To do something with your family	O	O	O	O	O	O	O
To bring your family closer together	O	O	O	O	O	O	O
To be with friends	O	O	O	O	O	O	O
To meet others who enjoy the same things you do	O	O	O	O	O	O	O
To get exercise	O	O	O	O	O	O	O
To keep physically fit	O	O	O	O	O	O	O
To study nature	O	O	O	O	O	O	O
To learn about nature	O	O	O	O	O	O	O
To show others you can do it	O	O	O	O	O	O	O
To gain a sense of self-confidence	O	O	O	O	O	O	O
To develop your skills and abilities	O	O	O	O	O	O	O
To learn what you are capable of	O	O	O	O	O	O	O
To have thrills	O	O	O	O	O	O	O
To experience excitement	O	O	O	O	O	O	O
Seeing many birds	O	O	O	O	O	O	O
See bird species you have never seen before	O	O	O	O	O	O	O
See specific birds/bird taxa that is of special interest to you	O	O	O	O	O	O	O
Photograph birds	O	O	O	O	O	O	O

25. How satisfied or dissatisfied were you with the following aspects of your last spring/summer trip to Hornøya island?

	Extremely dissatisfied						Extremely satisfied	Don't know / does not apply
	1	2	3	4	5	6	7	
The information given at the harbour/boat transportation and posted at Hornøya	O	O	O	O	O	O	O	O
The shelter at Hornøya	O	O	O	O	O	O	O	O
The trails/paths at Hornøya	O	O	O	O	O	O	O	O
The number and diversity of birds seen at Hornøya	O	O	O	O	O	O	O	O
The number of people at Hornøya while you visited	O	O	O	O	O	O	O	O
Other visitors' behavior towards birds/birdlife at Hornøya	O	O	O	O	O	O	O	O
The information about what activities are not allowed at Hornøya	O	O	O	O	O	O	O	O
Your overall birding experience at Hornøya	O	O	O	O	O	O	O	O

26. To what extent do you agree or disagree to the following statements:

	Strongly disagree						Strongly agree
	1	2	3	4	5	6	7
I will visit Hornøya again	O	O	O	O	O	O	O
I will recommend visiting Hornøya to other people	O	O	O	O	O	O	O
I will speak positive about Hornøya to other people	O	O	O	O	O	O	O

Now some questions about your involvement in birdwatching

27. How many birdwatching sites have you visited in 2017?

Please indicate approximate number: _____

28. How many days have you been birdwatching in 2017?

Please indicate approximate number: _____

29. How many seasons in total have you been birdwatching over the years?

_____ seasons

30. Please write the down the approximate number of bird species you are able to identify by sound:

_____

31. How would you rate your skills in identifying birds compared to other birdwatchers?

Please indicate on a scale from 1 to 7:

Much lower than average						Much higher than average	I don't know
1	**2**	**3**	**4**	**5**	**6**	**7**	
O	O	O	O	O	O	O	O

32. How would you rate your knowledge about bird management and conservation issues compared to other birdwatchers?

Please indicate on a scale from 1 to 7:

Much lower than average						Much higher than average	I don't know
1	**2**	**3**	**4**	**5**	**6**	**7**	
O	O	O	O	O	O	O	O

33. To what extent do you agree or disagree with these statements?

	Strongly disagree						Strongly agree
	1	**2**	**3**	**4**	**5**	**6**	**7**
I would lose a lot of my friends if I stopped birdwatching	O	O	O	O	O	O	O
Other leisure activities interest me more than birdwatching	O	O	O	O	O	O	O
Most of my life revolves around birdwatching	O	O	O	O	O	O	O

34. Financial investment.

Consider the binoculars/spotting scopes you use for birdwatching. If you were to buy similar equipment today, how much would it cost? Please give an estimate:

Binoculars/spotting scopes would cost around_____EUROs, or _____ GBP

35. How often do you engage in each of those behaviours listed below?

	Always	Often	Some-times	Rarely	Never	Not applicable
	1	**2**	**3**	**4**	**5**	**6**
When going on vacation, choosing environmentally friendly transportation types even if they cost more or take longer time	O	O	O	O	O	O
Purchase carbon offsets/climate quotas when going by plane	O	O	O	O	O	O
When travelling, choose eco/environmental-certified services, such as lodging or tours even if they cost more	O	O	O	O	O	O
Buy eco-labelled food even if it costs more	O	O	O	O	O	O
Contribute financially to environmental organizations (by membership or donations	O	O	O	O	O	O
Buy products made by companies known for being environmentally responsible even if the prices are higher	O	O	O	O	O	O
Avoid buying products from businesses that are not environmentally friendly even if the purchase of alternatives is more expensive	O	O	O	O	O	O

Finally, some information about yourself:

36. Age in years___

37. Gender: **1** O Woman 2 O Man

38. Which of the following family categories applies to you?

1 O Single person household
2 O Single parent with children
3 O Married) -couple/partner, without children
4 O (Married) -couple/partner, with children
5 O Live with parents or other relatives
6 O Other

39. How many of the following categories live in your household?

_____ children aged 0 – 12
_____ young people aged 13-18
_____ adults (18+)

40. What is your highest level of education that you have completed?

1 O Primary/secondary school, (1-9/10 years)
2 O High School or equivalent (10-12/13 years)
3 O Bachelor degree or 1-3 years at University /College

4 O Master/PhD degree or 4 years or more at University /College

41. How do you categorize your current living area?

1 O City with over 200,000 inhabitants (including suburbs)
2 O Town with 20,001 – 200,000 inhabitants
3 O Town/village with 2,000 – 20,000 inhabitants
4 O Village with less than 2,000 inhabitants
5 O Rural area

42. Are you a <u>member</u> of any of the following types of <u>organization</u>?

Tick off one or more boxes if necessary

1 O Birdwatching / amateur ornithologist organization
2 O Hiking /mountaineering/organization
3 O Fishing or hunting organization
4 O Cyclist /biking organization
5 O Athletic /sport club/organization
6 O Other kind of outdoor recreation organization
7 O Environmental/nature conservation organization

43. Please indicate the approximate level of your average monthly net personal income. That is the income after tax paying (including salaries, pension, and/or capital income).

Please indicate the best suitable category in EURO below

EURO

1 O 1 000 – 2 000
2 O 2 000 – 3 000
3 O 3 000 – 4 000
4 O 4 000 – 5 000
5 O 5 000 – 6 000
6 O 6 000 – 7 000
7 O 7 000 – 8 000
8 O More than 8 000
9 O Will not/cannot answer

44. How would you describe your household's total income compared to the general level of income that applies in your country of residence?

1 O Much higher
2 O Somewhat higher
3 O Average
4 O Somewhat lower
5 O Much lower
6 O Don't know

Comments?
Here you can add comments about your birding experience at Hornøya, the management there, how other visitors at Hornøya behaved/misbehaved, or any other aspects or comments you feel like telling us or the managers at Hornøya.

Thank you very much for your participation!

Appendix 3: Short response cards distributed among participants at organized musk ox safaris in Dovrefjell-Sunndalsfjella national park (English version)

Norwegian University of Life Sciences

Musk ox Safaris in Dovrefjell 2018. Visitor opinions

The Norwegian University of Life Sciences is conducting a survey about musk ox watching in Dovrefjell. Survey results will help us learn about how wildlife tourism experiences can be developed in order to meet tourists' needs without compromising the animals and their environments, through the PHD project *Consumer Experiences in Wildlife Tourism*. At this point, we would like to invite you to register for the survey with your e-mail address and a little bit of information about yourself and your trip. We will collect this information from the 1st of June to the 31st of august 2018. During the fall 2018, you will receive a web-based questionnaire about your experiences in Dovre. We are interested in which aspects of participating in a musk ox safari is the most interesting to visitors, and participant's attitudes towards animals and the environment. All personal data are treated confidentially, and will be available to the researchers working on the project only. You will not be recognizable in any publications. The Norwegian Centre for Research Data has evaluated the study and the data will be fully anonymized by the end of the project. Participation is voluntary, and you may withdraw at any time, without providing us with a reason for doing so. Participants that complete the online survey will have a chance to win a Fjällräven backpack worth about 2000 NOK. If you have any questions, please do not hesitate to contact us:

Project manager, Nikoline Dybsand: hidy@nmbu.no +4748405877
The Norwegian University of Life Sciences, Postboks 5003 NMBU 1432 Ås

1. Today's date _____
2. Which country do you live in? _____
3. Gender and age:
   ☐ Female ☐ Male, age: _____
4. How many days are you staying in Dovrefjell? _____
5. Which provider did you use for your musk ox safari?

   _____

6. When you think about going on a musk ox safari, what are the two words that first come into your mind?
   _____

7. How important or unimportant was the possibility to go on a musk ox safari when you decided to travel to Dovrefjell?

   (Circle the number that fits best)

   1 2 3 4 5 6 7

   (Not Important at all) (Very Important)

8. Please write your e-mail address on the lines below.
   (Please use capital letters, and discriminate clearly between a dash (-) and an underscore (_), please fill in one letter per square)

9. Please write your mobile phone number on the line below, including the country code

10. In which of the following languages would you like to receive the web-based questionnaire?
    ☐ English ☐ Norwegian ☐ German ☐ French

If you would like to, you can use the backside of this sheet to write comments - like your opinions about wildlife tourism, what you look for in a good wildlife tourism experience, or how you experienced this trip.

Appendix 4: Online follow-up survey distributed by e-mail to participants at organized musk ox safaris in Dovrefjell-Sunndalsfjella national park (English version)

Thank you for participating in our survey about musk ox safaris in Dovrefjell! We would like to ask you some questions about your experiences with this activity, and your attitudes towards conservation of wild animals and the environment. If you have participated in more than one musk ox safari, please refer to the latest organized musk ox safari you participated in during the summer of 2018.

☐ I have received and understood information about the survey *Musk ox safaris in Dovrefjell 2018* and have had the opportunity to ask questions. The responses I give to the questions in this survey may be used in the research projects Consumer Experiences in Wildlife Tourism and *BIOTOUR – from place-based resources to value-added experiences.*

1. Who were you travelling with (click one or more options)?

☐ Travelled alone

☐ Spouse/partner

☐ Children age 0-6

☐ Children age 7-12

☐ Children age 13-17

☐ Adult children/other family members

☐ Friends/colleagues

2. How was your visit to Dovrefjell organized/booked?
   - ☐ Individual private travel, all organized and directly booked by myself/my travel partners
   - ☐ Individual private travel, partly or fully organized and booked by travel agent/tour operator
   - ☐ Organized group travel, excursion or similar

3. When did you decide to participate in a musk ox safari?
   - ☐ 1 month or more before the musk ox safari
   - ☐ 2-3 weeks before the musk ox safari
   - ☐ 1 week before the musk ox safari
   - ☐ A couple of days before the musk ox safari
   - ☐ The day before the musk ox safari
   - ☐ The same day as the musk ox safari

4. How did you decide which company to go on a musk ox safari with? (more options possible)
   - ☐ I selected my safari company based on the company website
   - ☐ I selected my safari company based on rankings in online tourism forums, such as Trip Advisor
   - ☐ I selected my safari company based on price
   - ☐ I selected the company with the easiest to reach starting point for their safari

☐ I selected my safari company based on information from family, friends and acquaintances
☐ I selected my safari company based on information I received during my stay in the Dovrefjell area.
☐ I selected my safari company at random

☐ Other, please specify: _____

5. Please mark how important each of these listed reasons were for you going on a musk ox safari in Dovrefjell the summer of 2018:

To view the scenic beauty

1 2 3 4 5 6 7
(Not important at all) (Very Important)

To be close to nature

1 2 3 4 5 6 7
(Not important at all) (Very Important)

To get exercise

1 2 3 4 5 6 7
(Not important at all) (Very Important)

To keep physically fit

1 2 3 4 5 6 7
(Not important at all) (Very Important)

To experience peace and quietness

1 2 3 4 5 6 7
(Not important at all) (Very Important)

To study nature

1 2 3 4 5 6 7
(Not important at all) (Very Important)

To learn about nature

1 2 3 4 5 6 7
(Not important at all) (Very Important)

To have thrills

1 2 3 4 5 6 7
(Not important at all) (Very Important)

To experience excitement

1 2 3 4 5 6 7
(Not important at all) (Very Important)

To experience a unique species – the musk ox

1 2 3 4 5 6 7
(Not important at all) (Very Important)

To experience other wildlife

1 2 3 4 5 6 7

(Not important at all) (Very Important)

To be able to take pictures or videos of the musk ox

1 2 3 4 5 6 7

(Not important at all) (Very Important)

To learn about the musk ox

1 2 3 4 5 6 7

(Not important at all) (Very Important)

6. How many times did you participate in an organized musk ox safari with a guide during your stay in Dovrefjell?

7. Approximately how many participants were you in total on the last musk ox safari you participated in?

8. Approximately how many musk oxen did your group see during the safari?
9.
10. Approximately how close did you get to the musk oxen?
    - ☐ We didn't see any musk oxen
    - ☐ 0-50 meters
    - ☐ 51-100 meters
    - ☐ 101-200 meters
    - ☐ 201-300 meters
    - ☐ We only saw them far away (> 300 meters) through binoculars and/or a telescope

The next questions concern how happy or unhappy you were with various parts of your musk ox safari, and what parts of the experience that were the most important to you when participating. Many of the statements may seem similar to each other. We ask that you still read each statement thoroughly and answer all the questions to the best of your ability.

11. How satisfied were you with the information the guide gave you during the safari?

1 2 3 4 5 6 7

(Not satisfied at all) (Extremely satisfied)

12. How satisfied were you with your guide's ability to adapt to your needs?

1 2 3 4 5 6 7

(Not satisfied at all) (Extremely satisfied)

13. How satisfied were you with the information you received before the safari started?

1 2 3 4 5 6 7

(Not satisfied at all) (Extremely satisfied)

14. How many participants do you feel can join a musk ox safari before the group size is too big?

    [ ]

15. How satisfied were you with the number of participants on your musk ox safari?

    1 2 3 4 5 6 7
    (Not satisfied at all) (Extremely satisfied)

16. How satisfied were you with the other participants' behavior during the musk ox safari?

    1 2 3 4 5 6 7
    (Not satisfied at all) (Extremely satisfied)

17. How satisfied were you with the possibilities to take good photographs during the safari?

    1 2 3 4 5 6 7
    (Not satisfied at all) (Extremely satisfied)

18. How satisfied were you with the opportunities to bring musk ox wool home from the safari?

    1 2 3 4 5 6 7
    (Not satisfied at all) (Extremely satisfied)

19. How satisfied were you with the possibilities to buy souvenirs before or after your safari?

    1 2 3 4 5 6 7
    (Not satisfied at all) (Extremely satisfied)

20. How satisfied were you with the difficulty level of the hike your group did as a part of your musk ox safari?

    1 2 3 4 5 6 7
    (Not satisfied at all) (Extremely satisfied)

21. How satisfied were you with the natural surroundings?

    1 2 3 4 5 6 7
    (Extremely dissatisfied) (Extremely satisfied)

22. How satisfied were you with the weather, and your guide's ability to adapt to it?

    1 2 3 4 5 6 7
    (Not satisfied at all) (Extremely satisfied)

23. How satisfied were you with the possibilities to learn something about musk oxen during the safari?

1 2 3 4 5 6 7
(Not satisfied at all) (Extremely satisfied)

24. How satisfied were you with the possibilities to learn about Dovrefjell during the safari?

1 2 3 4 5 6 7
(Not satisfied at all) (Extremely satisfied)

25. How satisfied were you with the possibilities to learn about nature during the safari?

1 2 3 4 5 6 7
(Not satisfied at all) (Extremely satisfied)

26. How satisfied were you with the number of musk oxen you saw during the safari?

1 2 3 4 5 6 7
(Not satisfied at all) (Extremely satisfied)

27. How satisfied were you with the distance to the musk oxen you saw during your safari?

1 2 3 4 5 6 7
(Not satisfied at all) (Extremely satisfied)

28. How satisfied were you with the activity level of the musk oxen you saw during the safari?

1 2 3 4 5 6 7
(Not satisfied at all) (Extremely satisfied)

29. Did your group encounter other wildlife besides musk oxen during the safari?

☐ Yes ☐ No

30. How satisfied were you with the possibilities to look for other animals during the safari?

1 2 3 4 5 6 7
(Not satisfied at all) (Extremely satisfied)

31. How satisfied were you with the possibilities to learn about other animals during the safari?

1 2 3 4 5 6 7
(Not satisfied at all) (Extremely satisfied)

32. How satisfied are you with your decision to join a musk ox safari last summer?

1 2 3 4 5 6 7
(Not satisfied at all) (Extremely satisfied)

33. To what extent do you feel that your experience during the musk ox safari exceeded your expectations?

1 2 3 4 5 6 7
(Not at all) (very much)

34. To what extent do you feel that the musk ox safari was worth the price you payed to participate in it?

1 2 3 4 5 6 7

(Not at all) (very much)

35. Overall, how satisfied are you with the musk ox safari?

1 2 3 4 5 6 7

(Not satisfied at all) (Extremely satisfied)

36. To what extent do you agree with these statements?

a) If I visit Dovrefjell again, I will participate in another musk ox safari

1 2 3 4 5 6 7

(Strongly disagree) (Strongly agree)

b) I will recommend participating in a musk ox safari to other people

1 2 3 4 5 6 7

(Strongly disagree) (Strongly agree)

c) I will speak positive about musk ox safaris to other people

1 2 3 4 5 6 7

(Strongly disagree) (Strongly agree)

The next questions are about your attitudes towards wild animals, the environment, and measures that can contribute to wild animal conservation.

37. Conservation of wild animals and the environment in general is..

1 2 3 4 5 6 7

(Extremely positive) (Extremely negative)

38. Conservation of wild animals must in general always be considered on the same level as society's needs and opportunities

1 2 3 4 5 6 7

(Strongly disagree) (Strongly agree)

39. What is your attitude towards participating in volunteer work that contributes to conservation of wild animals and the environment yourself?

1 2 3 4 5 6 7

(Extremely positive) (Extremely negative)

40. What is your attitude towards donating money to environmental organizations yourself?

1 2 3 4 5 6 7

(Extremely positive) (Extremely negative)

41. What is your attitude towards becoming a member of an environmental organization?

1 2 3 4 5 6 7

(Extremely positive) (Extremely negative)

To what extent do you agree with these statements?

42. My family and friends are positive towards the conservation of wild animals and the environment

1	2	3	4	5	6	7
(Strongly disagree)						(Strongly agree)

43. My family and friends expect me to participate in volunteer work that contributes to conservation of wild animals and the environment

1	2	3	4	5	6	7
(Strongly disagree)						(Strongly agree)

44. My family and friends expect me to donate money to environmental organizations

1	2	3	4	5	6	7
(Strongly disagree)						(Strongly agree)

To what extent do you agree with these statements?

45. I have enough information about how to participate in volunteer work that contributes to conservation of wild animals and the environment

1	2	3	4	5	6	7
(Strongly disagree)						(Strongly agree)

46. I have the opportunity to participate in volunteer work that contributes to conservation of wild animals and the environment

1	2	3	4	5	6	7
(Strongly disagree)						(Strongly agree)

47. I have enough money to donate to an environmental organization if I want to do so

1	2	3	4	5	6	7
(Strongly disagree)						(Strongly agree)

48. After participating in a musk ox safari, I have become more positive towards conservation of wild animals and the environment

1	2	3	4	5	6	7
(Strongly disagree)						(Strongly agree)

49. After participating in a musk ox safari I have become more positive towards participating in volunteer work that contributes to conservation of wild animals and the environment myself

1	2	3	4	5	6	7
(Strongly disagree)						(Strongly agree)

50. After participating in a musk ox safari I have become more positive towards donating money to an environmental organization myself

1	2	3	4	5	6	7
(Strongly disagree)						(Strongly agree)

51. In 2019 I plan to participate in volunteer work that contributes to conservation of wild animals and the environment

1	2	3	4	5	6	7
(Strongly disagree)						(Strongly agree)

52. I 2019 I plan to donate money to an environmental organization

1	2	3	4	5	6	7
(Strongly disagree)						(Strongly agree)

53. I 2019 I will be a member of an environmental organization

1	2	3	4	5	6	7
(Strongly disagree)						(Strongly agree)

In this section, we would like to look into how often you watch wild animals (including birds, sea mammals and fish), also known as wildlife watching, and how important this is to you.

54. For your most recent trip to watch wild animals involving an overnight stay away from home – Dovrefjell or elsewhere – did you make the decision «on impulse» (e.g. heard about an excellent wildlife watching site and immediately decided to go there) or "systematically" (e.g. reviewed multiple sites, considered pros and cons of each, then decided)?

1	2	3	4	5	6	7
(Very much on impulse)						(Very systematically)

55. How many wildlife watching places did you visit in 2018?
Please indicate approximate number: _____

56. How many days did you go wildlife watching in 2018?

Please indicate approximate number (Any part of a day counts as a day): _____

57. How many years in total have you done wildlife watching?
Please indicate approximate years: _____

58. How would you rate your own skills in identifying wild animals compared to other wildlife watchers?

1	2	3	4	5	6	7
(Much lower than average)						(Much better than average)

59. How would you rate your knowledge about wild animal management and conservation issues compared to other wildlife watchers?

1	2	3	4	5	6	7
(Much lower than average)						(Much better than average)

60. To what extent do you agree or disagree with these statements?

If I stopped watching wildlife, I would probably lose touch with a lot of my friends

1	2	3	4	5	6	7
(Strongly disagree)						(Strongly agree)

I find that a lot of my life is organized around wildlife watching

1 2 3 4 5 6 7
(Strongly disagree) (Strongly agree)

Others would probably say I spend too much time wildlife watching

1 2 3 4 5 6 7
(Strongly disagree) (Strongly agree)

Other leisure activities interest me as much as wildlife watching

1 2 3 4 5 6 7
(Strongly disagree) (Strongly agree)

Consider the equipment (e.g. binoculars/spotting scopes, camera) you use for birdwatching. If you were to buy similar equipment in a store today, how much would it cost?

My equipment would cost around _____

Finally, we would like to give you the possibility to tell us more about your musk ox safari, and your thoughts on conservation of wild animals and the environment – if you would like to do so:

61. If you would like to, you can use this box to tell you more about the safari you participated in, and why you are satisfied or unsatisfied with your experience:

62. If you would like to, you can use this box to tell us your thoughts about conservation of wild animals and the environment:

63. If you have any other comments you would like to share about your musk ox safari or this survey, you can use this box to do Appendix 5: Interview guide used for travel party interviews in Dovrefjell-Sunndalsfjella

national park (English version)

- We encountered a musk ox/ group of musk oxen earlier; can you tell me a little bit about how you experienced this and how the encounter made you feel?
- When you think about the rest of the musk ox safari, which other part of the overall experience did you enjoy the most, besides encountering the musk ox/musk oxen?
- Have you ever traveled to see wild animals before? Did you do this on your own or with a guide?
- (Can you compare that experience with the safari that we joined today?)
- In your opinion, does watching animals in their natural environments like this make you feel more strongly about the natural environment than you already do?
- Is there anything else that you would like to tell me about your experience today?

Appendix 5: Interview guide used for travel party interviews in Dovrefjell-Sunndalsfjella national park (English version)

- We encountered a musk ox/ group of musk oxen earlier; can you tell me a little bit about how you experienced this and how the encounter made you feel?
- When you think about the rest of the musk ox safari, which other part of the overall experience did you enjoy the most, besides encountering the musk ox/musk oxen?
- Have you ever traveled to see wild animals before? Did you do this on your own or with a guide?
- (Can you compare that experience with the safari that we joined today?)
- In your opinion, does watching animals in their natural environments like this make you feel more strongly about the natural environment than you already do?
- Is there anything else that you would like to tell me about your experience today?

Paper 1

The influence of motivation on birdwatcher satisfaction and destination loyalty: The case of Hornøya, Norway

(Manuscript)

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Research on motivation among birdwatchers and the relationships between motivation, satisfaction and destination loyalty may provide further insight on this subgroup of wildlife tourism participants. Research on other forms of wildlife tourism suggest that motivation can be a useful segmentation tool and have effects on participants' overall experiences, satisfaction and loyalty. Using a survey (n =248) of visitors to Hornøya in Norway, we investigated motivation's potential as a segmentation tool in this setting, and motivation's influence on birdwatcher satisfaction and destination loyalty, applying cluster-, factor-, and multiple regression analyses. Three distinct groups of birdwatchers were identified, and results indicated that although the main motivations to visit were to experience birds and nature, the importance of other motivational factors varied between clusters. Moreover, significant positive relationships were found between the motivational factor experience birds and overall satisfaction, and between experience nature and destination loyalty. We conclude that facilitating and promoting such experiences should be a priority for managers of birdwatching sites, and that there are some variation when it comes to motivation, even among relatively specialized birdwatchers.

Introduction

Wildlife tourism is an increasingly popular niche within nature based tourism that consists of activities based on interactions with non-domesticated animals (Ayazlar, 2017; Borges de Lima & Green, 2017). The interactions can be non-consumptive such as watching or photographing animals, or consumptive such as fishing or hunting, and occur in animals'

natural environments, semi-captivity or captivity (Higginbottom, 2004). Therefore, wildlife tourism is often divided into zoo tourism, fishing and hunting tourism and wildlife watching tourism (WWT). WWT, tourism organized and undertaken to watch wild animals in natural settings, is the type of wildlife tourism that has grown most in recent years (Hassan & Sharma, 2017b).There are opportunities for WWT in almost any type of environment (Valentine & Birtles, 2004), and a variety of wildlife species and participants are involved. Activities based on charismatic megafauna such as giant pandas (Cong et al., 2014), polar bears (Dybsand, 2020), musk oxen (Dybsand & Fredman, 2020) or tigers (Hassan & Sharma, 2017a) are especially popular with novice participants, as they generally do not require certain skills or knowledge to enjoy them (Bentz et al., 2016). Preferences diversify with increasing experience and more advanced wildlife watchers tend to show a greater interest in rarer, less easily observed and lower profile species (Lindsey et al., 2007). One group of WWT participants that has received a great deal of attention is birdwatchers, often seen as a relatively homogeneous group of serious or dedicated visitors willing to spend significant sums of money in their pursuit to see rare and exotic birds (Scott & Thigpen, 2003).

While it is true that birdwatching is a passion that extends far beyond a hobby or pastime for many participants (Connell, 2009), even tourists that appear to be motivated by the same stimulus cannot be considered a homogeneous population (Duffus & Dearden, 1990). Birdwatchers are increasingly a diverse group in terms of age, gender, motivations, setting preferences, conservation involvement, skill level and devotion to the activity in time and expenditures (Connell, 2009; Hvenegaard, 2002; Scott & Thigpen, 2003). Birdwatching destinations and events also attract different kinds of birdwatchers, depending on the nature of the destination or event (Scott & Thigpen, 2003). While birdwatching has received a lot of attention in studies on tourism, recreation and human dimensions of wildlife (see for example Glowinski & Moore, 2014; Hvenegaard, 2002; Li et al., 2013; Scott & Thigpen, 2003), there are fewer studies on birdwatching in Northern Europe (Jørgensen, 2018; Margaryan et al., 2018). Moreover, existing studies often segment birdwatchers based on their degree of recreation specialization including their skill level (De Salvo et al., 2020; Harshaw et al., 2020; Miller et al., 2014; Scott & Thigpen, 2003). However, to the best of the authors' knowledge, there are no previous studies segmenting birdwatchers based on their motivations to visit a birdwatching site. Yet, studies on other forms of tourism and wildlife tourism show that motivational factors is a useful tool for participant segmentation, and influence participants' overall experiences, satisfaction and loyalty (Sato et al., 2018;

Suhartanto et al., 2020). Our study contributes to the wildlife tourism literature by segmenting birdwatchers based on their motivations to visit the island Hornøya in Norway during the peak season of 2017. Furthermore, we investigate how motivational factors affect overall satisfaction and destination loyalty, applying cluster-, factor- and multiple regression analyses.

Literature review

Tourist typologies

Segmenting wildlife tourists can be helpful to both private sector tourism managers and managers of protected areas where wildlife is found, as it provides information on markets that can be used to develop and adapt products, facilities and plans on permitted activities as well as levels and types of use (Moscardo, 2000). Numerous typologies have been applied in the tourism literature to better understand tourist preferences and behavior. Segmentation variables often used include psychographics (Galloway, 2002), demographics (Connell & Page, 2019), personal values and lifestyle (Thrane, 1997) and benefits sought (Nduna Lesedi & van Zyl, 2020). Tourists have also been grouped based on their personalities. For example, Plog's (1974) travel personality framework is one of the most cited tourist typologies, and has been applied and adapted in several recent studies on destination choice and travel style preferences (Bayarsaikhan et al., 2020; Jeon et al., 2018; Kim et al., 2019).

In wildlife tourism studies, participants have been classified based on how important viewing wildlife was to their trip (Moscardo, 2000), motivational factors (Miller et al., 2020) and recreation specialization (Needham et al., 2009; Oh & Ditton, 2008). Numerous studies on birdwatching have applied classification based on recreation specialization (e. g. Cheung et al., 2017; De Salvo et al., 2020; Harshaw et al., 2020; Hvenegaard, 2002; Lee & Scott, 2004; Miller et al., 2014; Scott et al., 2005). According to this framework, participants can become more specialized and progress in e.g. skills, knowledge, equipment uses, motivation, behavior and management preferences by investing more time and resources in an activity (Bryan, 1977). This is often the case in birdwatching, as the many bird species that exist provide opportunities for developing skills in identification by sound and vision (Connell, 2009), and travelling birdwatchers are often considered highly specialized wildlife tourists (Steven et al., 2015). Studies have also divided birdwatchers into groups based on their interests and specialization levels. For example, "twitchers" target endemic or rare species or special bird groups, while "birders" aim to see as many species as possible (Connell, 2009). Such subgroups of birdwatchers vary in terms of skill level, setting preferences, conservation

involvement and motivations for visiting birdwatching sites (Hvenegaard, 2002; Scott & Thigpen, 2003).

Motivation

Motivation can be defined as a state of need or a condition that causes an individual to take action, in the case of tourism motivation, to take a holiday that is likely to bring satisfaction by addressing this state of need or condition (Heitmann, 2011). It acts as a trigger that sets off all the events involved in travel and represents all the reasons why we travel in general, and why we make specific travel choices (Parrinello, 1996). While there is no universally accepted theory of tourist motivations, several frameworks have been suggested. One of the most influential theories within the realm of tourism research is the sign-gestalt paradigm, better known as the push-pull factor compendium theory (Dann, 1977; Iso-Ahola, 1982; Tolman, 1959). Push/pull factors have become a central idea to explain tourist motivation, with recent applications including studies on culinary tourist motivations (Su et al., 2020), creative tourism (Dean & Suhartanto, 2019) and hunting tourism (Suni & Pesonen, 2019). Another major influence in the tourism motivation literature is Maslow's hierarchy of needs (1943). Pearce's (1988) Travel motivation theory, often referred to as the travel career ladder (TCL) is based on Maslow's hierarchy and suggests five levels of tourist motivation. At the lowest level we find relaxation needs, followed by stimulation needs, relationship needs, self-esteem/development needs and fulfilment needs. Similarly, McIntosh et al. (1995) suggests the five travel motivation categories physical, emotional, cultural, interpersonal and status and prestige. For studies on motivation in outdoor recreation, the "Recreation Experience Preference Scale" (Driver et al. 1987), often synonymously termed "recreation motivation" is central. From the REP scales, Manning (2011) has suggested a standardized pool of items consisting of 21 basic categories (e. g. Driver et al., 1987; Moore & Siderelis, 2006; Park & Yoon, 2009): Achievement/stimulation, Autonomy/Leadership, Risk Taking, Equipment, Family Togetherness, Similar People, New People, Learning, Enjoy Nature, Introspection, Creativity, Nostalgia, Physical Fitness, Physical Rest, Escape Personal/Social pressures, Escape Physical Pressure, Social Security, Escape Family, Teaching/Leading Others, Risk Reduction and Temperature.

Studies on motivation in wildlife watching tourism show that participants are motivated by a variety of factors, including appreciating or photographing wildlife, studying fauna and flora, general recreation, educational opportunities, entertainment, cultural interactions, contributing to conservation, feeling close to or reconnecting with nature, visiting a family

destination, experiencing luxury, curiosity, novelty seeking and escaping everyday life (Buckley & Mossaz, 2018; Curtin, 2010, 2013; Kruger et al., 2017; Lemelin, 2006; Miller et al., 2020; Moscardo, 2000; Mutanga et al., 2017). Furthermore, these motivations vary from participant to participant. In a study on visitors to national reserves in Kenya, Beh and Bruyere (2007) found visitors to be either escapists, learners or spiritualists. Similarly, Miller et al. (2020) identified three groups of wildlife watching tourists participating in Polar bear watching activities in Kaktovik, Alaska: Holistic viewers, visitors with no expectations, and wildlife enthusiasts. These studies found that visitor motivations had effects on visitor experiences, pro-environmental outcomes and overall satisfaction.

Satisfaction and Loyalty

Loyalty can be defined as commitment to a destination (Rivera & Croes, 2010), and in studies on natural areas it is often measured as a multi-item construct, with intention to revisit and recommend to others being the most commonly measured items (Moore et al., 2015; Rivera & Croes, 2010; Tian-Cole et al., 2002; Weaver & Lawton, 2010). Understanding and supporting loyalty to vulnerable nature destinations is essential, as loyal visitors have the potential to be advocates for such areas in addition to being willing to pay for revisits (Moore et al., 2015). The last decade has seen several studies on loyalty and its antecedents in research on nature based tourism including wildlife tourism (Kim & Brown, 2012; Lee et al., 2014; Taplin, 2013). This focus is important as it enables managers of natural areas to determine if they have achieved desired outcomes and the influences on these outcomes (Moore et al., 2015). One of the most recognized influences on loyalty is (overall) visitor satisfaction, that can be defined as an emotional state resulting from the intensity of positive emotions associated with pull factors, enhanced by the coincidence between push and pull profiles (Pestana et al., 2020). Its effects have been reported in both marketing and tourism research (Cakici et al., 2019; Kassim & Asiah Abdullah, 2010; Kim, 2017; Song et al., 2019). However, studies show that other variables such as place attachment (Lee et al., 2007; Weaver & Lawton, 2010), destination image (Chi, 2010), value for money (Rivera & Croes, 2010) visitors' level of recreation specialization (Park et al., 2018) and visitor motivation (Pestana et al., 2020) also influence loyalty either directly or indirectly through their effects on satisfaction. Thus, it is not sufficient to report on satisfaction alone (Moore et al., 2015), and managers should consider their individual marginal impacts on loyalty and distinguish between visitors when they invest in satisfaction (Ahrholdt et al., 2019). Despite an extensive amount of research on visitor satisfaction, there has been little investigation on how different

types of visitors evaluate their travel experiences associated with a particular destination and the effects of these attributes on post-consumption behavior, especially in nature based settings (Kim & Brown, 2012).

Methods

Study area

Hornøya island is located a short boat trip from the town of Vardø in the far northeast of Norway (70022'N 31001'E). The Varanger peninsula where Hornøya is located is subject to growing interest from birdwatchers from several European countries and is currently one of the most successful birdwatching destinations in Norway. Hornøya is considered the most spectacular site in Varanger, with more than 80,000 breeding birds at the eastern side of the island, which is a steep bird cliff. Several red-listed and Arctic seabird species nest there, including the common guillemot (*Uria aalge*), Brünnich's guillemot (*Uria lomvia*), black-legged kittiwakes (*Rissa tridactyla*), and Atlantic puffin (*Fratercula arctica*). Visitation to Hornøya has almost doubled in recent years, from 1,100 in 2012 to 1,930 in 2019 (Reiertsen et al., 2018). Close encounters with birds as well as the large number and diversity of species are likely reasons why Hornøya is an attractive site for birdwatchers. The island is protected as a nature reserve, with visitation areas limited to small parts of the island. There is generally no entrance fee for visiting, but the boat transportation from Vardø costs 400 NOK (about 40 euros) for the round-trip. A few tour operators have offered additional guiding at the site, and a few tourists attend more exclusive trips with RIB boats, which could also include snorkelling with seabirds.

Sampling

Respondents were recruited in 2017 via a small onsite form followed by an online survey. In the recruitment survey, birdwatchers using the organised boat transportation to Hornøya were approached with a short, self-administered form to collect e-mail addresses. From May to August, trained Vardø harbour service personnel invited the majority of the 1,799 visitors to Hornøya to complete this form. Additionally, a lodging property primarily used by birdwatchers distributed the form among their customers. In total, 648 birdwatchers completed the form; 619 at Vardø harbour or on the boat to Hornøya (34% of those invited) and 29 from the lodging property.

A survey for online distribution was developed by the researchers and pre-tested among Norwegian university students studying nature-based tourism. Thereafter it was pilot tested in

English and Norwegian among a portion of the respondents. After minor adjustments, the final survey was sent to 559 email addresses during March and April 2018. The survey was available English, Norwegian, German, and Finnish. Up to five reminders were sent, at varying times of day and days of the week, to those respondents who had not completed the survey at the time of each reminder. Adjusting for undeliverables, a total of 521 birdwatchers received the invitation, and 248 (48%) completed the survey.

Variables

Most variables were measured by answering statements on seven-point semantic differential scales with only endpoints given verbal labels. There were also categorical variables. See Tables 1 and 3 for all variables and wording. The key concepts were measured as follows:

- *Motivation:* We used 23 recreation motivation variables for going on a bird watching trip to Hornøya. The 19 general motivation variables were taken from Manning (2011, pp. 179-181). The four birdwatching specific motivation variables were adapted from Glowinski and Moore (2014).
- *Specialization:* Here we measured the three domains activity-behavior, skills and knowledge, and commitment (Scott & Shafer, 2001). Activity-behavior was measured by two variables (number of days and sites birdwatching). Skills and knowledge were measured by two statements. Commitment consisted of four centrality-of-life items (Kim et al., 1997).
- *Satisfaction* was not a domain but measured by eight Hornøya specific satisfaction variables about information provision, shelter and trails, number of people and their behavior towards birdlife, birds seen, and the overall birding experience.
- *Loyalty*, this domain was made up of three variables from Lee (2009).

For each domain/factor and respondent we calculated an index value (1-7) based on the average value of the variables in each factor.

Data analyses

Birdwatcher segmentation

We used a principal axis factor analysis to reduce the 23 motivation variables for going on birdwatching trips to Hornøya. The best theoretical and statistical solution yielded 6 factors explaining 57.6% of the variation. For each factor and respondent, we calculated an index

value based on the average value of the variables in each factor. A report of the principal axis factor analysis is provided in Table 1. To segment birdwatchers, we used the index value for the different motivational factors in a cluster analysis (Table 2). Advice from Hair et al. (1998, pp. 497-515) was followed. First, we applied a hierarchical cluster analysis (Ward's method) to find the best number of clusters and initial seed points (cluster centroids). Second, we specified the number of clusters to be extracted, and used cluster centroids from the hierarchical analysis as seed points in a non-hierarchical K-means cluster analysis. To check the robustness of the cluster solutions, three types of cluster analyses were conducted: (1) the combination of hierarchical and nonhierarchical analysis (as described); (2) hierarchical analysis; and (3) non-hierarchical (K-means) analysis. These analyses were also applied on a random half-split of the sample. A three-group-cluster solution showed similar results for all types of cluster analyses (1–3), and it was therefore deemed stable. The three-group solution yielded distinct differences between clusters. These were tested using a one-way analysis of variance (ANOVA) and subsequent Tamhane's post hoc test.

Comparison of birdwatcher groups

To compare the three birdwatcher groups on socio-demographics and other variables (Tables 2 and 3) we used ANOVA combined with a Tamhane post hoc test with unequal variances assumed for continuous variables, and a Pearson's chi square test for categorical variables.

Multiple regression analyses

Two standard multiple regression analyses were carried out to assess the effects motivational factors, specialization domains, satisfaction variables, and socio-demographics had on (1) participants' overall satisfaction and (2) destination loyalty (see Table 4). The independent variables were identical for both analyses. Both dependent variables were measured on a 1-7 scale. As recommended by Field (2009, p 225) we first ran two regression analyses with the IVs theoretically having an impact on overall satisfaction and Loyalty. The variables of significance in the first run were then used in a second round of regression analyses to refine our models. The analyses were done using the SPSS software, and the linear regression option. The statistics and variable descriptions of the models are provided in Table 4.

Preliminary analyses were conducted to ensure no violations of the assumptions of normality, linearity, multicollinearity and homoscedasticity. Inspection of the standardized residuals revealed three outliers in our regression analysis on overall satisfaction, and these

respondents were removed from the dataset before conducting further analyses. No outliers were found in our regression analysis on participant loyalty. A test of multicollinearity indicated that this was not a concern, as the VIF-values of all independent variables were below the recommended threshold of 10 in both analyses (Field, 2009; Pallant, 2016). Finally, a plot of the standardized residuals indicated that our data had approximately normally distributed errors and met the assumptions of homogeneity of variance in both analyses.

Results

Birdwatcher segmentation

The principal axis factoring based on participants' motivations yielded six factors (Table 1) that were labelled as: '*Escape everyday life'*, '*Family time'*, '*Experience nature'*, '*Experience birds*', '*Ability*', and '*Fitness*'. The subsequent cluster analysis based on the index values of the motivation factors yielded a cluster solution with three birdwatcher groups (Table 2) labelled as: 'Birds & nature enthusiasts', 'Individualists', and 'Holistic wildlife viewers'.

Table 1 Principal axis factoring (oblim rotation) based on birdwatcher motivation

Factors Statements[a]	**Factor loading**	**Mean (SD)**	**Alpha if item deleted**
Escape everyday life (Alpha= .80. Variance explained= 29.42%)		**4.21 (1.68)**	
to experience peace and quietness	.70	4.62 (1.91)	.76
to get away from the usual demands of life	.54	4.26 (2.02)	.71
to reduce stress and tensions	.51	3.75 (2.04)	.70
Family time (Alpha= .84. Variance explained= 5.32%)		**3.03 (1.96)**	
to do something with your family	.98	3.47 (2.28)	n/a
to bring your family closer together	.71	2.59 (1.95)	n/a
Experience nature (Alpha =.78. Variance explained= 6.21%)		**5.85 (1.04)**	
to be close to nature	-.67	6.10 (1.25)	.77
to view the scenic beauty	-.43	6.00 (1.28)	.72
to study nature	-.61	5.75 (1.35)	.75
to learn about nature	-.81	5.53 (1.45)	.66
Experience birds (Alpha= .66. Variance explained= 11.32%)		**6.00 (1.03)**	
seeing many birds	.56	6.30 (1.11)	.58
see bird species you have never seen before	.53	5.94 (1.53)	.62
see specific birds/bird taxa that is of special interest to you	.84	6.17 (1.31)	.51
photograph birds	.43	5.61 (1.78)	.69

Ability (Alpha= .79. Variance explained= 2.80%)		**2.64 (1.49)**	
to learn what you are capable of	-.49	3.16 (2.04)	.74
to show others you can do it	-.69	2.05 (1.51)	.73
to gain a sense of self-confidence	-.86	2.73 (1.79)	.64
Fitness (Alpha= .80. Variance explained=2.48%)		**3.32 (1.70)**	
to get exercise	-.78	3.49 (1.89)	n/a
to keep physically fit	-.63	3.15 (1.83)	n/a

Note: N=266. Factor loadings below 0.4 suppressed. Total variance explained (57.56) Kaiser-Meyer-Olkin Measure of Sampling Adequacy= .843. Bartlett's Test of Sphericity X^2 (153)=1958, p<0.001. Determinant [R]= .001. Three initial motivation variables were excluded from the final solution because they loaded <.4, or loaded >.4 on more than one factor, these were :To be with friends, To meet others who enjoy the same things you do, To develop your skills and abilities. [a] Respondents were asked on a scale from 1 (not at all important) to 7 (very important) how important or unimportant each of the listed reasons were for them going birdwatching at Hornøya Island

Table 2 Cluster analysis based on motivational factors for going birdwatching at Hornøya (in Table 1) yielded three birdwatcher groups.

	Birdwatcher groups				
Motivational factors	1 Birds & nature enthusiasts	2 Individualists	3 Holistic wildlife viewers	Total	Tamhane's posthoc[a]
Escape everyday life	2.88 (1.30)	4.84 (1.04)	5.41 (1.26)	4.21 (1.68)	1<2<3
Family time	2.07 (1.20)	**1.60 (.82)**	5.39 (1.06)	3.03 (1.97)	2<1<3
Experience nature	**5.32 (1.20)**	6.09 (.76)	6.32 (.62)	5.85 (1.04)	1<2,3
Experience birds	**5.91 (1.07)**	5.91 (1.00)	6.19 (.98)	6.00 (1.03)	ns
Ability	1.64 (.89)	3.08 (1.35)	3.58 (1.44)	2.64 (1.49)	1<2,3
Fitness	1.77 (.79)	4.28 (1.24)	4.54 (1.35)	3.32 (1.70)	1<2,3
N (% of sample)	111 (41.7%)	68 (25.6%)	87 (32.7%)	266	

Note. Scale 1 (not at all important) to 7 (very important). Mean response (standard deviation) to motivation factors are shown. Significant differences between groups indicated in the right column. See table 1 for which variables belong to the different factors. [a] Cluster by cluster compared using Tamhane's posthoc multiple comparison method. The > symbol denotes significance between clusters at a 5% level.

Birdwatcher characteristics

Groups were compared by chi square, ANOVA and post hoc tests on satisfaction, loyalty, specialization and sociodemographic variables (Table 3). For most measured variables there were no significant differences between groups. Therefore, we first highlight the common characteristics of the birdwatchers before further comparisons of the groups.

Table 3. Comparing birdwatcher groups on socio-demographics, specialization, satisfaction and loyalty

	Birdwatcher groups				
Variables	1 Birds & nature enthusiasts	2 Individualists	3 Holistic wildlife viewers	Total	Chi Square/ Tamhane posthoc[a]
Age	56 (13)	56 (14)	52 (13)	55 (13)	ns
Gender (1=female)	.39	.38	.44	.41	ns
Income in euros[b]	3633 (1998)	3151 (1648)	3128 (1629)	3321 (1788)	ns
University education (=1)[c]	.81	.83	.68	.77	p< .05
Country Norway (=1)[c]	.17	.15	.18	.17	ns
Country Finland (=1)[c]	.13	.31	.46	.28	p< .001
Country other (=1)[c]	.70	.54	.36	.55	p< .001
Days birdwatching on Hornøya	1.09 (.32)	1.26 (.80)	1.23 (.76)	1.18 (.63)	ns
Days birdwatching other places in Varanger	4.87 (3.48)	6.03 (6.89)	4.78 (4.81)	5.14 (4.98)	ns
Importance of birdwatching to visit Varanger Peninsula[d]	6.00 (1.74)	6.26 (1.42)	6.23 (1.26)	6.12 (1.52)	ns
Number of bird species able to identify by sound	87 (117)	117 (164)	79 /112)	92 (130)	ns
Total years birdwatching	26 (22)	26 (21)	19 (18)	23 (20)	ns
Specialization					
Activity Behavior domain[§e]	2.14 (1.44)	2.41 (1.52)	2.04 (1.42)	2.18 (1.46)	ns
Birdwatching places visited in 2017	18 (24)	20 (22)	16 (22)	18 (23)	ns
Days birdwatching in 2017	60 (74)	69 (68)	51 (59)	60 (68)	ns
Skills & Knowledge domain[§f]	**4.41 (1.31)**	**4.44 (1.30)**	**4.19 (1.46)**	**4.34 (1.36)**	**ns**
Skills in identifying birds	4.33 (1.38)	4.35 (1.42)	4.04 (1.52)	4.24 (1.44)	ns
Knowledge about bird management and conservation issues	4.50 (1.42)	4.50 (1.33)	4.36 (1.52)	4.45 (1.42)	ns
Centrality domain[g§]	**3.32 (1.61)**	**3.79 (1.74)**	**3.36 (1.53)**	**3.46 (1.62)**	**ns**

If I stopped birdwatching, I would probably lose touch with a lot of my friends	2.68 (1.72)	3.54 (1.83)	3.05 (1,77)	3.02 (1.79)	1<2
I find that a lot of my life is organized around birdwatching	3.58 (1.98)	4.18 (2.07)	3.60 (1.79)	3.74 (1.95)	ns
Others would probably say I spend too much time birdwatching	3.21 (1.95)	3.67 (2.18)	3.34 (1.82)	3.37 (1.97)	ns
Other leisure activities don't interest me as much as birdwatching	3.79 (2.01)	3.79 (1.90)	3.47 (1.84)	3.69 (1.92)	ns
Satisfaction[h§]					
The information given at the harbor/boat transportation and posted at Hornøya	5.23 (1.52)	5.65 (1.10)	5.50 (1.39)	5.43 (1.38)	ns
The shelter/hide at Hornøya	4.70 (1.32)	4.92 (1.25)	5.15 (1.39)	4.91 (1.33)	ns
The trails/paths at Hornøya	4.46 (1.56)	4.78 (1.68)	4.61 (1.47)	4.59 (1.56)	ns
The number and diversity of birds seen at Hornøya	6.26 (.91)	6.15 (.89)	6.31 (.77)	6.25 (.86)	ns
The number of people at Hornøya while you visited	5.03 (1.35)	4.97 (1.19)	5.45 (1.09)	5.15 (1.24)	2<3
Other visitors' behavior towards birds/birdlife at Hornøya	5.09 (1.48)	5.47 (1.10)	5.74 (1.01)	5.40 (1.27)	1<3
The information about what activities are not allowed at Hornøya	5.18 (1.44)	5.41 (1.10)	5.63 (1.25)	5.39 (1.31)	ns
Your overall birding experience at Hornøya	6.18 (1.08)	6.22 (1.08)	6.36 (.82)	6.25 (1.00)	ns
Loyalty domain[§g]	**6.16 (.90)**	**6.37 (.77)**	**6.38 (.90)**	**6.29 (.88)**	**ns**
I will visit Hornøya again	5.50 (1.57)	5.96 (1.28)	6.05 (1.42)	5.80 (1.47)	1<3
I will recommend visiting Hornøya to other people	6.42 (.94)	6.56 (.72)	6.52 (.85)	6.49 (.85)	ns
I will speak positive about Hornøya to other people	6.56 (.73)	6.59 (.70)	6.57 (.80)	6.57 (.74)	ns
N (% of sample)	111 (41.7%)	68 (25.6%)	87 (32.7%)	266	

Note. [§]Domain values (in bold) are the average of variables in the domain. [a] Cluster by cluster compared using Tamhane's posthoc multiple comparison method. The > symbol denotes significance between clusters at a 5% level.

[b]Average monthly net personal income. That is the income after tax paying (including salaries, pension, and/or capital income).

[c]Dummy variable. 1= if so, 0 otherwise.

[d] Scale 1-7 where 1= not important at all, 7= Very important

[e]Open ended question. Variables standardized to a 1-7 scale. Domain value is average of the two variables after standardization.

[f]Variable questions asked*: How would you rate your knowledge about (activity) management and conservation issues compared to other birders*?, and *How would you rate your own skills in birdwatching compared to other birders?*. Responses given on a seven-point scale where 1=much lower than average, and 7= much higher than average. A don't know option was also provided.

[g] Scale 1(strongly disagree) to 7 (strongly agree).

[h] Question asked*: How satisfied or dissatisfied were you with the following aspects of your last spring/summer trip to Hornøya island?* Scale 1 (very dissatisfied) - 7 (very satisfied).

Overall characteristics

The average age of the surveyed birdwatchers was middle-aged (mean 55 years) (Table 3). A slight majority were males (59%), most had a university education (77%), and the average monthly net personal income was 3321€. A total of 17% of the respondents were Norwegians, 28% were Finnish and 55% came from other countries. Generally, they had a long history of birdwatching with an average of 23 years. Skills in identifying bird species by sound was high with 92 species on average, and some extremes reported more than 500 species. Overall, birdwatching was a very important reason for visiting the Varanger region. Within Varanger, they spent one day birdwatching at Hornøya, and five days at other sites on average.

- *Specialization*: Birdwatching was a frequent activity with 60 days of birdwatching and 18 sites visited in 2017, as expressed through the *activity behavior* domain of specialization. *Skills & knowledge* about birds and bird management were self-reported to be about the same as the average birdwatcher. Birdwatchers seemed to slightly disagree on the statements about birdwatching being central to their life, as expressed in the *centrality* domain.
- *Satisfaction*: Satisfaction with the overall birding experience at Hornøya, and the number and diversity of birds seen there was very high. The two variables receiving the lowest score (yet above medium) were infrastructure in the form of shelter and trails at Hornøya. High scores were received for the other satisfaction variables: number of people present, their behavior towards birds, and information given.
- *Loyalty* to Hornøya was very high, especially for recommending or speaking positively about the destination to others. When it came to visiting Hornøya again, the score was lower than for the two other loyalty variables, but still high.

Group characteristics

- Group 1 Birds & nature enthusiasts (41.7% of the sample): These birdwatchers scored highest on the motivational factor *Experience birds,* followed by *Experience nature.* They had a very low score (and lower than the other groups) on the other motivational

factors. Finnish people made up only 13% of this group, which were fewer than for Individualists (31%) and Holistic wildlife viewers (46%). Other countries (than Finland and Norway) were however better represented in this group with 70%, vs. 54% and 36% respectively in the two others. Birds & nature enthusiast were less satisfied than the Holistic wildlife viewers about other visitors' behavior towards birds/birdlife at Hornøya.

- Group 2 Individualists (25.5% of the sample): The reason this group was named individualists was very low scores on *Family time.* This groups' scores on the motivational factors *Escape everyday life*, *Ability*, and *Fitness* had a medium score, between Birds & nature enthusiasts (lowest) and Holistic wildlife viewers (highest). Whereas for the *Experience nature* and *Experience birds* factors, they scored high like the other groups. Satisfaction with the number of people on the Island was relatively high, but lower than for Holistic wildlife viewers.
- Group 3 Holistic wildlife viewers (32.7% of the sample): To this group, *Experience nature* scored highest, followed by *Experience birds*. The other factors were scored medium or high, but higher or the same as the other groups. While 68% of this group had a university education, it was lower than for the two other groups. The intention to revisit Hornøya was higher than for Birds & nature enthusiasts.

Motivational factors' effects on participants' overall satisfaction and loyalty:

The regression model measuring effects on overall satisfaction explained 46.1% of the variance in overall satisfaction (Table 4). *Experience birds* was statistically significant and contributed positively with a standardized beta coefficient of .114. The other motivational factors were not statistically significant. None of the domains measuring participants' degree of recreation specialization or demographic variables were significant. Satisfaction with the information given at the harbor/boat transportation and posted at Hornøya (standardized beta coefficient .235) and the trails/paths at Hornøya (standardized beta coefficient .188) were both statistically significant, and so was participants' satisfaction with the number and diversity of birds seen at Hornøya, which made the largest individual contribution to the model with a standardized beta coefficient of .414. No socio-demographic variables were significant.

Table 3 Estimation results for multiple regression models of satisfaction and loyalty

	Model 1 Dependent variable (DV): Overall birding experience satisfaction R^2=0.461, $F_{4, 252}$= 59.9, p<0.001				Model 2 DV: Loyalty R^2=0.363, $F_{8,234}$=16.6, p<0.001			
Independent variables	Regr. Coeff.[a]	t[b]	Part[c]	sr^{2d}	Regr. Coeff.[a]	t[b]	Part[c]	sr^{2d}
MOT_Experience nature					.303	5.12***	.267	.071
MOT_Experience birds	.114	2.30*	.107	.011				
MOT_Fitness					ns[e]			
SAT_information given at the harbor/boat transportation and posted at Hornøya	.235	4.46***	.206	.042	.215	3.41**	.178	.032
SAT_trails/paths	.188	3.63***	.168	.028				
SAT_number and diversity birds	.414	8.22***	.380	.171	.251	4.43***	.231	.053
SAT_information about activities not allowed					.148	2.47*	.129	.017
Age					-.154	-2.90**	-.151	.023
Norwegian					.182	3.03**	.158	.025
Finnish					ns[e]			
Unique variance ($\sum sr^2$)				.252				.221
Shared variance				.209				.142

Note: Only significant variables from round 1 of regression listed in table. Independent variables included in each of the two regression analyses were: From Table 2 - six motivation factors (Escape everyday life, Family time, Experience nature, Experience birds, Ability, Fitness). From Table 3 - the seven first satisfaction variables listed, activity behavior domain, skills & knowledge domain, centrality domain, age, gender, education, income, Norwegian, Finnish, other countries. *p<0.05, **p<0.01, ***p<0.001. [a] Regr.coeff. = standardized regression coefficients, [b] t = t-value; [c] Part = semipartial correlation; [d] sr^2= squared semipartial correlation. [e]Not significant, but variable was significant in first round of regression.

The regression model measuring effects on loyalty explained 36.3% of the variance in loyalty (Table 4). *Experience nature* was statistically significant and affected loyalty the most (standardized beta coefficient .303). It also made the largest individual contribution to the model. The other motivational factors were not significant. None of the domains measuring participants' degree of recreation specialization were statistically significant. However, the participants' age had a negative statistically significant effect (standardized coefficients beta -.154), indicating that younger participants expressed higher destination loyalty. The nationality dummy variable *Norwegian* (standardized coefficients beta .182) was also statistically significant, indicating that Norwegians expressed higher destination loyalty than other nationalities. Satisfaction with the number and diversity of birds seen at Hornøya (standardized coefficients beta .251). was also significant, as were information given/posted

at the boat/harbor/island (standardized coefficients beta .215) and satisfaction with the information about what activities are not allowed at Hornøya (standardized coefficients beta .148)

Discussion and conclusion:

Our study contributes to the wildlife tourism literature by 1) segmenting a sample of birdwatchers based on their motivations to visit a relatively remote Arctic birdwatching site, and 2) investigating the relationship between motivation and overall satisfaction, and the relationship between motivation and loyalty. We also investigated the effects of recreation specialization, satisfaction with several elements of the birdwatching site and sociodemographic variables. Moreover, the study is one of the first studies on birdwatching tourism in Northern Europe. Our results indicate that segmentation based on motivational factors can be applied to this subgroup of WWT participants, as three distinct birdwatcher groups with different motivations were identified. This is in line with the findings of previous studies on motivation among other groups of WWT participants (Beh & Bruyere, 2007; Miller et al., 2020). The three groups identified in our study (Bird and Nature Enthusiasts, Individualists and Holistic Wildlife Viewers) were similar when it came to sociodemographic variables, time spent birdwatching in the area, overall loyalty, overall satisfaction with the birding experience and recreation specialization. However, differences were found when it came to whether participants planned to visit Hornøya again, as well as satisfaction with the number of people and other visitor's behavior towards birds and wildlife at Hornøya. Holistic wildlife viewers, who gave high scores to all six motivational factors included in the cluster analysis, were more likely to visit again than Birds and Nature Enthusiasts, indicating that participants who were motivated by a variety of factors were slightly more loyal than participants who were mainly interested in experiences of birds and nature. However, the three groups all gave the motivational factors *experience nature* and *experience birds* higher scores than the other motivational factors even if the scores of the other motivational factors varied from group to group. Additionally, the largest group in our sample was *Birds and Nature Enthusiasts,* who made up 41.7% of the sample and gave all motivational factors except *experience nature* and *experience birds* low scores. Thus, across all clusters, the main motivations of our sample were to experience birds and nature. The results of our multiple regression analyses indicated that the motivational factor *experience birds* made a significant contribution to participants' overall satisfaction while the motivational factor *experience nature* made a significant contribution to participant loyalty. These findings confirm that

experience nature and *experience birds* were important to our sample. Our findings are also in line with Beh and Bruyere's (2007) study on motivations among visitors to Kenyan wildlife reserves, who ranked nature and general wildlife viewing as very important, and Miller et al. (2020) study on polar bear tourism participants in USA, who gave high scores to wildlife watching.

Another important finding in our study was that while there was some variation in our sample's degree of recreation specialization, the three groups did not score significantly different on the three main specialization domains: *activity behavior*, *skills & knowledge* and *centrality*. Furthermore, none of these three domains had significant relationships with loyalty or overall satisfaction in our multiple regression analyses. These findings indicate that, while recreation specialization is a widely applied and recognized basis for participant classification among birdwatchers (De Salvo et al., 2020; Harshaw et al., 2020; Scott et al., 2005), even birdwatchers with relatively similar degrees of recreation specialization can have different motivations to visit a destination. Furthermore, the findings of our multiple regression analysis on which factors were most important to participant loyalty suggest that others factors such as satisfaction with different parts of the experience, age, whether participants were Norwegian or foreign and whether participants were sufficiently motivated by general nature experiences were more important to loyalty than participants' degree of recreation specialization. This may be due to our sample, who were all relatively specialized birdwatchers visiting a remote location to experience Arctic birds. Nevertheless, our study shows that other participant characteristics may also have effects on overall satisfaction and loyalty, and that these characteristics vary, also among specialized birdwatchers

Management implications

The findings indicate that some motivational factors have certain effects on participants' overall satisfaction and loyalty. Thus, segmentation based on motivations to visit can be a useful tool when identifying which customer groups visit a birdwatching destination. Furthermore, as bird and nature experiences were the main reasons participants visited Hornøya and had positive relationships with participants' overall satisfaction and loyalty, our findings indicate that facilitating both birdwatching and more general nature experiences should be a priority for managers of birdwatching sites. Moreover, marketing and communication strategies should be aimed at participants who are motivated by these factors. Furthermore, satisfaction with facilitation and information at and around the site had significant positive relationships with both overall satisfaction and participant loyalty. Thus,

two other important focus areas are to ensure high quality trails, and that participants have access to relevant information about the sites, birds and which behaviors are allowed at the site.

Limitations and suggestions for further research:

Our study is based on a relatively small sample of 248 birdwatchers who visited Hornøya, Northern Norway during the 2017 summer season. Although this sample represents 14% of the 1799 visitors to the island during this time and was deemed representative, similar studies on larger groups of birdwatchers including visitors to other sites in the surrounding area of Varanger might yield different results. Future studies should also aim to collect data over a longer period of time, to include visitors during the rest of the birdwatching season. Moreover, one of the main motivations of the birdwatchers in our sample was to "experience nature". However, the questions included in this motivational factor were relatively general (to be close to nature, to study nature, to learn about nature and to view the scenic beauty) and did not specify which specific elements of the nature at Hornøya were important to participants. Such elements may for example include experiences of plants, landscape or geology. As experiencing nature was a main motivational factor in our sample, further research on which elements of the nature experience are particularly important is encouraged. Moreover, as WWT experiences are varied and even experiences based on the same species can be framed quite differently (Bulbeck, 2005), our findings cannot be generalized to all birdwatching sites.

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Paper 2

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The wildlife watching experiencescape: the case of musk ox safaris at Dovrefjell-Sunndalsfjella National Park, Norway

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ABSTRACT

Wildlife watching tourism show rapid growth worldwide and activities based on a variety of species receive increased attention in the tourism literature. Understanding the relationships between experiences, product delivery and the setting is particularly important in wildlife watching tourism, since the main attraction (wild animals) can be threatened if managed incorrectly. Research investigating the dynamics of participants' experiences, also beyond encounters with the target species, will help tourism providers develop more enjoyable products, that participants' will recommend to others. Using musk ox safaris in Dovrefjell Norway as our case, we examine this taking the tourism experiencescape model of Mossberg (2007) as a point of departure. Data were collected with a combination of participant surveys, on-site observations and interviews. Findings indicate that elements seen as individual aspects of the experience in other tourism settings are more connected in a wildlife watching context. We conclude that guiding and interpretation is a key factor for satisfaction in wildlife watching tourism.

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Wildlife tourism; experiencescape; nature-based tourism; musk ox; guiding

Introduction

Wildlife watching tourism is becoming increasingly popular worldwide (Ayazlar, 2017), and activities based on a variety of wildlife species are experiencing rapid growth. There are wildlife opportunities in almost every type of environment, and wild animals are the backbone of nature-based tourism in many countries (Fredman & Margaryan, 2020; Valentine & Birtles, 2004). The growing number of wildlife watching destinations and products indicate a wide, universal and growing appeal for wildlife experiences (Curtin, 2013), and charismatic megafauna species are especially popular (Skibins et al., 2013). In U.S.A., wild horse tourism is becoming popular in South Dakota, Nevada, Wyoming, Montana and New Mexico (Notzke, 2014). In Scandinavia, moose watching, both at designated "moose farms" and in the wild, is gaining popularity (Brandin,

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2009), and in the arctic, polar bear tourism is increasing (Dybsand, 2020; Fefer et al., 2020; Lemelin & Dyck, 2008).

Wildlife watching tourism can be defined as tourism that is organized and undertaken to watch wild animals in natural settings (Tapper, 2006). It involves observational activities that do not purposefully harvest or remove wildlife from their habitats, and is a sub-category of wildlife tourism (WT) (Hassan & Sharma, 2017b). WT is a niche in nature-based tourism involving activities that are based on interactions with non-domesticated animals (Borges de Lima & Green, 2017). In addition to wildlife watching tourism, zoo tourism, hunting tourism and fishing tourism are also included in most definitions of WT, and the interactions can be consumptive or non-consumptive and occur in captivity, semi-captivity or the animals' natural environments (Higginbottom, 2004). Several people argue that wildlife watching tourism is the type of WT that has grown most in recent years (Hassan & Sharma, 2017a; Manfredo & Fulton, 2008; Newsome et al., 2005). Research interest is also increasing, with recent studies focusing on topics like wildlife watching tourism in marine environments (Harman & Dilek, 2017; Lück, 2015; Thomson et al., 2017) and the ethical implications of wildlife watching tourism (Burns, 2017; Green, 2017). There are also studies on the experiential aspects of wildlife watching tourism (Curtin, 2005, 2010b). However, more research investigating its dynamics from the participant's perspective can help managers better understand the role of wildlife experiences, and develop ways to enhance them in a tourism context (McIntosh & Wright, 2017). Moreover, understanding the relationship between participants' needs and product delivery is particularly important when it comes to wildlife watching tourism. The resource can be threatened by inappropriate behaviors caused by bad management, such as poor interpretation, damaged habitat or inappropriate distances between visitors and wildlife (Curtin, 2005). If managed incorrectly, wildlife watching tourism can have negative impacts on wildlife, such as alterations of natural behavior, habituation, food conditioning, crowding, stress, contamination, relocation or displacement, habitat degradation and in some cases local extinction (Green & Giese, 2004). Finding a good balance between participants' expectations and a sustainable use of the resource is challenging due to the unpredictable nature of wild animals (Dybsand, 2020; Margaryan & Wall-Reinius, 2017). A strategy to fulfil participants' expectations can be to focus on other aspects of the wildlife watching experience, such as: high quality guiding including interpretation and storytelling, or supplementary activities with less uncertainty involved (Dybsand, 2020; Margaryan & Wall-Reinius, 2017). Understanding how these aspects contribute to participants' overall wildlife watching experiences can contribute to product development and participant satisfaction. High quality wildlife watching experiences that rely on more elements than the actual encounters with the target species can also reduce negative impacts on wildlife.

Using musk ox safaris in Dovrefjell, Norway, as a case, our study contributes to the WT literature by examining the wildlife watching tourism experiencescape, analyzing what parts of the wildlife watching experience are most important to participants besides encountering the target species. Using the experiencescape concept to theoretically frame our study a combination of participant surveys, on-site observations and interviews were undertaken.

Theory

When Pine and Gilmore coined the experience economy concept in the late 1990s, they argued that the economy evolved from a service paradigm into an experience paradigm with revenues increasingly deriving from staging exciting and engaging experiences (Pine & Gilmore, 1999). An experience can be defined as a constant flow of thoughts and feelings that occur during moments of consciousness (Carlson, 1997), and put in a tourism context – a continuous process made up of a set of events or activities occurring at a destination that often involve contact with tourism-related organizations and their personnel, driven by expectations of some sort of benefit (Moscardo, 2010). Although experiences are personal, subjectively perceived, intangible and continuously on-going, they can also be viewed as commodified phenomena actively pursued by tourists and offered by destinations and tourism providers (O'dell, 2007).

Studies show that although tourists' experiences are individual constructs, they connect with and are highly dependent on the surrounding environments where they are created (Blumenthal & Jensen, 2019; Quan & Wang, 2004; Tung & Ritchie, 2011). According to Chen et al. (2018), trip partaking experiences are affected by the personal driver relating to an individual's characteristics, the environmental driver that deals with non-personal influences and the interactive driver that brings the destination to the tourists' attention through interactive and reciprocal channels of exchange. Although providers of experience products cannot produce experiences for their customers, they can facilitate experiences by creating circumstances and environments that consumers can interact with in order to create their own experiences (Blumenthal & Jensen, 2019; Campos et al., 2016).

Blumenthal and Jensen (2019) identified nine aspects that affected customer experiences with managed visitor attractions: physical challenge, group assimilation, personal resource utilization, intellectual challenge, memories, imagination, involvement with the present, involvement through personal life narrative and immersion. Cutler and Carmichael (2010) found that experiences are affected by physical aspects, social aspects, and products and services during the experience. In addition to the above, experiences in natural surroundings are also affected by several factors such as scenery, recreation, wildlife, novel occurrences and social interaction (Farber & Hall, 2007) or harmony with nature, communitas, personal growth and renewal (Arnould & Price, 1993). Hence, the "scape" where WT is delivered plays a key role for visitors' experiences and satisfaction.

The term servicescape was first conceptualized by Bitner (1992) who used it to emphasize the physical setting where a market exchange is performed, delivered and consumed within a service organization (Rosenbaum & Massiah, 2011). Her framework is still influential in the marketing/service literature today (See for example Ezeh & Harris, 2007; Lee & Jeong, 2012; Reynolds & Harris, 2009; Spangenberg et al., 2005), and the servicescape has also been widely applied within tourism and hospitality studies. However, there has been a shift towards more emphasis on experiences over the last decade, from which the concept experiencescape has emerged (Tresidder & Deakin Emmie, 2019). The experiencescape is defined as the meeting ground where diverse groups move about and come in contact with each other for pleasure, enjoyment and entertainment (O'dell, 2005), and its focus is the exchange of experiences and experience creation (Mei et al., 2018). Successful experiencescapes are often characterized by the coalescence of their elements around a

theme within which tourists create their own experiences, for example during visits to theme parks or heritage areas and guided tours (Chen et al., 2019). An experiencescape can be a smaller entity such as a restaurant or shop, but it can also cover a larger area such as an amusement park or an entire city (Jernsand et al., 2015). The concept has been applied and adapted in many ways depending on the nature of the tourism experience examined, with examples including the accommodation experiencescape (Mody Makarand et al., 2017), the ski-chalet community experiencescape (McLeay et al., 2019) and the nature-based tourism experiencescape (Fossgard & Fredman, 2019; Margaryan, 2018). While the experience dimensions of tourism have been acknowledged also in the context of wildlife tourism (Curtin, 2005, 2010b), less is known about how these dimensions affect wildlife watching tourism participants (Lemelin & Wiersma, 2007).

One useful approach to better understand the experiencescape in a tourism context is the framework by Mossberg (2007), shown in Figure 1 below:

The model proposes that tourist experiences and satisfaction are affected by personnel, other tourists, products/souvenirs, the physical environment and the theme/story. The importance of each of these factors have been acknowledged in other studies (Blumenthal & Jensen, 2019; Cutler & Carmichael, 2010), not the least personnel. In controlled environments, such as shops or restaurants, customers meet several members of the personnel, such as shop clerks, waiters or butlers (Andersson & Mossberg, 2004). In the tourism industry, guides are generally seen as one of the key members of the personnel (Ap & Wong, 2001). They have central roles as managers of the social interaction and staging the physical environment to accommodate tourists' wishes (Mathisen, 2013), and particularly so in wildlife watching tourism (Curtin, 2010a). Guides can also transform a tourist's visit into an experience through knowledge and interpretation of a destination's attractions and culture, communication and service skills (Mossberg et al., 2018).

The guide's role was first conceptualized by Cohen (1985) who divided it into four components. The instrumental component entails leading the way, providing access, safety and efficiency. The interactional component involves acting as a link between the area and the tourists through representation and organization. The communicative

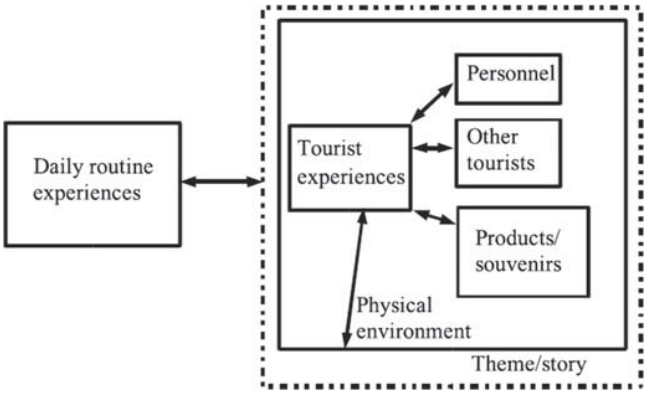

Figure 1. Mossberg's (2007) model of factors influencing the consumer experience within the context of tourism.

component involves the provision of information and interpretation as well as selecting what points of interests to show to the party. Finally, the social component involves tension-management, social integration, group morale and cohesion. For guiding in natural surroundings, two additional factors have been suggested: motivation which involves managing tourists' behavior and impacts on-site and environmental interpretation which involves improving tourists' environmental behavior in the long term (Randall & Rollins, 2009; Weiler & Davis, 1993). All six components are present also in wildlife watching tourism (Dybsand, 2020).

Other tourists can also influence the overall experience, level of satisfaction, and perceptions of quality (Cutler & Carmichael, 2010), and a certain degree of interaction with people other than travel partners is expected (Chen et al., 2018). The type and quality of souvenirs at a destination are tangible symbols of the tourists' consumption (Mossberg, 2007) and can influence the tourist experience as well (Cutler & Carmichael, 2010). Souvenirs may also bring tourists into contact with nonhuman others, for example through products made of animal skins (Gibson, 2014) or animal themed souvenirs sold at wildlife watching destinations (Ramsay, 2009). Similarly, photography is often an important aspect of the wildlife watching tourism experience (Lemelin, 2006), and photographs taken by the tourists themselves become souvenirs, as they are taken to remember experiences, and provide evidence of where the tourists have been, what they saw and what they did there (Belk & Yeh, 2011).

The physical environment serves as a facilitator which enhances the activities in the service setting for many tourism activities (Mossberg, 2007), and pleasing physical aspects of destinations can lead to more positive evaluations of experiences (Cutler & Carmichael, 2010). This is, of course, a key feature in nature-based tourism, including wildlife watching tourism. For outdoor activities, access to impressive natural surroundings can play a strategic role in the creation of the tourist offering (Mathisen, 2013), and facilitate or restrain experiences so that the place itself structures the nature of the experience that tourists receive (Curtin, 2005). Finally, themes and stories are critical elements in understanding tourist experiences (Moscardo, 2010). The story can be described as the "glue" binding together all the elements of the experience giving meaning and significance to it (Ihamäki, 2012), and a themed context contributes to tourists' involvement during a tourism experience (Mossberg et al., 2018).

While each of the elements in Mossberg's (2007) model are supported in the tourism literature, there are to our knowledge no previous studies applying the model to a wildlife watching case. Hence, our study contributes to the tourism literature by examining the elements of Mossberg's model is relation to musk ox safaris at Dovrefjell, Norway.

Methods

Study site

Dovrefjell-Sunndalsfjella National Park in central Norway was established in 1974, and expanded in size in 2002 and 2018 (Dovrefjell nasjonalparkstyre, 2019). The national park and surrounding protected areas cover 4367 square kilometers, making it is one of the largest protected areas on the Norwegian mainland (Miljødirektoratet, 2013). The main purposes of the national park are to conserve the habitat of the wild reindeer

herds of Snøhetta and Knutshø, and to conserve a large, mainly untouched mountain area with an intact alpine ecosystem and biodiversity (Dovrefjell nasjonalparkstyre, 2017). The national park is also the home of the only viable herd of musk ox (*Ovibos moschatus*) in Europe (Dovrefjellrådet, 2018).

The musk ox became locally extinct in Europe after the last ice age (Nasjonalparkriket, 2019). However, during construction of the Dovre railway in 1932, musk ox remains from this period were found, inspiring a reintroduction of the species from 1932 to 1953 (Miljødirektoratet, 2019). The approximately 250 individuals found in the area today mainly derive from 21 calves from Greenland (Miljødirektoratet, 2018). While the musk ox is now considered a foreign species in Norway, these individuals are not considered a threat to other wildlife or ecosystems in Dovrefjell, and are therefore allowed to develop as naturally as possible in a designated area of 340 square kilometers (shown in Figure 2) (Miljødirektoratet, 2018). Musk oxen that leave this area are put down by the Norwegian Environment Agency (SNO) (Rangbru & Sundgård, 2018).

The musk ox has become an important tourist attraction, both for the Dovrefjell area and for Norway in general (Rangbru & Seljevoll, 2017). It is now a main focus when marketing the Dovrefjell area (Vorkinn, 2015) and the local tourism organization Visit Dovrefjell's slogan is "in the kingdom of the musk ox" (Visit Dovrefjell, 2020). The species has also become an important part of the local identity in Dovrefjell. The Dovre municipality's

Figure 2. Map of Dovrefjell-Sunndalsfjella National Park (grey) and the designated musk oxen area (white).

coat of arms depicts a black musk ox with horns of gold on a silver background (The Dovre Municipality, 2019), and the largest restaurant in the municipality center Dombås is called The Musk Ox Grill (The Musk Ox Grill, 2020).

Data collection

Many tourists are attracted by the iconic musk oxen, and there are between 3000 and 3500 participants on organized musk ox safaris in the area every year (Rangbru & Seljevoll, 2017). Through contact with the national park manager and local tourism companies, we identified five operators offering musk ox safaris in the Dovrefjell area in 2018. Two of the companies offered safaris all year around based on requests, and three were active during the peak season only (June to August). The companies were relatively small, with 1–2 full time employees engaged in the safari activities. Three of the companies offered both accommodation and musk ox safaris, and two of the companies also offered other wildlife watching experiences, such as moose safaris and birdwatching trips. The musk ox safaris were hiking safaris, and lasted from 3 to 7 hours, depending on how far away the animals were. As the safaris took place in a protected area, there was limited infrastructure and participants often had to hike through difficult terrain to reach the animals. The maximum number of participants per safari was between 15 and 30, depending on the safari company. Prices varied slightly from provider to provider but were between 300 and 500 NOK (approximately 30–50 €) per participant. We used three types of data collection to examine participants' experiences with the musk ox safaris – participant surveys, and on-site observations combined with short interviews.

Survey distribution and design

Two different participant surveys were conducted; a short response card survey and a longer follow-up survey. The response cards consisted of 10 questions asking for basic trip information, socio-demographics, nationalities and contact details. They were distributed to participants in collaboration with the five safari companies in the area during the peak season of 2018. The tour guides collected response cards from participants between June 16th and September 15th, mainly during the morning briefings before their safaris. We also handed out response cards at the morning briefings of 14 randomly selected musk ox safaris in collaboration with the guides. In total, 1000 response cards were given to the safari companies. About 500 of the cards were distributed to participants, and 487 participants filled them out, 417 with valid e-mail addresses. We estimate this to be approximately 12% of all participants on guided musk ox safaris in Dovrefjell during the 2018 summer season. While the number of response cards collected varied slightly from provider to provider, they do reflect the size of the companies (safari volume) and we judge the sample to be representative for all musk ox safari participants in the summer season of 2018.

From November 2018 to January 2019, a follow-up survey was distributed by e-mail to all participants who provided valid e-mail addresses on their response-cards. Five reminders were sent out during this period, and 219 participants completed the survey (52% response rate). The follow-up survey was conducted as a part of a larger project looking into several aspects of wildlife watching tourism, and consisted of 62 questions in total (Dybsand & Stensland, 2019). For the purpose of this paper, we analyzed 19

questions designed to study what parts of the experiencescape were most important to the participants in wildlife watching tourism. Each factor in Mossberg's (2007) model was measured with two or three questions, measuring the degree of satisfaction on a seven-point Likert scale where 1 represented "very unsatisfied" and 7 "very satisfied." The questions were partially based on a previous study applying a similar model to dining experiences (Andersson & Mossberg, 2004), and partially created for the purpose of our study. An overview of the questions is provided in Table 1. In addition to the factors in Mossberg's (2007) model, we included two additional factors: The musk ox encounter (measured with three questions) and other wildlife in the area (measured with two questions). The dependent variable (Overall satisfaction) was measured with a single Likert scale question: "Overall, how satisfied are you with the musk ox safari?," using the same seven-point scale as for the independent variables.

Participant observation and on-site interviews

To better understand what parts of the experiencescape were most important to participants, we conducted participant observation on 14 randomly selected musk ox safaris during the data collection period. The safaris we joined in order to conduct our participant observation were distributed as evenly as possible between the five safari companies with 3–4 safaris per company. However, one of the companies offered fewer safaris during the 2018 peak season, and we were only able to join one safari with this company. Participants were informed about the presence of the researcher and short jot notes (DeWalt & DeWalt, 2010) were taken during the safaris. More detailed field diaries were written after the safaris, recording each days' events, participants' responses to both the musk ox encounters and other aspects of the safari as well as the author's own observations. These diaries were combined with on-site interviews with 33 travel parties that consisted of 49 respondents in total. During interviews, there was mainly one main spokesperson, and other members of the travel party offered their opinions on one or two questions. Participants were asked to explain how their encounter with the musk ox made them feel, how they experienced the encounter with other wildlife (when applicable) and what part of the experience they liked best besides the musk ox encounter. They were also given the opportunity to share any other aspects of their experience they found important. All interviews were recorded and transcribed.

Data analysis

Three types of analysis were used to analyze the data collected; factor and multiple regression analyses to examine the survey data, and thematic analyses to interpret field diaries and interview transcripts.

Factor analysis and multiple regression

To test Mossberg's (2007) model, a confirmative factor analysis was conducted using the SPSS Amos software. This analysis indicated that the proposed model was not a good fit to our sample. An explorative factor analysis, using principle component analysis as the extraction method, was therefore done to investigate whether the model could be altered in any meaningful way to better represent our sample. The results of this analysis were compared with findings in the thematic analysis to further shape our model. To

study the importance of each factor for participants' musk ox safari experiences, a linear multiple regression analysis was done, with the SPSS software. Mean satisfaction with each of the factors generated by the explorative factor analysis was used as independent variables and overall satisfaction as the dependent variable.

Thematic analysis

The field journals and participant interviews were analyzed by one of the authors using a thematic analysis (Clarke, 2006). A combination of predefined and open coding was applied so that both responses and observations linked to Mossberg's (2007) model, as well as other possible aspects of the experience not implemented in this model, could be included in the analysis. To improve the reliability of these codes, they were quality-controlled by the other author. The predefined codes included in our analysis were: *Personnel/guide*, *Other participants*, *Souvenirs*, *Physical environment, Focal Species Encounter, Other Wildlife* and *Theme/Story*. We also included predefined codes for links between these factors (e.g. links between personnel/guide and theme). In addition, other themes and sub-themes found in the interviews and field journals such as "difficult to explain how the focal species encounter made them feel" and "comments about difficult terrain and rivers," were recorded using open coding. Field journals and interview transcripts were all analyzed manually rather than using automated software or word searches, because different expressions and languages were often used to describe similar aspects of the safari participants' experiences. To strengthen the validity of our qualitative findings, the results were reported as directly as possible, using quotes from informants whenever possible.

Results

The average age of the participants in our sample was 44 years old (SD = 15.3), 50% were male and 50% were female. The largest nationality group was Scandinavians (35%), followed by participants from Germany (25%) and the Benelux area (Belgium, The Netherlands and Luxembourg – 17%). Participants were mainly first-time visitors, as only 4% stated that they had joined more than one musk ox safari. On average they stayed in the Dovrefjell area for 2.5 days, and 42% planned their trip at least 1 month in advance. All the participants in our sample saw at least one musk ox during the safari, and only 10% stated that they were further than 300 meters away from the animals, indicating that the majority got to see them up close.

Identification of experience factors

The 18 questions measuring participant satisfaction with different parts of their musk ox safari experience were used for a principal component analysis (PCA). Prior to performing the PCA, the suitability of using this data for a factor analysis was assessed. Tests of multicollinearity showed that no factors had a correlation higher than the suggested maximum of 0.7. The tolerance level was higher than the suggested minimum of 0.10 and the variance inflation factor was lower than the suggested maximum of 10 for all factors (Pallant, 2016). Inspection of the correlation matrix revealed the presence of many coefficients of 0.3 and above. The Kaiser-Meyer-Olkin value was 0.87, exceeding the recommended value

of 0.6 (Pallant, 2016). The PCA revealed the presence of five components with eigenvalues exceeding 1, explaining 41.9%, 9.6%, 7.0%, 6.6% and 5.3% of the variance respectively, and 70.3% of the variance in total. Table 1 presents an overview of which questions were grouped in each factor.

The factor analysis indicated that the questions measuring satisfaction with theme/story were linked to the questions measuring satisfaction with the staff. One of the questions measuring satisfaction with the physical environment (the difficulty level of the hike done as a part of the musk ox safari) was also linked to these questions. These questions were grouped in the factor *Guiding and interpretation*. Furthermore, the questions measuring satisfaction with the focal species encounter were linked to one of the questions measuring satisfaction with souvenirs (the possibility to take good photographs), and these questions were grouped in the factor *The focal species encounter*. The remaining two questions measuring satisfaction with souvenirs were connected to the remaining two questions measuring satisfaction with the physical environment. They were grouped in the factor *Local souvenirs and natural surroundings*. The questions measuring "other participants" remained grouped together and placed in the factor *other participants*. The questions measuring "other wildlife" also remained grouped together and were placed in the factor *Other wildlife sightings*.

Table 1. Pattern matrix from the explorative factor analysis.

	Component				
Question	1	2	3	4	5
Satisfaction with information given by the guide during the safari (staff)	.795				
Satisfaction with information received before the safari (staff)	.784				
Satisfaction with guide's ability to adapt to participant's needs (staff)	.762				
Satisfaction with possibilities to learn about musk oxen (theme)	.729				
Satisfaction with possibilities to learn about nature (theme)	.642				
Satisfaction with possibilities to learn about Dovrefjell (theme)	.639				
Satisfaction with difficulty level of the hike done as a part of the safari (physical surroundings)	.392		.379		
Satisfaction with the distance to the musk oxen seen during the safari (focal species)		.886			
Satisfaction with the activity level of the musk oxen seen during the safari (focal species)		.877			
Satisfaction with the number of musk oxen seen during the safari (focal species)		.756			
Satisfaction with the possibilities to take good photographs during the safari (souvenirs)		.695		.301	
Satisfaction with the weather, and the guide's ability to adapt to it (physical surroundings)	.341	.421			
Satisfaction with the opportunities to bring musk ox wool home from the safari (souvenirs)			.920		
Satisfaction with the possibilities to buy souvenirs before or after the safari (souvenirs)			.690		
Satisfaction with the natural surroundings (physical surroundings)			.480		
Satisfaction with the other participants' behavior during the musk ox safari (other participants)				.898	
Satisfaction with the number of participants on the safari (other participants)				.714	
Satisfaction with possibilities to look for other animals during the safari (other wildlife)					−.911
Satisfaction with the possibilities to learn about other animals during the safari (other wildlife)					−.729

Extraction method: Principal Component Analysis.
Rotation method: Oblimin with Kaiser Normalization.
Rotation converged in 9 iterations.

Explaining overall satisfaction

A multiple regression was conducted to see how the five factors identified in the exploratory factor analysis affected overall satisfaction with the musk ox safaris. Average scores within the 1–7 intervals were calculated for the questions grouped in each of the five factors (see Table 1) and then used as independent variables. The dependent variable was the 1–7 score given on the question measuring overall satisfaction. Inspection of the standardized residuals revealed one outlier, and this respondent was removed from the data before further analyses. A test of multicollinearity indicated that this was not a concern (Factor 1, Tolerance = .47, VIF = 2.13, Factor 2, Tolerance = .61, VIF = 1.64, Factor 3, Tolerance = .60, VIF = 1.69, Factor 4, Tolerance = .76, VIF = 1.32, Factor 5, Tolerance = .64, VIF = 1.58). Finally, a plot of the standardized residuals indicated that our data had approximately normally distributed errors and that the data met the assumptions of homogeneity of variance.

Results from the regression analysis showed that the factors extracted explained about two-thirds of the total variance in overall satisfaction (Table 2). Factor 1: Satisfaction with guiding and interpretation affected overall satisfaction the most (standardized beta coefficient of .522). Factor 2: Satisfaction with the focal species encounter (including photography) also made a large contribution with a standardized beta coefficient of .503. None of the other variables made a statistically significant contribution to our model.

Thematic analysis

On-site observations of participants' behavior

Our study shows that both the guiding and the incorporation of the theme were affected by the physical surroundings. Because the musk ox safaris took place in natural surroundings within a national park, safari companies were not able to control the surroundings in which they operated. Within the protected area there is limited infrastructure and all safaris took place on foot, involving hikes of two to seven hours depending on where the animals were spotted. Although the guides used the marked trails as much as possible, the safaris often included hiking in more challenging terrain and about half of the safaris required that participants crossed at least one of the mountain rivers in the

Table 2. Regression results.

Independent variable	Mean satisfaction (standard deviation)	Standardized coefficients beta
Factor 1: Satisfaction with guiding and interpretation	6.07 (0.96)	.522 (0.00)*
Factor 2: Satisfaction with the focal species encounter (including photography)	5.91 (1.24)	.503 (0.00)*
Factor 3: Satisfaction with natural surroundings and souvenirs	5.52 (0.99)	−.080 (0.35)
Factor 4: Satisfaction with other participants	5.54 (1.27)	−.020 (0.79)
Factor 5: Satisfaction with other wildlife	5.27 (1.34)	−.019 (0.82)
$R^2 = .67$.		
$R^2_{adjusted} = .65$.		
F-ratio = 31.371*.		
$N = 218$.		

Dependent variable: Overall satisfaction.
*$p < .00$.

area, walking through water levels of up to about half a meter. Information about this was provided at pre-safari briefings. This prepared most participants for the hiking section of the safaris, but some still found it challenging. Some participants decided to turn around if the hike became too hard, while others were especially proud and happy to have completed the safari because they found it challenging: "This is amazing! I wouldn't be sitting here if it wasn't for you guys – I would not have hiked here on my own!" (respondent 1). When the group had to cross a river, some participants refused to cross by themselves and were carried to the other side by their guide, while others told us that crossing the river gave them a sense of achievement: "I think it was fun. Then I got to … feel a little bit tough" (respondent 2). Navigating the physical surroundings was, therefore, both an important aspect of the guiding and a key component of the wildlife watching experience. When selecting the route, guides discussed alternative options with their group before deciding where to go at 12 of the 14 safaris joined by the authors. According to the guides, they did this in order to adapt to their groups' needs and expectations.

While a theme can be incorporated through elements like music or decorations in controlled physical environments, the physical surroundings at the musk ox safaris were outside of the guides' control. Therefore, the theme of the safaris was mainly incorporated through stories and interpretation during the safaris and at briefing sessions held by the guides before the safaris started. The main theme was the musk ox, and guides told their participants about the musk oxens' family structure, behaviors during different times of the year and behaviors during different phases of their lives. They also told participants about the reintroduction of musk oxen in Dovrefjell, and their own experiences from meetings with musk oxen in the area, often using anthropomorphism: "Are they dangerous? NO! They are peaceful, big, proud, rational vegetarians! They don't do anything without a reason so they only attack if we stress them out" (Guide's explanations, authors' field notes, safari number 5). On most safaris, the Dovrefjell area was a secondary theme told through stories and information about the national park, other wildlife and plants. Some guides used "props" such as musk ox wool, musk ox hoofs or musk ox bones to illustrate their explanations during the briefings before their safaris. Theme was incorporated by the guides and a clear link can be seen between the staff and the theme.

Another important link found in the thematic analysis was the connection between photography (grouped with souvenirs in the analysis of survey data) and the musk ox encounter. While some participants enjoyed taking pictures of the scenery, their travel party, plants and other wildlife, most participants focused their photography on the musk oxen they encountered. This was expected as the musk ox was the main reason participants joined the safari. Moreover, to some participants the main reason they joined a safari was to photograph the musk oxen: "I wanna make one of those terrific pictures you see everywhere!" (respondent 3). This suggests that while the photographs taken by tourists could be considered souvenirs after the trip, the act of taking the photographs was a part of the interaction with the focal species during the trip. Two of the safari companies had also invested in large telescopes that participants could use to better photograph the musk oxen by holding their cellphones in front of the telescope lenses. During encounters with musk oxen, participants took more photographs than during the rest of the safaris, and when telescopes were available there was in most cases a line of participants waiting to use them for close-up photos.

While most safari companies did not sell souvenirs, guides often helped their participants look for musk ox wool that they could pick themselves and bring home for free. One participant told us that she had dreamed of finding a piece of musk ox wool for her souvenir collection, and finding the musk ox wool was a major highlight for her: "We find a piece of musk ox wool that I give to one of the participants – she exclaims 'Oh! My dream! Thank you!'" (Author's field notes, safari number 3).

The most important safari components (besides musk ox encounters)

When participants were asked to discuss what they liked most about their safari besides encountering the musk ox, they mentioned factors relating to the experience, such as enjoying the guiding, that they were happy to see a family member enjoying themselves, that they liked the group of participants, enjoyed the stories their guides told them, enjoyed the scenic views and the silence and that they were happy with the weather.

The guiding was the single factor mentioned most often. Participants mentioned that having a guide increased their chances of finding the focal species:

> I think it was very good to have a guide, because I don't think we would have seen as much … well we could have done this walk on our own, but the insecurity of whether we would find the musk ox and all that … yeah … I'm happy we paid for the guide. (respondent 4)

Others mentioned that the information given by the guide elevated their experiences: " … you learn a lot that you didn't realize that you can look into on your own … so you gain a lot of knowledge you wouldn't get otherwise." (respondent 5). To some participants, it was also important to join a guided tour because they were afraid of disturbing the musk oxen, both because they did not want to disrupt the animals' natural behavior, and because they were worried about attacks if they came to close. In a few cases, participants also mentioned that high quality guiding was the main reason they had decided to return to Dovrefjell for a second or third safari: "Ah … because we liked it, three years ago … we met a young guide and we had much contact during the last three years, and we wanted to meet him again and to do again the safari" (respondent 6). However, as described above, only 4% of the respondents in our survey had participated in more than one musk ox safari.

The guiding component of the musk ox experience could also be a source for negative feelings. While most participants were very happy about their experience, two of the travel parties interviewed were not. The travel parties consisted of two participants each, from two different safaris that both had more than 20 participants. Both parties explained that the guides' abilities to handle larger groups were the main reasons they were unhappy:

> I … don't think the guide was that good. I don't feel that he kept the group together, I think there was too many of us and I think it was … I kind of missed the solidarity where he could have stopped sometimes and perhaps have told us some stories about the musk ox … (respondent 7)

In these cases, participants' experiences did not meet their expectations.

In addition to guiding, other factors contributing positively to the experience mentioned by the safari participants were the natural scenery, encounters with other wildlife

and the other participants. The scenery was mentioned as an enjoyable part of the experience in several interviews:

> It is something … for me its very special because in our area there are not mountains like these … this is quite different … we have forest and its very different … so I like most maybe to stay with animals, but the walking was also quite interesting. (respondent 8)

Participants also mentioned enjoying the silence of the natural surroundings: "Quiet is important … there is so much noise in the city, people talking loud – they don't care!" (respondent 9). In cases when other wildlife was encountered, participants mainly described this as a positive surprise: "It was nice to see them (a group of wild reindeer) too … it makes me very happy, and this group is very big!" (respondent 10). Other participants were also mentioned as a positive part of the experience, as they made the experience more social, gave participants a sense of comradery and gave them a chance to meet people from different nationalities: "It was also amazing very mixed group of nationalities with very friendly and open … it was a very very nice group" (respondent 11). The two travel parties that were unhappy with the guides' ability to handle large groups mentioned that they were not negative towards the other participants per se, but rather worried about them:

> I almost felt guilty because I hurried so much to be close to the guide and get as much as possible out of my trip … and then I felt bad for the others that couldn't keep up with him because they couldn't walk as fast. (respondent 12)

Discussion and conclusion

Our study contributes to the wildlife watching tourism literature by analyzing the experiencescape in a wildlife watching setting. We suggest a modified set of factors influencing the experiences taking Mossberg's (2007) model of the tourism experiencescape as our point of departure. We also investigated which elements affected participants' overall satisfaction most, besides watching the target species. Applying a mixed method approach we strengthen several of our conclusions, as findings based on quantitative survey data are supported by qualitative data collected on-site. Our findings are useful to musk ox safari providers and other wildlife watching tourism providers to better understand the visitors' experiences. They can also be used by managers of national parks and other recreational areas that feature wildlife as a visitor attraction.

Based on the results presented above, and taking the model by Mossberg (2007) as our point of departure, we propose five key factors that influence the visitor experience in a wildlife watching context (Figure 3).

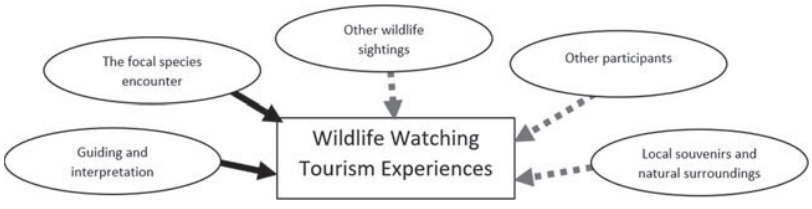

Figure 3. Factors influencing the wildlife watching tourism experience.

The first factor, *Guiding and interpretation* include elements from *Personnel, Physical Environment* and *Theme/Story* in Mossberg's (2007) model. The guides were the only staff members that participants met during most of the safaris, and they often handled bookings, feedback and planning in addition to the actual guiding. The theme was mainly incorporated through interpretation carried out by the guides at pre-safari briefings and during the safaris. We therefore decided to merge these two factors in our model. The guides also decided what route to take to find the animals, and the difficulty level of the hike is, therefore, also connected with guiding and interpretation rather than the physical environment. The second factor, *The focal species encounter*, was added to our model to better adapt to the wildlife watching context. Encountering the animal is the main goal when joining a safari, and a significant contributor to the experience. This factor also includes photography since participants mainly focused their photography on the musk oxen and saw it as a part of the wildlife encounter. The third factor, *Other wildlife sightings* was also added to our model to better adapt it to wildlife watching tourism. This factor includes the likelihood of encounters with other animals during the safari. The fourth factor, *Other participants* includes the same elements as *Other tourists* in Mossberg's (2007) model, but was renamed to better fit the wildlife watching tourism context where not all participants were defined as tourists. Finally, the fifth factor, *Local souvenirs and natural surroundings* includes some of the elements from the *Physical Environment* and *Products/Souvenirs* categories in Mossberg's (2007) model. This was partially due to the results of our principal component analysis, that linked these two factors together, and partially because of observations indicating that souvenirs were linked to the local surroundings in our case activity. While most of the guides did not sell souvenirs, they often helped participants to gather musk ox wool they could take home free of charge. While we did not ask participants whether they gathered wool or not in our survey, wool was collected at approximately half of the safaris we joined to conduct participant observation. The one guide that did sell souvenirs after the safaris mainly focused on local products and products made from musk ox wool or musk ox meat. Hence, the souvenirs were closely linked to the local area as well as the natural surroundings in our context. When asked about their experiences, participants also mentioned that the natural surroundings in Dovrefjell were different from their everyday surroundings – indicating that the natural surroundings were also linked to the experiences of the area, although not a significant factor in the analysis of survey data.

To investigate whether socio-demographic variables affected our results, we tested a version of our model that included the variables *gender*, *nationality (Norwegian or foreign)* and *age* in addition to our experiential factors. None of these variables had a significant effect on participants' overall satisfaction. In regard to our experiential factors, the same factors (*Guiding and interpretation and The focal species encounter) remained statistically significant,* so in this respect, the model seemed stable.

Our results indicate several differences between the general tourism experiencescape and the wildlife watching experiencescape. Firstly, we suggest two additional factors affecting wildlife watching tourism experiences. Since wildlife watching tourism involves watching wild animals in a natural setting (Tapper, 2006), encounters with the focal species are the main attraction and, was therefore, added as a factor to our model. Both the factor analysis and our on-site participant observations indicate that photography is closely linked to these encounters. Previous studies also show that while

photographs may be considered souvenirs (Belk & Yeh, 2011), taking photographs is also an important part of the focal species encounter (Bulbeck, 2005; Lemelin, 2006) and photography is therefore included in the focal species encounter in our model. The chance to encounter other wildlife, besides the target species, was also considered a possible factor affecting the participants' experiences and therefore included in our model. This was based on a previous study about polar bear tourism where seeing other animals had a positive effect on the feedback from participants in the absence of the focal species (Dybsand, 2020).

Furthermore, we found that guides were especially important on musk ox safaris given their role to incorporate the theme, while interacting with participants and helping them navigate relatively difficult physical surroundings. These three elements were grouped together in the factor analysis, and this result was supported also by our qualitative data, showing the many dimensions of the guide's role (Cohen, 1985; Weiler & Davis, 1993). Since the musk ox safaris took place in natural settings, the providers could not alter their physical surroundings to strengthen the theme of the safaris, and it was therefore mainly incorporated through guiding and interpretation. Thus, the communicative component of the guide's role, providing information and selecting points of interest (Cohen, 1985) is particularly important on wildlife watching tours that take place in natural settings (Tapper, 2006). This also indicates that the motivation component (managing tourists' behavior and impacts on-site) and environmental interpretation component (improving tourists' environmental behavior in the long term) are important on musk ox safaris as they are not incorporated in any of the other dimensions of the experience (Weiler & Davis, 1993). Since the safaris took place within a protected area, infrastructure was limited and all the tours took place on foot. Guides were therefore responsible both for finding the musk oxen and for navigating the relatively challenging surroundings. Therefore, the instrumental component that involves leading the way, providing access, safety and efficiency (Cohen, 1985) also plays a key role on musk ox safaris.

Our principal component analysis of the survey data also indicates that local souvenirs and natural scenery are connected. This may be due to the limited number of souvenirs offered on the safaris, as well as the type of souvenirs being offered. While all but one of the companies did not sell souvenirs, guides often helped participants find pieces of musk ox wool that they could bring home for free as a memory of the tour. The only company that sold souvenirs mainly focused on locally produced products, providing additional cultural dimensions to the tourism experiencescape. When survey participants mentioned the natural surroundings, many of them explained that the reason they were so impressed was the large contrast compared with other areas. Hence, we conclude that both the souvenirs and natural scenery are highly connected to the local area in our case.

When investigating which factors affected overall satisfaction the most, guiding and interpretation made the largest contribution followed by the focal species encounter (standardized beta coefficients of .522 and .503 respectively). This finding further emphasizes the importance of tour guides to participants' experiences and satisfaction in wildlife watching tourism. In this respect, guides also play a key role for the visitors' expectations. While encountering the focal species is important, proper information prior to and/or during the tour will help participants understand that encounters are outside of providers' control (Dybsand, 2020). When no focal species is encountered, themed stories, interpretation and sights of other wildlife can provide substitute experiences. However, these

elements are also important when wildlife is encountered – especially in cases when the actual wildlife encounter is a relatively short part of the overall experience. Since guiding and interpretation was the factor that affected overall satisfaction with the musk ox safaris the most, providing high quality guiding should be a priority when developing wildlife watching tourism in the future.

Finally, if the interpretation activities by the guides focus on the environment, wildlife watching tourism can also help protect wildlife and the natural environments it operates in through changed behaviors among customers also beyond the tour (Ham & Weiler, 2002). This is important for the protection of wildlife in general, but of special importance in protected areas such as national parks, especially where larger volumes of tourists must be balanced against nature protection. This also emphasizes the role of a proper park management, that considers the key elements of the wildlife watching experiencescape in their decisions, for mutual benefits between nature protection and tourism. Based on the findings from our study, we think further inquiries on this relationship will support the future development of sustainable wildlife tourism.

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Paper 3

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In the absence of a main attraction – Perspectives from polar bear watching tourism participants

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ABSTRACT

Wildlife watching tourism has recently received more attention in the tourism literature. However, research is still needed on participants' perceptions on the unpredictable nature of wild animals as main attractions. Information on this topic may help providers keep participants satisfied in the absence of wildlife and move away from exploitative practices sometimes used to guarantee close encounters. Using polar bear tourism as a case study, content analysis of TripAdvisor reviews from Churchill (Canada) and Svalbard (Norway) was used to examine participants' comments on unpredictable wildlife and reactions when polar bears were not found. Findings indicate that to keep participants satisfied, wildlife watching tourism providers should focus on more controllable parts of the experience, such as high-quality guiding, expectations management, and secondary, more guaranteed side activities. They should also make the most of the natural surroundings, other wildlife in the area and signs of the focal species when encountered.

1. Introduction

Wildlife Tourism can be defined as a niche nature based tourism activity, based on interactions with wild animals (Borges de Lima & Green, 2017). The interactions include non-consumptive activities such as safaris or birdwatching and consumptive activities such as fishing and hunting, and occur in animals' natural environments, semi-captivity or captivity (Higginbottom, 2004). This niche activity is becoming increasingly popular, and occurs in a wide range of settings worldwide (Ayazlar, 2017). The type of wildlife tourism that has grown most in recent years is wildlife watching tourism (Hassan & Sharma, 2017; Manfredo & Fulton, 2008; Newsome, Dowling, & Moore, 2005), defined as "tourism that is organized and undertaken to watch wildlife in a natural setting" (Tapper, 2006, p. 7). It has historically received less attention in the academic discourse than hunting, fishing and zoo tourism, but interest is increasing (Burns, 2017). People often have extremely intense and deeply personal experiences through watching wild animals in their natural environments (Valentine & Birtles, 2004). The experiences may reawaken urbanized participants' connection with nature (Ayazlar, 2017; Curtin, 2013; Curtin & Kragh, 2014) and provide psychological benefits such as stress relief, improved cognitive capacities and opportunities for reflection (Curtin, 2009, 2013). Participating may also lead to improved conservation attitudes (Ballantyne, Packer, & Falk, 2011; Ballantyne, Packer, & Hughes, 2009; Ballantyne, Packer, & Sutherland, 2009). Most forms of wildlife watching tourism seek to provide these benefits for participants (Valentine & Birtles, 2004). However, the evasiveness of wild animals often make them difficult to observe, and unpredictable main attractions (Knight, 2010).

Species that are exotic, threatened or inhabit remote and sensitive environments are especially attractive to wildlife watching tourists (Cong, Wu, Morrison, Shu, & Wang, 2014; Lemelin, 2006). However, they are also particularly challenging as tourism attractions because laws and regulations often limit wildlife watching tourism focusing on them to specific areas and/or forbid exploitative practices such as habituation and food provision (see for example National Tiger Conservation Authority, 2016; Walpole, 2001). The polar bear is considered one of the more challenging wildlife watching animals, due to its status as a vulnerable species and remote Arctic location. While rules and regulations vary depending on the area, polar bear watching is in most cases restricted to specific areas or forbidden, and food conditioning illegal (See for example Manitoba.ca, 2018; The Svalbard Environmental Protection Act, 2001). Research on tourists' perceptions of unpredictable target wildlife watching is needed (Margaryan & Wall-Reinius, 2017). So is research on how tourists receive communication from tourism providers who rely on unpredictable natural attractions (Heimtun & Lovelock, 2017). Therefore, the aim of this

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research paper is to analyze participant reactions to the possibility that their target species may not be found, using polar bear tourism as a case activity.

2. Expectations, uncertainty and exploitative practices in wildlife watching tourism

Expectations may significantly condition participants' perceptions of their experiences, as well as their satisfaction (Rodríguez del Bosque, San Martín, del Mar García de los Salmones, & Collado, 2009). They are linked to pre-visit knowledge, such as thoughts and desires, consumer-driven images (Skinner & Theodossopoulos, 2011) and personal needs (Andersson & Mossberg, 2004). Customers' level of satisfaction is related to the confirmation or disconfirmation of their expectations (Pleger Bebko, 2000), and the more favorable marketing of experiences by tour operators and destinations is, the higher tourists' expectations are (Rodríguez del Bosque, San Martín, del MarGarcía-Salmones, & Collado, 2009). When tourists' expectations are challenged, confronted or disappointed, they react by amending or revising them, or by critiquing and complaining about their experiences (Skinner & Theodossopoulos, 2011). The motivation to pursue a particular type of experience can also be modified unexpectedly in certain situations (Chen, Prebensen, & Uysal, 2018), and if the main experience appears to be disappointing or lacking, high quality supporting services may in some cases fully compensate for this deficiency (Mossberg, 2007). Managing expectations means managing the uncertainty a consumer faces when buying a service, and successful providers make it possible for consumers to paint a realistic set of expectations (Pleger Bebko, 2000). Guides also play important roles shaping visitor experiences and expectations (Hansen & Mossberg, 2016; Randall & Rollins, 2009).

The role of the guide was first conceptualized by Cohen (1985) who divided it into four components. The instrumental component involves leading the way, providing access, safety and efficiency. The social component involves tension-management, social integration, group morale and cohesion. The interactional component involves acting as a link between the area and the tourist party through representation and organization. Finally, the communicative component involves providing information and interpretation as well as selecting what points of interests to show the party. When examining the roles of guides in nature-based tourism, Weiler and Davis (1993) found that Cohen's work did not incorporate guides' responsibilities towards their surroundings, and suggested two additional components for nature based experiences. Motivation involves managing tourists' behavior and impacts on-site, and environmental interpretation involves improving tourists' environmental behavior in the long term. In their study on kayakers in Pacific Rim National Park, Randall and Rollins (2009) found support for all six components, although support for the communicative component was slightly lower than for the other five. Guides also play important roles in wildlife watching tourism, and are the forefront of product development, client satisfaction and responsible wildlife watching (Curtin, 2010). Environmental interpretation is especially important in this setting, as it allows guides to raise environmental awareness and educate tourists (Ballantyne, Packer, & Hughes, 2009; Lück, 2003). Participants also increasingly expect interpretative experiences, and are interested in learning about wildlife and conservation issues (Lück, 2015).

According to Williams and Baláž (2015), risk and uncertainty concerns the limits of our knowledge. There are additional twists to uncertainty in the tourism sector, due to the complex nature of the sector and experiences offered (ibid). Tourists use internal sources (past experience) and external sources (e.g. advertisements, brochures or word-of-mouth) to reduce uncertainty, and form expectations of future experiences (Rodríguez del Bosque et al., 2009). Providers need to be cautious when promoting their products and services, as appealing advertising may unrealistically raise tourists' expectations (Chen et al., 2018; Pleger Bebko, 2000). In their study on the whale shark industry on Isla Holbox, Ziegler, Dearden, and Rollins (2012) for example found that false advertising within the industry caused many whale shark tourism participants to have unrealistic expectations of species diversity and underwater visibility, contributing to lower satisfaction with these factors. Many of the criteria which consumers use in their evaluation of an experience involve how well their tourism providers are able to recover if a service failure occurs, and it is important to take complaints seriously (Pleger Bebko, 2000). Wildlife watching tourism's reliance on wild animals as main attractions makes this niche activity especially unpredictable.

Similar to other forms of nature based tourism, such as northern lights tourism (Heimtun & Lovelock, 2017) and wildflower tourism (Kruger, Viljoen, & Saayman, 2013, Kruger, Viljoen, & Saayman, 2015), wildlife watching tourism relies upon a temporally and spatially discontinuous natural phenomenon. Wild animals' behavioral elusiveness, geographical remoteness and sometimes nomadic or ranging behavior make them especially unpredictable main attractions (Knight, 2009, 2010). Providers build their businesses on a promise they have no guarantee of fulfilling - showing wild animals in their natural environments (Margaryan & Wall-Reinius, 2017), and participants spend time and money on main attractions that they may not be able to encounter. Considering these challenges, wildlife watching tourism's increasing popularity may seem unexpected or even paradoxical. Nevertheless, tour operators keep offering tourism activities based on sightings, and tourists continue to buy their products (Heimtun & Lovelock, 2017). According to Knight (2009), the reason wild animals can be viewed on the scale that they are today is that they have been *made* viewable through human intervention.

In many parts of the world, the wildlife watching tourism industry employs exploitative practices in its drive to increase chances of animal sightings (Margaryan & Wall-Reinius, 2017). Tourism providers and local governments use feeding and conditioning to make wildlife more viewable, and ensure a continued stream of visitors and source of revenue for wildlife areas and the surrounding communities (Knight, 2009, 2010; Walpole, 2001; Ziegler et al., 2018). Negative impacts on wildlife include alterations to animals' natural behavior, habituation, food conditioning, crowding, stress, contamination, relocation or displacement, habitat degradation and in some cases local extinction (Green & Giese, 2004). Any of these disturbances to individual animals or groups of animals may have the potential to cause a decline in a species' population (Green, 2017). Feeding wildlife may also cause animals to identify humans as a food source instead of a threat, and compromise human safety (Manfredo, 2008). Nevertheless, with the growing popularity of wildlife watching, tourism businesses sometimes use these practices to minimize uncertainty under the pressure to deliver a guaranteed close encounter with an otherwise elusive animal (Margaryan & Wall-Reinius, 2017). However, the demand for new and authentic tourism experiences has increased in the last twenty years (Ramkissoon & Uysal, 2018).Wildlife watching tourists also increasingly seek more authentic wildlife experiences, and express distress at seeing what they perceive as animal unhappiness (Bulbeck, 2005).

Authenticity has been widely used as an estimate of tourism providers' honesty (Reynolds & Braithwaite, 2001), and while uncertainty is generally seen as troublesome, it may also contribute to an experience's authenticity. For example, Heimtun and Lovelock (2017) found that a strategy used in northern lights tourism was to carefully embrace the unpredictable nature of the main attraction through a narrative of the chase or hunt, seeking to bind the tourist and operator in a quest for an authentic tourism experience. In wildlife watching tourism, authenticity is related to the degree of natural behavior exhibited by the fauna, and the environment that it is viewed in (Reynolds & Braithwaite, 2001). In their study among wildlife tourism providers in Sweden, Margaryan and Wall-Reinius (2017) found that the unpredictability of animal sightings became a signifier of an "authentic wilderness", or a proof that animal autonomy was not violated. Thus, the notion of authenticity depends upon the animal being in its natural habitat and

free to "choose" the encounter (Bulbeck, 2005). These studies also provide insights into which strategies tour operators use to manage the unpredictable nature of temporally and spatially discontinuous natural attractions.

Strategies used by northern light tourism providers included attempts to shift participants' focus to other aspects of the experience, such as the quality of the location, the guides' competence and involvement, as well as how tourists' behavior could increase chances of sightings (Heimtun & Lovelock, 2017). Strategies adopted by wildlife watching tourism providers included staying up to date on information about wildlife in the area, using pictures to attract customers before providing information about the unpredictability of sightings in person, as well as shifting participants' attention towards secondary but more guaranteed side activities (Margaryan & Wall-Reinius, 2017). These studies indicate that it is possible to create positive experiences for participants even in the absence of unpredictable main attractions. However, moving away from the more exploitative practices sometimes used in wildlife watching tourism is highly dependent on participants that are willing to join activities where sightings are less predictable.

There are few studies on wildlife watching tourism participants' perceptions of the unpredictable nature of wildlife as a main attraction, and the studies that address the topic provide conflicting results. In his study on whale watching tourism, Orams (2000) found that high degrees of customer satisfaction could be achieved even in the absence of whales. Other elements such as the design of the boat, number of passengers onboard, service provided, duration and commentary given regarding whales and other attractions also influenced customers' enjoyment. However, in Davis, Banks, Birtles, Valentine and Cuthill's (1997) study on whale shark tourism, visitors indicated that their best experiences involved interaction with whale sharks, and being close to them. Similarly, in Valentine, Birtles, Curnock, Arnold, and Dunstan's (2004) study on whale watching, results indicated that proximity to the whales was significantly linked to satisfaction. Furthermore, in Ziegler et al. (2018)s study on whale shark tourism, over 90% of respondents supported feeding activities used to secure encounters, as they would recommend tours using feeding to others. TripAdvisor reviews of tours that fed whale sharks were also overwhelmingly positive, and participants were not willing to pay as much for experiences where sharks were not fed if it meant lower chances of encounters. While these studies made important observations on participants' perspectives on unpredictable wildlife watching tourism, a study focusing on participants' perspectives on the possibility that their target species may not be encountered at all can provide further insight. Thus, building on these observations, this study investigates wildlife watching tourists' reactions when their target species was not found and comments on unpredictable wildlife, in order to understand:

- Whether it is possible for wildlife watching tourists to remain satisfied also in the absence of their target species
- How other parts of the wildlife watching experience affect satisfaction in the absence of the target species
- How online marketing affects participant satisfaction in the absence of the target species.

3. Polar bear tourism as a case study

Polar bears are found in the U.S (Alaska), Canada, Russia, Greenland, and Norway (Svalbard) (Polar Bears International, 2019). The species is listed as an endangered species internationally, and in 1973, the polar bear range states signed an agreement on the conservation of polar bears, recognizing that it is a significant resource in the Arctic region and requires additional protection (IUCN, 2013). Lemelin and Dyck (2008) defines polar bear tourism as "viewing, photographing and otherwise interacting with polar bears in their natural environment without an intent to consume", and this niche activity has become popular in most of the polar bear range states. Svalbard in Norway and Churchill in Canada were chosen as the main case study sites, because these sites had the most data available regarding tourists' perceptions of unpredictable wildlife. Their approaches to polar bear tourism will be briefly discussed in the following sections.

3.1. Svalbard

Svalbard is a group of islands located between approximately 74 and 81° north, included in the Kingdom of Norway (Thuesen & Barr, 2018). Norwegian law states that it is forbidden to lure, pursue or in any other active act seek polar bears out to interfere with them or endanger humans or polar bears (The Svalbard Environmental Protection Act, 2001), and Visit Svalbard (2018) warns visitors that there are no "polar bear safaris". However, it is possible to book snowmobile trips and boat cruises that deliberately enter polar bear territory in hopes of encounters (See for example Better Moments AS, 2017; Visit Svalbard, 2018). As operators on such trips are not allowed to actively seek out polar bears, the chances of encountering the target species are low and the animals generally seen from a distance. Nevertheless, the author found 8 companies offering this type of trip in Svalbard, using snowmobiles, ships or boats to enter polar bear territory, with prices ranging from about 100 to 300 euros per day.

3.2. Churchill

Churchill is the northernmost seaport of Canada, on the west coast of Hudson Bay. It has become known as the "*Polar Bear Capitol of the World*", because polar bears aggregate along the shores of the Hudson Bay in relatively large numbers yearly to await the formation of sea ice in early to mid-November (Lemelin, 2006). The number of commercial tour operators and the number of vehicles permitted in the high-use areas east of the town site is limited, and measures are taken to restrict travel to existing trails (Manitoba.ca, 2018). Conservative estimates place the annual number of visitors between 2100 and 3000 (Lemelin, 2006), and the author found nine companies in the Churchill area offering polar bear tourism activities, using tundra vehicles, lodges, walking safaris, and boat trips to get close to polar bears in the area. The prices varied and started at approximately 300 euros per day for day trips with tundra vehicles in large groups, going up to approximately 2700 euros per day for stays at exclusive polar bear lodges.

4. Methods

4.1. Data collection

Online user-generated content was the main source of data for the study. While most researchers confirm its trustworthiness as a data source, some are also skeptical, arguing that trusting electronic word of mouth relies on source–receiver relationships, channel variety and presentation of contents (Zeng & Gerritsen, 2014). Users are also in complete control of what they would like to share or not share and as a result, the content is not typically a representative sample of the tourism population at the sites assessed. Another limitation is linked to lack of uniformity, as some reviews are brief comments, while others are more extensive and can be classified as blogs (Cong et al., 2014). However, using online user generated content as a data source allowed the author to compare more than one case area, and access data generated over the course of five years. The fact that participants were in complete control of what they shared and not shared also made it possible to study what was most important to participants with no interference from the author, allowing access to unprompted, honest opinions.

The user-generated content chosen for analysis was reviews written on TripAdvisor.com, considered one of the largest online travel forums in the world (Ayazlar, 2017; Cong et al., 2014). All reviews mentioning polar bear tourism were included in the initial analysis, resulting in 925 reviews in total: 154 from Svalbard (Norway), 697 from Churchill

(Canada), 64 from Alaska (The US) and 10 from Wrangel Island (Russia), written from 2012 to 2017. The reviews found were mainly written in English, but there were also reviews in other languages. Reviews written in Norwegian, Swedish or Danish were translated by the author, while reviews written in other languages were translated using TripAdvisor's automatic translation function. To compare participant perceptions to marketing and information given by tourism providers, provider websites were also included in the study. Twenty-seven polar bear tourism companies were found based on the reviews: 8 from Svalbard, 9 from Churchill, 7 from Alaska and 1 from Wrangel Island. Fourteen of these companies were mentioned in reviews from participants who did not encounter polar bears and analyzed looking for possible links between online marketing and reviewer satisfaction. As there were no previous studies containing information on polar bear tourism participants' nationalities, age and gender, and reviewers are free not to display this information on TripAdvisor, it was not possible to compare the sampled population to the actual tourist population with these characteristics. Thus, the sample cannot be used to generalize the tourist populations at the sites.

4.2. Data analysis

When analyzing the data, a combination of content analysis (Joffe & Yardley, 2004) and thematic analysis (Clarke, 2006) was applied. Polar bear watching activities varied depending on site, mode of transportation and group size. Thus, different language was used to describe similar aspects of participants' experiences. Owing to the complexity of the data, manual analysis was performed instead of utilizing software, to avoid missing any reoccurring themes or patterns.

The Trip Advisor reviews were analyzed in two phases. In the first phase, content analysis with pre-defined categories was applied to identify reviews commenting on the unpredictable nature of polar bears as a main attraction, reviews written by participants who did not encounter polar bears during their activity, and reviews from participants who did not see as many polar bears as they had hoped for. A total of 152 reviews belonged to at least one of these categories (64 from Svalbard and 87 from Churchill) and were included in the next phase. The study site (i.e., Svalbard or Churchill) and the star rating (i.e., reviewer provided star-rating on possible five-point scale) were recorded for each review. Since TripAdvisor reviews from Wrangel Island and Alaska did not include feedback from participants who did not encounter polar bears, Churchill (Canada) and Svalbard (Norway) were the two case study sites selected moving forward. In the second phase, reviews were analyzed more thoroughly, applying thematic analysis and open coding to find reoccurring themes and patterns, as shown in Table 1.

The safari provider websites were analyzed using content analysis only, using the categories displayed in Table 2. Fourteen providers were included in the analysis, 6 from Churchill and 8 from Svalbard. The analysis was limited to the home page of the companies' websites (the first page shown when visiting), lists of activities offered, and descriptions of each individual activity offered.

Finally, the results of the two analyses were compared, again applying thematic analysis, to look for connections between customers' reactions to not seeing (enough) polar bears and the information and marketing displayed online.

5. Results

Reviewers who did not see (enough) polar bears during their polar bear viewing activity appeared relatively satisfied with their providers, as they, on average, gave them a star rating of 4.21 out of 5, as shown in Table 3. However, ratings were lower for reviewers from Churchill (3.48) than for reviewers from Svalbard (4.57).

Independent sample t-tests showed a significant difference between the star ratings of reviewers who did not see (enough) polar bears and reviewers who did in Churchill, while the difference for the same groups was not significant in Svalbard. The point biserial effect size of 0.70 for Churchill indicates that the strength of the difference was substantial, while the point biserial effect size of 0.22 for Svalbard indicates that the difference was minimal to typical (Vaske, 2008). As 25 of the 697 reviews found from Churchill were written by participants who did not encounter polar bears while 49 of the 154 reviews found from Svalbard were written by participants who did not encounter polar bears, the success rates of tour operators in Churchill appeared higher than in Svalbard.

In cases when reviewers did not encounter (enough) polar bears, other parts of the reviewers' experiences were in most cases listed as the main reasons why they were happy or unhappy, as shown in Table 1. Other parts of the experience were also mentioned by reviewers who did encounter polar bears. However, this group focused more on the quality of their polar bear encounters mentioning aspects such as proximity to the animals, the animals' activity level and whether polar bear cubs were sighted. In the following sections, other parts of the experience mentioned by reviewers who did not encounter (enough) polar bears, reviewer perspectives on the unpredictable nature of wildlife as a main attraction, and connections found between tour company websites and reviews are presented.

Table 1
Codes used and themes found in thematic analysis.

Codes	Categories	Themes
Reviewer perspectives on unpredictable wildlife	• Comments from participants who saw polar bears •Comments from participants who did not see polar bears	o Statements that there are no guarantees with wildlife oParticipants who felt privileged to see target species oUnpredictable behavior and/or proximity oStaff effort and skill locating wildlife oAdvice for future participants
Polar Bears not found/ Fewer Polar Bears found than reviewer expected	•Disappointment •Understandable reason provided •Other aspects of the experience (positive) •Other aspects of the experience (negative)	oBad weather conditions oStaff skill and dedication (or lack of skill and dedication) oOther wildlife making experiences better oSigns of the focal species' presence in the area oNatural surroundings oSide and/or backup activities oOther participants oResponses to feedback from participants
Advertisement and information from tour operators mentioned in reviews		oTour ended earlier than advertised oInaccurate information provided on chances of sightings oMisleading pictures displayed online oSightings of polar bears promised online

5.1. Reviewer perspectives on the unpredictable nature of wildlife as a main attraction

"When we arrived at the glacier we hung around for half an hour before we were lucky enough to see a polar bear, it was a fantastic sight, something I hoped I'd see but didn't think I would" (Respondent 1, Svalbard).

Table 2
Summary of characteristics of tour operators offering polar bear tours at the case study sites.

	Product range •small: 1–10 products • medium 10–20 products •large: 20 and more	Degree of specialization •high: all products polar bear related •medium: >50% of products polar bear related •low: < 50% of products polar bear related	Polar Bear sightings guaranteed (Y/N)	Warnings that polar bears sightings are not guaranteed present (Y/N)	No. polar bear pictures displayed/No. total pictures displayed	Price range •low = 100–300€ per day, •medium = 300–1000€ per day • high = more than 1000€ per day
Churchill						
Company 1	medium	high	N	Y	22/25	high
Company 2	medium	low	N	N	8/41	high
Company 3	medium	medium	Y	N	7/27	high
Company 4	medium	medium	Y	N	11/25	high
Company 5	small	medium	Y	N	9/18	high
Company 6	small	medium	N	Y	1/3	low
Svalbard						
Company 1	small	medium	N	Y	1/11	low
Company 2	small	high	N	N	1/29	low
Company 3	large	low	N	Y	6/40	medium
Company 4	medium	high	N	Y	2/23	high
Company 5	large	low	N	Y	0/6	low
Company 6	large	low	N	N	2/34	medium
Company 7	large	low	N	N	2/62	medium
Company 8	large	Low	N	Y	1/63	medium

Seventy-seven reviews commenting on the unpredictable nature of polar bears as a main attraction were found. While participants who did not encounter polar bears wrote some of these reviews, participants who encountered polar bears wrote most of them. Several reviewers wrote that there were no guarantees with wildlife, using statements such as "*Wildlife viewing always involves a risk you will not see anything*" (Respondent 1, Churchill) and "*Obviously, seeing wildlife on boat-trips is always a question of luck (and effort)*" (Respondent 2, Svalbard). While some reviewers wrote that sightings were a question of luck, others wrote that staff skills and effort were the reasons polar bears were found. Furthermore, reviewers mentioned that polar bears could be very hard to spot, even if they were close by, as illustrated by this quote:

"Polar bears can be hard to spot. I have added 4 photos to prove to you that they can be tricky. You can play "Spot the Polar Bear". It will let you know what to scan for when you are on the buggy. Yes, each photo has a bear in it." (Respondent 2, Churchill).

Reviewers also mentioned that proximity to the polar bears, and polar bear behavior was unpredictable. However, in most cases, they expressed understanding that polar bears were wild animals that could not be controlled. Examples included "*but we are looking at these amazing animals in their own habitat not a zoo so we were patient.*" (Respondent 3, Churchill), "*You have to appreciate this is not like the TV*" (Respondent 4, Churchill) and *"seeing them in their natural habitat and knowing that the bears may be extinct in that habitat years from now gave meaning to the trip and made it poignant."* (Respondent 5, Churchill). Several reviews also warned future participants to be patient, as during their polar bear experience most of the time was spent waiting for sightings and/or searching for polar bears, even in cases when they were found. Moreover, they commented that it was important to remain flexible, as activities often changed according to when and where polar bears were seen. In Churchill, the absence or presence of polar bears during the winter was linked to whether Hudson Bay was frozen, and reviewers commented that there was a risk it would freeze too early, decreasing chances of sightings. They therefore advised future participants to book in the middle of the winter season. Reviewers from Svalbard warned potential participants that chances of sightings were low, especially on day trips from Longyearbyen. As most polar bears were found on the east coast of Svalbard, a large area far away from Longyearbyen, reviewers advised future participants to enjoy the scenery rather than hope for sightings. Nevertheless, most of these reviewers remained positive, and the ones that had seen polar bears recognized that they had been lucky. Similarly, reviewers who had been on polar bear safaris in Churchill in the summer warned potential future participants not to get their hopes up, as sightings were rarer than in the winter.

5.2. Factors that made experiences better when polar bears were not found

"Unfortunately we only saw some polar bear tracks, but we did see plenty of seals, reindeer and bird life. (Guide's name) went out of his way to try and find us some bears, but despite his best efforts, the sea ice is so big, and the bears are so few! But his effort really showed how dedicated the staff are to ensuring you achieve the best Arctic experience." (Respondent 2, Svalbard).

Reviewers who remained positive in the absence of polar bears generally mentioned other aspects of their experience as the reasons they still gave high ratings. A dedicated staff was the reason provided most often, with examples including guides who were skilled in tracking polar bears, provided interesting information on polar bears, the arctic eco-system and environmental threats, were friendly and entertained their guests. Another positive aspect was sightings of other wildlife.

Table 3
Summary of data used in the analysis.

	Churchill (Canada)	Svalbard (Norway)	Alaska (USA)[a]	Wrangel Island (Russia)[a]	Total n
Total Reviews	697	154	64	10	925
No. reviews used in thematic analysis	87	64	–	–	152
Number of respondents who did not encounter enough polar bears	25	49	–	–	74
Number of comments on unpredictable wildlife	62	15	–	–	77
No. tour operators used in thematic analysis	6	8	–	–	14
Mean star rating overall (SD)	4.82 (0.61)	4.76 (0.74)	4.88 (0.55)	4.6 (0.84)	4.81 (0.64)
Mean star rating for reviewers that encountered polar bears (SD)[b]	4.86 (0.52)	4.85 (0.59)	4.88 (0.55)	4.6 (0.84)	4.86 (0.54)
Mean star rating for reviewers that did not encounter (enough) polar bears (SD)[b]	3.48 (1.44)	4.57 (0.98)	–	–	4.21 (1.25)

[a] sites were not included in the final analysis because there were no reviews written by participants who did not encounter (enough) polar bears during their experience.

[b] Independent-samples t-tests were conducted to compare the average star rating of reviewers who did not see (enough) polar bears during their experience and reviewers who did in Churchill and Svalbard. There was a significant difference between these groups among respondents from Churchill ($t(22.20) = 4.60$, $p = 0.00$, $r = 0.70$), but there was not a significant difference between these groups among respondents from Svalbard ($t(64.49) = 1.83$, $p = 0.07$, $r = 0.22$).

Examples included a reviewer in Churchill that called wolves he encountered the "stars of the show" and a reviewer in Svalbard who would have liked to spend more time photographing Svalbard reindeer. Several reviewers also mentioned signs of polar bears in the area, such as tracks or seal carcasses, writing that these signs made them sure the polar bears were there even if were not encountered. The natural surroundings were also mentioned frequently, and reviewers wrote that they enjoyed "just being there", taking pictures of the landscape and the silence of the Arctic. Many positive reviews mentioned why no polar bears were found, with examples including bad weather, Hudson Bay freezing earlier than anticipated and dangerous waves. Finally, reviewers often wrote about other activities that were a part of, and improved their polar bear safaris, or were provided as backup when polar bears were not found. Activities included lunch by a glacier, driving snowmobiles, driving a specialized tundra vehicle under the guide's supervision and learning about the area and/or polar bears and other wildlife.

5.3. Factors that made experiences worse when polar bears were not found or fewer polar bears were found than anticipated

"Wildlife is unpredictable, so it's not (company name)'s responsibility that we had no good polar bear sightings on this tour at the peak of bear season. What is within their control is advertising a day tour for $479 and then giving up the search for bears and heading back to base at 2pm (the tour was over by 3pm)." (Respondent 6, Churchill).

There were generally also other contributing factors when participants who did not see (enough) polar bears wrote negative reviews. Perceived lack of staff dedication was mentioned most often, with examples including guides who did not look for polar bears the whole time, returned to base earlier than advertised, or spoke to other guests in a language the reviewer did not understand. Reviewers wrote that these behaviors made them feel as if their wishes were not taken seriously, or that the guides did not see them as valued customers. Other participants could also make experiences worse. In Svalbard, when the activities took place on snowmobiles, reviewers wrote that other less skilled participants slowed them down. Examples from Churchill included other participants talking loudly or getting in the way of the reviewers' photos, mainly when safaris took place in bigger groups. Reviewers also mentioned information given beforehand being inaccurate, making them feel as if the tour company broke their promises when polar bears were not found. Some reviewers also wrote that lack of alternative activities was the main reason they were unhappy, especially when participating in activities that lasted longer than one day. Finally, there were also participants who were unhappy with how the tour company reacted to complaints. In these cases, customers gave their provider low ratings on TripAdvisor and expressed great disappointment, as illustrated by this quote:

"I can't say what happened or why I am being blown off this way, but I can tell you how it feels. It feels like now that they got my money and I took my trip, they are unconcerned with customer service" (Respondent 7, Churchill).

5.4. Links between company websites and TripAdvisor reviews

Positive and negative reviews in the absence of polar bears were compared to provider websites, looking into the information given, the number of pictures of polar bears displayed and polar bear related products offered, applying thematic analysis. As chances of sightings appeared higher in Churchill than Svalbard and the products offered were different, findings are presented separated by site.

5.4.1. Provider websites in Churchill

Three of the providers in Churchill promised future participants sightings of polar bears on their websites, using phrases such as "*we see polar bears in the summer!*" (Company 1, Churchill) and "*polar bears venture up to both the windows and the lodge fences*" (Company 2, Churchill). In cases when polar bears were not found, statements like these were used against providers in reviews and described as broken promises. Negative comments included *"I can't blame the company about the lack of wildlife, but they could be honest about the poor chances"* (Respondent 8, Churchill) and *"Overall the polar bear trip was a bit disappointing as they had portrayed it that there would be bears all around the lodge and area"* (Respondent 9, Churchill). Two of the providers displayed warnings that polar bear sightings were not guaranteed on their websites. Reviews from participants who did not encounter polar bears were more positive for these providers, often repeating that there were no guarantees with wild animals. Two of the providers displayed over 10 pictures of polar bears on their websites, and half of the pictures on one of the smaller providers' website was of polar bears. One reviewer commented on the number of pictures, writing that *"It seems many of the photographs were taken at an island* 20 km *north which can only be accessed in perfect weather conditions*" (Respondent 10, Churchill). However, the number of pictures displayed was only mentioned by this reviewer from Churchill while it was mentioned in two reviews from Svalbard.

5.4.2. Provider websites in Svalbard

None of the providers in Svalbard promised future participants sightings of polar bears on their websites. However, one of the larger providers offered tours named Ursus Maritimus (The latin name for polar bear) – King of the Arctic, and Ursus Maritimus – East Coast Extreme. Reviewers commented that these names were misleading with

comments such as *"you should be aware that there is little chances that you will see a polar bear even if the trips is named ursus maritimus"* (Respondent 3, Svalbard), but their star ratings were still positive, at 4 or 5 stars. Five of the providers warned future participants that sightings were not guaranteed on their websites. Reviews about these providers were generally positive, with comments that the lack of polar bears meant that they would have to book with the same tour operator again, and repetitions of the message that wildlife sightings can never be guaranteed. Examples included "*We didn't see any whales or polar bears (But we did see reindeer and a seal). - But had a great time. No one can ever guarantee wildlife, but (name of the tour) is about more than that.*" (Respondent 4, Svalbard) and "*we didn't saw polar bear, this means we must come back here again, and I must book this trip by this company*!!" (Respondent 5, Svalbard). While none of the providers displayed many pictures of polar bears compared to the amount of other pictures displayed on their websites, two of the negative reviews commented on the pictures that were displayed, writing that "*The nicely designed and eye catching field pictures on their official website make you feel everything looks simply promised*" (Respondent 6, Svalbard), and that "*their colorful website can be misleading*." (Respondent 7, Svalbard).

6. Discussion and conclusion

This study contributes to the wildlife watching tourism literature by analyzing participants' perspectives on unpredictable wildlife and reactions when their target species was not found. Findings on what factors contributed to participant satisfaction in the absence of polar bears may also be helpful to polar bear tourism providers and possibly other wildlife watching tourism providers when developing future experiences.

Results indicate that while seeing polar bears remained important to participants, they mainly respected that sightings were not guaranteed. Reviewer comments on unpredictable wildlife as a main attraction indicated positive feelings towards authentic experiences, as they positively differentiated their experiences from television shows and zoos and provided advice on how future participants should behave and what to expect. Furthermore, readers were warned that sightings were not guaranteed, nor was the distance to the polar bears or their behavior, as they were wild animals. These comments support providers' claims that the possibilities of not encountering wildlife make wildlife watching experiences more authentic (Margaryan & Wall-Reinius, 2017) and are in line with Bulbeck's (2005) claims that the market for authentic wildlife watching tourism is growing. However, authenticity's importance varies from activity to activity, and experiences based on habituated or food provisioned wildlife remain popular in many parts of the world (see for example Knight, 2010; Walker et al., 2006; Ziegler et al., 2018). Nevertheless, in the case of polar bear watching tourism where these practices were not allowed, participants were willing to join the experiences offered and mainly accepted that chances of sightings were lower.

In cases when polar bears were not encountered, other aspects of the experience determined whether reviews were positive or negative, including staff dedication, other participants' behavior, encounters with other wildlife in the area, signs of polar bears in the area, as well as secondary experiences offered (or not offered). As reviews from participants who did encounter polar bears focused less on these other factors, results indicate that they become more important in the absence of the target species. These findings support Orams' (2000) study on whale watching tourism, where other factors than proximity to whales affected whale watching participants' experiences, and Mossberg's (2007) claims that supporting services can compensate for deficiencies in cases when the main experience is disappointing or lacking. It is also in line with strategies used by wildlife watching tourism providers and northern lights tourism providers, who shifted focus to other aspects of the experience to ensure participant satisfaction (Heimtun & Lovelock, 2017; Margaryan & Wall-Reinius, 2017). The factor mentioned most often in both positive and negative reviews was staff dedication. According to Cohen (1985) and Randall and Rollins (2009), guides play six important roles in tourism experiences in natural surroundings; the instrumental role, the interactional role, the social role, the communicative role, the motivator role and the environmental interpreter role. Positive reviewers mentioned guides who were entertaining and friendly, skilled at locating polar bears and provided interesting interpretation. These comments indicate that the instrumental role, the social role and the environmental interpretative role were especially important to participants, and that guides who mastered these roles were able to improve participant satisfaction. Negative reviewers mentioned guides who did not look for polar bears the whole time, returned to base earlier than advertised and spoke in languages they did not understand. This indicates that guides who did not master the instrumental, the interactional, the social or the communicative role made experiences worse. Negative comments on other participants' behavior also underlined the importance of the social role, the interactional role and the motivator role, as guides may have been able to avoid unwanted behaviors from participants through social integration, modification of tourist behavior, building group morale and organization. Based on these findings, all six roles appeared important to polar bear watching participants in the absence of polar bears. However, the interpretative, instrumental and social roles appeared more important than the others, as guides who mastered these roles were also mentioned in positive reviews, indicating that they were able to increase customer satisfaction. These findings are in line with previous studies that highlight the importance of high-quality interpretation in wildlife watching tourism (Ballantyne, Packer, & Sutherland, 2011; Lück, 2003, 2015).

Links found between polar bear tourism providers' websites and reviews indicate that managing expectations through messages and images displayed online was important to ensure positive participant experiences in the absence of polar bears. Reviewers who did not encounter (enough) polar bears tended to be more negative when providers displayed many pictures of polar bears and indicated high chances of sightings on their websites, while reviewers mostly remained positive in cases when providers displayed warnings that sightings were not guaranteed. Negative reviews from Churchill mainly focused on the text displayed on the website rather than on photographs displayed, while the few negative reviews from Svalbard mentioning provider websites focused more on the number of photographs displayed. A possible explanation is that none of the providers in Svalbard promised polar bear sightings on their websites, while three providers in Churchill did. Thus, while providers in Churchill displayed more photographs of polar bears than the providers in Svalbard, the written promises that polar bears would be found appeared more important to participants than the photographs displayed in cases when polar bears were not found. These findings support claims that expectations are linked to previsit knowledge such as consumer-driven images (Skinner & Theodossopoulos, 2011), and that providers need to be cautious in promoting their reliability (Pleger Bebko, 2000; Prebensen, Chen, & Uysal, 2018), as false advertisement can lead to unrealistically high expectations (Ziegler et al., 2012). Thus, while it may be tempting to attract customers with pictures of the target species (Margaryan & Wall-Reinius, 2017) or promises that chances of sightings are high or guaranteed, it is also important to balance this with keeping participants' expectations on a realistic level.

The destination visited also affected participant satisfaction, as reviewers who did not encounter polar bears mainly remained more positive in Svalbard than in Churchill. This may partially be explained by the price levels, which were higher in Churchill. However, the difference may also be linked to how Churchill and Svalbard were perceived as destinations, as image can be considered one of the main factors generating expectations of a destination (Rodríguez del Bosque et al., 2009). Due to the law prohibiting providers from actively seeking out polar bears, marketing of polar bears as an attraction in Svalbard was limited, and visitors were informed that polar bear safaris were

forbidden. Thus, tourists who still chose to join polar bear watching experiences were most likely highly aware that chances were low. Churchill, on the other hand, is known as the polar bear capital of the world and polar bear viewing is marketed as the area's main attraction online (The Town of Churchill, 2019). According to Rodríguez del Bosque et al. (2009), destination image and external communication are two of the main factors influencing visitor expectations of future destination experiences. Thus, while Churchill's image was an important part of its success as a polar bear tourism destination, it most likely also increased participants' expectations of sightings and contributed to negative reviews in cases where polar bears were not found. This also indicated that expectation management was particularly important for polar bear watching tourism companies in Churchill, as their participants were more likely to already have high expectations of sightings. On the other hand, the success rates of companies operating in Churchill appeared higher than for companies in Svalbard, indicating that the issue was smaller in Churchill.

The findings in this study are important to the future development of wildlife watching tourism activities, as providers who understand that it is possible for participants to have positive experiences even in absence of their target species are more likely to move away from exploitative practices such as food provision and habituation. Reviews indicated that providers who focus on other more controllable aspects of the experiences they offer their participants can also secure positive feedback in the absence of wildlife. These other aspects include having a dedicated staff, managing participant expectations, providing secondary but more guaranteed experiences, and listening to customer feedback. Other aspects of participant experiences that are not within providers' control should also be given proper attention when possible or needed, such as the natural surroundings, other wildlife, signs of the focal species in the area and other participants' behavior. The importance of the natural surroundings is also noted by (Fossgard & Fredman (2019)), who found that the large-scale scenery, as well as possibilities of connecting with the narrow small-scale elements of nature enhanced nature based tourism experiences. As staff dedication was mentioned more frequently than any other factor in both positive and negative reviews from participants who did not encounter polar bears, ensuring quality guiding and customer service appears especially important when developing future wildlife watching tourism experiences. Furthermore, the importance of these other parts of the experience suggest that wildlife watching tourism based on species that are difficult to encounter is possible, if providers ensure that the more controllable parts of the experience are of high quality.

6.1. Limitations/suggestions for further research

Research on wildlife watching tourists who did not encounter their target species is challenging, as most wildlife tourism operators have relatively high success rates. Although polar bear tourism was perceived as an activity with low success rates, most reviewers included in the initial analysis had seen polar bears. As it was not possible to compare the sampled population to the actual tourist population at the case sites and the sample size was relatively small, the data also does not allow for generalization. Furthermore, TripAdvisor reviews do not provide data on the socio-demographics of the subsample that was examined. In order to better understand participant perceptions of the possibilities that the target species may not be found, an expansion of this study using interviews, focus groups and surveys with tourists and operators to triangulate the themes and outcomes identified here may be useful. Further research on activities with lower success rates than polar bear watching may also provide a larger sample of tourists who did not encounter their target species and provide further insight into what factors contribute to positive or negative experiences. As wildlife watching tourism occurs in a wide range of settings worldwide (Ayazlar, 2017), it is also difficult to generalize findings to other wildlife watching activities, as participant expectations may be affected by different management scenarios, species characteristics and perceived predictability as well as the many different approaches to wildlife watching activities that exist. However, the findings in this study are based on two different case areas, where chances of sightings, modes of transportation, management strategies, approaches to wildlife watching tourism and marketing were not the same. Thus, while findings cannot be generalized to all wildlife watching tourism activities, they show that some of these differences affect customer expectations and satisfaction, while other factors such as staff dedication and secondary more guaranteed experiences affected participants in different case areas.

CRediT authorship contribution statement

Hilde Nikoline Hambro Dybsand: Conceptualization, Data curation, Formal analysis, Methodology, Project administration, Writing - original draft, Writing - review & editing.

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Paper 4

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Centrality to life and the theory of planned behavior: the case of musk ox safaris in Dovrefjell-Sunndalsfjella National Park, Norway

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ABSTRACT

Understanding relationships between centrality to life and the Theory of Planned Behavior (TPB) may provide further insight on wildlife-related behaviors, as the literature suggests both have effects on behavioral intentions. Using a survey (n = 219) of participants at musk ox safaris in Dovrefjell Norway, we investigated relationships between centrality to life and TPB, as well as musk ox safari participation's perceived effects on intentions to perform three pro-environmental behaviors. Relationships were analyzed using three partial least squares structural equation models (PLS-SEM) that had R^2 values of .46, .49, and .47, indicating satisfactory predictive validity. Centrality to life was related to two of TPB's dimensions: attitudes and subjective norms. Furthermore, centrality was associated with intentions to perform all three pro-environmental behaviors. We concluded that short-duration wildlife watching activities based on a single species can be positively related to participants' intentions, and centrality can add further insight to the TPB.

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Introduction

Ajzen's (1985) Theory of Planned Behavior (TPB) has been used for more than two decades to understand a variety of wildlife-related behaviors (Miller, 2017). Successful applications include hunting participation (Hrubes et al., 2001), donations to conservation causes (Powell & Ham, 2008), bear spray behavior among hikers (Z. D. Miller et al., 2019), and picking up litter in a national park (Brown et al., 2010). Involvement is another useful concept when studying behavioral outcomes, as highly involved participants can hold more intense attitudes and emotions, that may in turn influence future behavior (Burke & Stets, 1999; Havitz & Dimanche, 1999). Understanding a possible relationship between involvement and TPB may provide further insight on wildlife-related behaviors, as the literature suggests both TPB and involvement have effects on behavioral intentions. However, to the best of our knowledge, there are no previous studies combining TPB and involvement in a wildlife-related context.

Wildlife tourism is an increasingly popular niche within nature-based tourism that consists of activities based on interactions with non-domesticated animals (Ayazlar, 2017;

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Borges de Lima & Green, 2017a). It is often divided into zoo tourism, hunting and fishing tourism, and wildlife watching tourism (WWT; Higginbottom, 2004). WWT, which is tourism organized and undertaken to watch non-domesticated animals in their natural settings (Tapper, 2006), is especially popular and involves a variety of species worldwide (Borges de Lima & Green, 2017b).

The growing market for WWT necessitates that conservation demands are juggled with the provision of authentic wildlife experiences (Schänzel & McIntosh, 2000). Inappropriate management behaviors such as poor interpretation or inappropriate distances to wildlife can compromise animal welfare and participant safety (Curtin, 2005). One of WWT's main justifications is its potential to improve participants' empathy and actions toward wildlife and the environment (Ballantyne et al., 2009; Hughes, 2013). Some activities are better suited for this purpose than others (Daigle et al., 2002) and it has been argued that short duration and mass marketed activities oriented toward a single focal species may not have this effect (Curtin, 2013). Furthermore, support for outcomes associated with charismatic megafauna is lacking, and further research on how connections to a single species influence pro-environmental behavior is needed (Skibins et al., 2013).

Our study contributes to the WWT literature by investigating possible connections between TPB and centrality to life, a concept that is often used as a measure of involvement when studying participants' degree of recreation specialization (Bryan, 1977; Harshaw et al., 2020; De Salvo et al., 2020; Scott & Shafer, 2001) and enduring involvement (Forgas-Coll et al., 2017; Jun et al., 2012; Tsai, 2020). The literature also suggest positive relationships between involvement and concern for the environment as well as behavioral action (Forgas-Coll et al., 2017; Hwang et al., 2005; Tsai, 2020). We investigated participants' intentions to perform three pro-environmental behaviors, using musk ox safaris in Dovrefjell-Sunndalsfjella National Park in Norway as a case study. As further research is needed on outcomes associated with charismatic megafauna, we also examined effects of participants' perceptions of whether the safari changed their environmental intentions.

Literature Review

Wildlife Watching Tourism and Pro-environmental Behaviors

Pro-environmental behaviors consciously minimize negative impacts on the Earth's resources (Kollmuss & Agyeman, 2002). Examples include talking to others or writing letters to government officials about conservation issues, joining or donating money to environmental organizations, participating in volunteer work, and avoiding the use of harmful or unsustainable products (Apps et al., 2018).

Advocates for WWT suggest that wildlife experiences can positively impact participants' awareness, appreciation, and behaviors, both toward the wildlife they encounter and the broader environment (Ballantyne et al., 2018, 2011a). Opponents suggest that participants' main motivations are consumption and entertainment, and that most participants do not have strong interests in conservation (Apps et al., 2018; Buckley & Mossaz, 2018). Furthermore, the relationships among knowledge, attitudes, and behaviors are complex. Although improved environmental knowledge and attitudes are often followed by pro-environmental intentions, they are not always reliable predictors of actual behaviors (Ballantyne et al., 2018; Larm et al., 2018). On the other hand, other studies indicated

that there is still potential for positive growth in pro-environmental behaviors and that there is a subset of participants who are motivated by contributing to conservation (Apps et al., 2018; L. B. Miller et al., 2020; Buckley & Mossaz, 2018). The impacts of WWT are highly context dependent, varying among species, visitor expectations, levels of education and awareness, modes of access, frequency of tourist visits, and the number of people involved (Larm et al., 2018; Newsome et al., 2005).

In developed countries, the public often identify with large charismatic megafauna species such as dolphins, polar bears, and elephants (Dybsand, 2020; Walpole & Leader-Williams, 2002). WWT based on species such as these can help improve management bodies' attitudes toward preserving biodiversity, be financially viable, highly popular, educational, and capable of raising awareness of threats to the species involved or the general environment (Kerley et al., 2003; Lemelin et al., 2008; Lindsey et al., 2007; Lück, 2015; Stoeckl et al., 2005; Xiang et al., 2011). As viewing preferences diversify with increasing experience, charismatic megafauna also often attract tourists to protected areas for the first time, potentially leading to more diverse preferences (Lindsey et al., 2007). However, few studies have investigated the relationship between experiences watching charismatic megafauna and intentions to engage in pro-environmental behaviors (Skibins et al., 2013).

The Theory of Planned Behavior

The TPB was first conceptualized by Ajzen (1985). According to TPB, intentions to perform behaviors can be predicted with high accuracy from attitudes, subjective norms, and perceived behavioral control. Behavioral intentions are usually evaluated as how likely a person is to perform a behavior in the future (Ajzen, 1985; Miller, 2017), with these intentions accounting for a considerable amount of the variance in actual behavior together with perceived behavioral control (Ajzen, 1991). Attitudes are positive or negative evaluations of a behavior or object, subjective norms are perceived social pressures or group level influences, and perceived behavioral control is an evaluation of whether someone believes they are able perform a behavior (Ajzen, 1985). In addition to its ability to examine a wide range of behaviors, TPB's flexibility allows for the incorporation of additional predictor variables (Ajzen, 1991).

However, TPB has also been the target of criticism and debate (Ajzen, 2011). Issues raised include concerns that the model is too rational and does not sufficiently account for subjects' cognitive and affective processes, that it neglects moral considerations, and that its static explanatory nature does not help to understand the evidenced effects of behavior on cognitions and future behavior (French & Hankins, 2003; Kollmuss & Agyeman, 2002; McEachan et al., 2011; Sniehotta et al., 2014). In particular, the problem of "inclined abstainers," who form an intention and then fail to act, has been a recognized limitation of the theory (Sniehotta et al., 2014). However, there are also studies that confirm the theory's ability to predict actual behaviors (Armitage, 2005; Kautonen et al., 2015; Kovač et al., 2009). According to Ajzen (2011, 2015), at its core, TPB is concerned with predicting intentions and whether intentions predict actual behaviors or not depends on factors beyond the individual's control. Furthermore, TPB emphasizes the controlled aspects of human information processing and decision-making, and goal-directed behaviors that are steered by conscious self-regulatory processes (Ajzen, 2011).

An alternative model that focuses more on the moral dimensions of decision-making is the Values-Beliefs-Norms theory (VBN; Stern, 2000), which addresses the role that personal norms play as a moral obligation for performing a specific action or refraining from it (Delaroche, 2020; Stern, 2000). Moral considerations are presumed to be crucial in promoting conservation behavior, which explains the intuitive appeal of the VBN model (Kaiser et al., 2005). However, a pro-environmental behavior is arguably a mix of both moral considerations and conscious, rational decisions, and self-interest (Delaroche, 2020). Moreover, in a comparative study of TBP and VBN, Kaiser et al. (2005) found that TBP identified both the behavior and its proximal determinant more fully than did VBN.

Involvement and Centrality to Life

Another concept that may provide insight on participants' motivations to perform pro-environmental behaviors is involvement. Individuals who are highly involved in a leisure activity are more likely to hold intense attitudes and emotions about the activity (Burke & Stets, 1999). In turn, these attitudes and emotions may serve as "an unobservable state of motivation" that influences future behavior (Havitz & Dimanche, 1999, p. 123). Recent studies on involvement show positive relationships between involvement and participation in voluntary activities, intentions to revisit, concern for the environment, perceived interpretation service quality, and behavioral action (Fedler & Ditton, 2001; Forgas-Coll et al., 2017; Hwang et al., 2005; Jun et al., 2012; Lu & Schuett, 2014; Oh & Ditton, 2008; Tsai, 2020).

One component of involvement is centrality to life, which refers to "social interactions centered on an activity" and the "central role of an activity in an individual's life" (McIntyre & Pigram, 1992, p. 7). Centrality has also been defined as the extent that an individual organizes other dimensions of their lives around an activity (Jun et al., 2012). The term was first used to empirically examine the personal meaning of an activity by Wellman et al. (1982), who used it to measure recreation specialization and perceptions of depreciative behaviors among canoeists. The concept was later applied by McIntyre (1989), who combined it with Laurent and Kapferer's (1985) consumer involvement profile scale to measure enduring involvement among beach campers. Centrality to life was moderately predictive of campers' choice of recreation setting, and it was a comprehensive means of operationalizing commitment among leisure participants. Centrality to life has since been used to measure involvement in several studies on recreation specialization (Harshaw et al., 2020; McFarlane, 1994; De Salvo et al., 2020; Scott & Shafer, 2001) and identified as one of the strongest measures of specialization (Needham & Vaske, 2013; Needham et al., 2007). Centrality has also been used as one of the main dimensions of enduring involvement (Forgas-Coll et al., 2017; Jun et al., 2012; Kyle et al., 2007; Lu & Schuett, 2014; Tsai, 2020). Given that centrality to life has been used as a main dimension of involvement and the literature suggests that involvement is related to attitudes, emotions, and future behavior (Havitz & Dimanche, 1999), we tested whether centrality to life was related to planned behavior and the other dimensions of TPB in our study.

Conceptual Model

Our conceptual model (Figure 1) was adapted from Ajzen's (1985) TPB to investigate centrality to life's relationships with its dimensions. We were also interested in whether

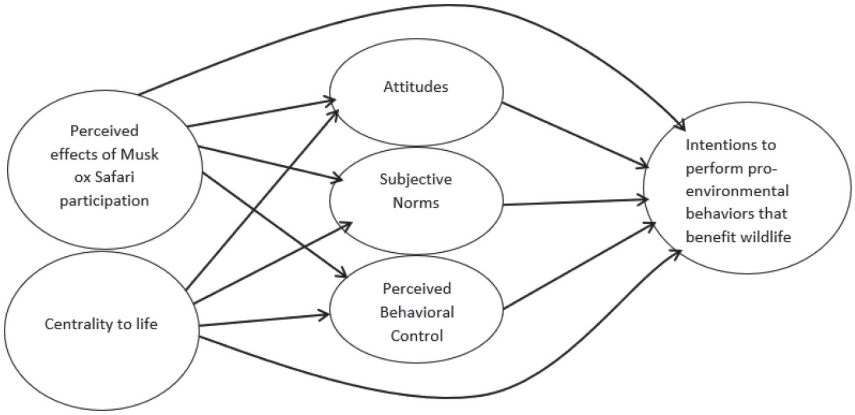

Figure 1. Conceptual model of the potential effects of both perceived musk ox safari participation and centrality to life on intentions to perform pro-environmental behaviors that benefit wildlife.

participating in a WWT activity based on one charismatic focal species was positively related to participants' behavioral intentions. Therefore, we added the dimension perceived effects of musk ox safari participation, measured by participants' evaluations of whether participation changed their environmental intentions. Ideally, we would have measured effects on actual pro-environmental behaviors over time, but this was not possible within our timeframe. Instead, we measured intentions to perform three pro-environmental behaviors that benefited wildlife. Previous studies adding variables to TPB showed that when these do not directly affect behavioral intentions, they can affect them indirectly through effects on attitudes, subjective norms, or perceived behavioral control (Z. D. Miller et al., 2019; Kim & Han, 2010; Quintal et al., 2010). Therefore, we tested both the direct and the indirect effects of centrality to life and perceived effects of musk ox safari participation.

Methods

Study Site: Dovrefjell-Sunndalsfjella National Park, Norway

Dovrefjell-Sunndalsfjella National Park was established in 1974 and expanded in both 2002 and 2018 (Miljødirektoratet, 2018a). This park is one of the largest protected areas in Norway, covering approximately 4,367 km^2 (Miljødirektoratet, 2013). The main objectives are to conserve: (a) a large, mainly untouched mountain area with an intact alpine ecosystem and biodiversity, and (b) the natural habitat of wild reindeer herds in the area (Dovrefjell nasjonalparkstyre, 2017). Europe's only viable herd of musk oxen is also found in the area.

The musk ox became extinct in Europe after the last ice age but was reintroduced to the Dovrefjell area between 1932 and 1953 (Nasjonalparkriket, 2019). The species is now considered reintroduced in Norway and allowed to live in a designated zone of 340 square kilometers (Miljødirektoratet, 2018b, 9). The musk ox has attracted tourists with between 3,000 and 3,500 participants on organized musk ox safaris every year (Rangbru & Seljevoll, 2017). The species has also become an important part of the area's local identity, as the Dovre municipality's coat of arms depicts a black musk ox on a silver background, the

largest restaurant in the municipality center Dombås is called The Musk Ox Grill, and the local tourism organization Visit Dovrefjell's slogan is "In the kingdom of the musk ox."

Data Collection

There were five active musk ox safari operators in the Dovrefjell area in 2018. These operators were relatively small, with one or two employees engaged in musk ox safaris who offered walking safaris that lasted three to five hours. Prices ranged from 300 to 500 NOK (approximately US 33-55 USD) per person and the maximum number of participants per safari was 15–30. To become a certified musk ox safari guide, potential guides had to complete an apprenticeship with one of the already certified guides in the area. Guiding and interpretation provided during safaris was therefore similar for all of the safari companies included in our study. The focus of the interpretation was the musk ox and other species in the area, threats to the species, the national park, and the local ecosystem and environment.

A response card questionnaire was distributed to participants in collaboration with the safari companies during the 2018 peak season. This instrument consisted of 10 questions asking about socio-demographics, nationalities, basic trip information, and contact details. In total, 487 responses were collected (417 with valid e-mail addresses). We estimated this to be approximately 12% of all participants. Although the number of responses varied from provider to provider, they reflected the size of the companies in participant volume and we judged the sample to be representative for the 2018 peak season. From November 2018 to January 2019, a follow-up questionnaire was distributed to all participants who provided valid e-mail addresses. Five contacts were made (Dillman et al., 2014) with 219 participants completing the questionnaire (52% response rate).

Measurement and Scales

This instrument consisted of 62 questions and was conducted as a part of a research project on WWT in Norway (Dybsand & Fredman, 2020; Dybsand & Stensland, 2019). In this article, we analyzed 15 questions designed to investigate participants' perspectives on pro-environmental behaviors and 4 questions measuring centrality to life. The multi-item standard direct measures of attitudes, subjective norms, perceived behavioral control, and intentions by Ajzen (2006) was used as a basis for the TPB-portion of our questionnaire. However, the questions were adapted to musk ox safaris and there was only room for three questions measuring each of the concepts in our final questionnaire. Attitudes and intentions were treated as participants' evaluations of three pro-environmental behaviors that benefited wild animals (participating in volunteer work, donating money to environmental organizations, becoming a member of an environmental organization). We investigated general pro-environmental behaviors rather than actions directed specifically at musk oxen, because musk ox watching is an activity not offered many places, and the species itself is not threatened. Furthermore, studies on other wildlife activities suggest that more active and involved participants show greater concern for the environment (Bryan, 1977; Fedler & Ditton, 2001; Oh & Ditton, 2008). Attitudes were evaluated on a scale from 1 (extremely negative) to 7 (extremely positive). Intentions, subjective norms, and perceived behavioral control were measured on seven-point scales from 1 (strongly disagree) to 7 (strongly agree). Subjective norms focused on respondents'

perceptions on what their peers thought about them possibly performing the behaviors. Perceived behavioral control measured respondents' perceived possibilities to perform the behaviors, and intentions were treated as the respondents' plans to perform them in 2019.

Centrality to life was measured with four questions adapted from Kim et al. (1997) who studied involvement, commitment, and future intentions among birdwatchers. Perceived effects of musk ox safari participation were measured by asking participants to evaluate whether the safaris had changed their attitudes toward wild animals and the environment and if they were more likely to perform three pro-environmental behaviors after participating. We measured perceived effects of musk ox safari participation because it was not possible to compare participants to individuals who had not participated in a musk ox safari. Each of the questions measuring these two added dimensions also asked participants to evaluate statements from 1 (strongly disagree) to 7 (strongly agree). An overview of all questionnaire items included in our final model is provided in Table 1.

Data Analysis

Structural equation modeling (SEM) was applied to measure the direct and indirect relationships among our concepts. There are two main approaches to SEM; covariance-based structural equation modeling (CB-SEM) and partial least squares structural equation modeling (PLS-SEM) (Hair et al., 2011). Although CB-SEM is primarily used for confirming or rejecting theories, PLS-SEM is used for developing theories in exploratory research and to identify key driver constructs (Hair et al., 2017). Small sample sizes cause identification issues when applying CB-SEM, but PLS-SEM mainly achieves high levels of statistical power even with smaller samples (Hair et al., 2017). Given that our final sample size was relatively small (n = 219) and we were interested in identifying key driver constructs, PLS-SEM was chosen for our data analysis.

Given that we wanted to investigate concepts related to participants' intentions to perform three environmental behaviors (participating in volunteer work, donating money to an environmental organization, becoming a member of an environmental organization), we ran three PLS-SEM-models. The independent variable constructs were measured by the questions discussed above and were the same in all models. However, the key target constructs were measured by one of the behaviors for each of the models. Smart PLS 3.3 (Ringle et al., 2015) was used for computing our models and we applied the path weighing scheme (Henseler et al., 2009) when estimating parameters. The dataset was cleaned and screened for univariate and multivariate outliers. Five multivariate outliers were identified by calculating the Mahalanobis distance in IBM SPSS and removed from our sample. The final sample size for the PLS-SEM analyses was n = 214.

As PLS-SEM relies on variances to determine an optimum solution instead of covariances, covariance-based goodness-of-fit measures are not fully transferrable to a PLS-SEM context, and alternative measures have been developed to evaluate the measurement model and the structural model (Hair et al., 2017). We assessed these measures in line with guidelines for evaluating PLS-SEM-models and reporting results provided by Chin (2010), Hair et al. (2017), and (2011)).

Table 1. Final measurement model evaluation results for intentions to participate in volunteer work that benefits wildlife (Model 1), intentions to donate money to an environmental organization (Model 2), and intentions to become a member of an environmental organization (Model 3).

Construct/Indicator	Mean[a] (SD)	Outer loadings	Composite reliability	AVE
Attitudes			.882/.889/.879	.714/.712/.710
What is your attitude toward participating in volunteer work that contributes to conservation of wild animals and the environment yourself?	5.40	(1.43)	.772/.733/.723	
What is your attitude toward donating money to environmental organizations yourself?	5.03	(1.60)	.881/.901/.889	
What is your attitude toward becoming a member of an environmental organization?	4.85	(1.57)	.878/.887/.904	
Subjective norms			.933/.935/.934	.941/.942/.942
My family and friends expect me to participate in volunteer work that contributes to conservation of wild animals and the environment	3.31	(1.69)	.929/.950/.933	
My family and friends expect me to donate money to environmental organizations	3.17	(1.62)	.957/.936/.953	
Perceived behavioral control			.912/.913/.913	.837/.839/.839
I have enough information about how to participate in volunteer work that contributes to conservation of wild animals and the environment	4.69	(1.65)	.890/.902/.904	
I have the opportunity to participate in volunteer work that contributes to conservation of wild animals and the environment	5.10	(1.64)	.940/.930/.928	
Perceived effects of musk ox safari participation			.913/.911/.912	.790/.788/.788
After participating in a musk ox safari, I have become more positive toward conservation of wild animals and the environment	4.49	(1.86)	.757/.751/.752	
After participating in a musk ox safari I have become more positive toward participating in volunteer work that contributes to conservation of wild animals and the environment myself	3.68	(1.68)	.947/.945/.956	
After participating in a musk ox safari I have become more positive toward donating money to an environmental organization myself	3.39	(1.70)	.948/.953/.952	
Centrality to life			.904/.903/.903	.771/.770/.770
If I stopped watching wildlife, I would probably lose touch with a lot of my friends	1.58	(1.22)	.803/.793/.798	
I find that a lot of my life is organized around wildlife watching	1.98	(1.51)	.912/.917/.916	
Others would probably say I spend too much time wildlife watching	1.74	(1.42)	.914/.916/.914	

An overview of the constructs included in our final models (bold) and their composite validity and convergent validity (measured by AVE) as well all indicators included in each construct, their means, standard deviations and outer loadings
[a]The means of all indicators are shown on scales from 1 to 7, followed by their standard deviations

Results

Sample Characteristics

Our sample mainly consisted of Scandinavians (35%) and Germans (25%), followed by participants from the Benelux area (Belgium, The Netherlands, Luxembourg [17%]). The average age was 44 years old (*SD* = 15.3) and 50% were female. On average, participants stayed in the area for 2.5 days and 42% planned their trip at least 1 month in advance. All participants in our sample saw at least one musk ox during their safari, and only 10% stated that they were further than 300 meters away. On average, participants had visited 4.3 (*SD* = 5.4) wildlife watching places in 2017, spent 11.9 (*SD* = 30.6) days wildlife watching in 2017, and participated in wildlife watching for 14.5 (*SD* = 14) years.

Measurement Models

Given that our constructs were reflective, the first step in our analysis was to assess their reliability and validity. When indicator reliability was initially assessed, three indicators had outer loadings below the recommended threshold of .70 in all three models (Hair et al., 2017). Two of them had outer loadings below .40 and were therefore removed. The indicator with a value between .40 and .70 was also removed to ensure its construct's composite reliability. One indicator was removed from the construct subjective norms, one from perceived behavioral control, and one from centrality to life. These constructs were therefore measured by two indicators each in our final models. Although constructs with fewer than three indicators would have been a validity issue for a CB-SEM model, PLS-SEM models can include even single-item constructs (Hair et al., 2017). Therefore, we kept the constructs in our models. The 13 remaining indicators had outer loadings above the recommended threshold of .70, reaching satisfactory indicator reliability levels. The measurement models achieved composite reliability values of .879 and higher, providing evidence of the construct measures' internal consistency reliability. All AVE values were above the critical threshold value of .50 (Hair et al., 2017), indicating satisfactory convergent validity.

Three approaches were used for assessing the discriminant validity of constructs. First, the indicators' cross-loadings were examined checking that no indicator loaded higher on any opposing construct. Second, the Fornell and Larcker (1981) criterion was applied, requiring that each construct's AVE was higher than its correlation with all other constructs. Third, we assessed the heterotrait-monotrait ratios (HTMT) of the correlations (Henseler et al., 2015). These analyses all indicated that our constructs exhibited discriminant validity. We also ran the bootstrapping procedure (Chin, 1998) with 5,000 samples and the no sign changes option to derive bootstrap confidence intervals for the HTMT ratios (Hair et al., 2017). None of our confidence intervals contained the value 1, indicating that our constructs were empirically distinct. Taken together, the measurement model assessment verified that all construct measures included in our final models were reliable and valid.

Structural Models

The central criterion for assessing a structural model in PLS-SEM is the coefficient of determination $R^{2,}$ as it evaluates the model's predictive validity (Hair et al., 2017). The R^2

values of our study's target constructs were .46 for intentions to participate in volunteer work that benefited wildlife, .49 for intentions to donate money to an environmental organization, and .48 for intentions to become a member of an environmental organization. This indicated that the explanatory power was at satisfactory levels for our models. We also tested the predictive power of each model by applying the Stone-Geisser criterion, with Q^2 values (Geisser, 1975; Stone, 1974) obtained from running the blindfolding procedure with an omission distance D ¼ of 7. We obtained Q^2 values of .413 (model 1), .460 (model 2), and .444 (model 3). These values are well above zero, indicating satisfactory predictive relevance for our models (Götz et al., 2010). We used the bootstrapping procedure (Chin, 1998) with 5,000 samples and the no sign changes option to assess the significance of the path coefficients. Figure 2 shows all structural relationships and their significance levels.

All path coefficients in model 1 (intentions to participate in volunteer work that benefited wildlife) were significant at the .05 level, except for the coefficient between centrality to life and perceived behavioral control (p = .217). Centrality to life was significantly related to intentions, attitudes, and subjective norms. Perceived effects of musk ox safari participation were significantly and positively related to intentions, attitudes, subjective norms, and perceived behavioral control. Subjective norms were most strongly related to intentions (.275), followed by attitudes (.246).

The results were slightly different for model 2 (intentions to donate money to an environmental organization). All path coefficients in the model were significant at the .05 level except for the coefficients between centrality to life and perceived behavioral control (p = .222), perceived behavioral control and intentions (p = .892), centrality to life and intentions (p = .642), and perceived effects of musk ox safari participation and intentions (p = .115). Centrality to life was significantly and positively associated with attitudes and subjective norms, whereas perceived effects of musk ox safari participation was significantly and positively related to attitudes, subjective norms, and perceived behavioral control. Attitudes were most strongly related to intentions (.523), followed by subjective norms (.222).

In model 3 (intentions to become a member of an environmental organization), all path coefficients were significant at the .05 level, except for the coefficients between centrality to life and perceived behavioral control (p= .157), perceived behavioral control and intentions (p= .085), centrality to life and intentions (p= .951), and perceived effects of musk ox safari participation and intentions (p= .092). Centrality to life was significantly and positively associated with attitudes and subjective norms, and perceived effects of musk ox safari participation were significantly and positively related to attitudes, subjective norms, and perceived behavioral control. Attitudes were most strongly related to intentions (.446), followed by subjective norms (.239). An overview of our constructs' direct, indirect, and total relationships with intentions to perform the pro-environmental behaviors is in Table 2.

As shown in Table 2, which variable had the strongest total relationships with intentions varied among the three behaviors. Centrality to life had the strongest total relationship with intentions to participate in volunteer work that benefited wildlife, whereas its relationships with intentions to become a member of or donating money to an environmental organization were weaker. Attitudes were most strongly associated with intentions to donate money to or join an environmental organization. Perceived effects of musk ox safari participation had the second strongest total relationships with intentions to perform these two behaviors,

Figure 2. Structural model analysis overview. Relationships between constructs are shown as standardized beta coefficients (first number on lines), followed by p-values (second number on lines in parentheses).

whereas subjective norms had the second strongest total association with intentions to participate in volunteer work that benefited wildlife. Perceived behavioral control had the lowest total relationships with all three behaviors.

Discussion

Main Findings and Contributions to Existing Knowledge

Our study contributes to the WWT literature by analyzing centrality to life's effects on TPB and its sub-dimensions, and perceived effects of musk ox safari participation's effects on participants' intentions to perform three pro-environmental behaviors that benefit wildlife. Furthermore, although WWT's potential for environmental outcomes have been explored

Table 2. An overview of all constructs' direct, indirect, and total relationships with participants' intentions to perform pro-environmental behaviors that benefit wildlife.

Construct	Direct	Indirect [a]	Total
Model 1: Intentions to participate in volunteer work that benefits wildlife			
Attitudes	.246	-	.246
Perceived effects of ox safari participation	.161	.189	.350
Centrality	.178	.163	.341
Subjective norms	.275	-	.275
Perceived behavioral control	.146	-	.146
Model 2: Intentions to donate money to an environmental organization			
Attitudes	.523		.523
Perceived effects of Musk ox safari participation	.098	.258	.356
Centrality	.025	.184	.209
Subjective norms	.222		.222
Perceived behavioral control	−.014		−.014
Model 3: Intentions to become a member of an environmental organization			
Attitudes	.462		.462
Perceived effects of musk ox safari participation	.081	.252	.337
Centrality	.050	.198	.236
Subjective norms	.229		.229
Perceived behavioral control	.109		.109

[a]The indirect effects of perceived effects of musk ox safari participation and centrality were calculated based on their effects through the constructs attitudes, subjective norms, and perceived behavioral control

in several studies (Apps et al., 2018; Ballantyne et al., 2018; Hughes, 2013), ours is, to the best of our knowledge, the first to examine this issue focusing on a short duration experience based on a single charismatic megafauna species. Moreover, previous studies indicated that there is a subset of participants who are more motivated by contributing to conservation than the majority (Buckley & Mossaz, 2018). By including centrality to life here, we were able to test whether the importance of the activity to participants' life was related to pro-environmental intentions. This may help identify pro-environmental groups.

Results showed that centrality to life had statistically significant positive relationships with participants' attitudes and subjective norms, whereas its relationship with perceived behavioral control was not significant. Centrality to life's positive relationship with attitudes supports claims that individuals who are highly involved in an activity are likely to hold more intense attitudes and emotions (Burke & Stets, 1999). Centrality to life's positive relationship with subjective norms is also not surprising. McIntyre and Pigram (1992) referred to centrality to life as "social interactions centered on an activity," whereas Ajzen (1985) referred to subjective norms as perceived social pressures or group level influences. Our findings suggest that social interactions more centered on an activity are related to higher perceived social pressures or group level influences. This is in line with studies on serious leisure that suggest leisure activities provide a collective and social space where participants feel a strong sense of belonging, and that dedicated participants are likely to feel a stronger commitment to their leisure community (Cuskelly et al., 2002; Dilley & Scraton, 2010).

Our results also showed that centrality to life had a statistically significant positive direct relationship with intentions to participate in volunteer work that benefits wildlife, but not with intentions to donate money to or join an environmental organization. However, centrality was indirectly related to intentions to perform all three behaviors through its relationships with participants' attitudes and subjective norms. The direct relationship with intentions to participate in volunteer work that benefited wildlife supports Lu and Schuett

(2014) who found a positive relationship between involvement and participation in voluntary activities. As participation in volunteer work demands more effort than donating money to or joining an environmental organization, it is also not surprising that centrality to life had a stronger direct relationship with intentions to perform this behavior than the other two behaviors. Furthermore, centrality to life's indirect relationship with intentions to perform all three behaviors support leisure theorists who have suggested that involvement affects future behaviors indirectly through attitudes and emotions that act as "an unobservable state of motivation" (Burke & Stets, 1999). Our results suggest that centrality to life is also related to future behaviors through its associations with subjective norms and social pressures.

Furthermore, our results showed that the perceived effects of participating in a musk ox safari had a significant direct positive relationship with one of the three behaviors. This concept also had significant positive relationship with attitudes and subjective norms in all three models that, in turn, had significant positive relationships with intentions to perform all three pro-environmental behaviors. These findings support claims that WWT may lead to improved pro-environmental intentions (Ballantyne et al., 2011a, 2011b; Hughes, 2013; Hughes et al., 2011). Moreover, these findings show that short duration activities based on a single charismatic megafauna species can also have this effect. A study by Skibins et al. (2013) on African safaris and zoo tourism showed that connections to such species had positive relationships with pro-conservation behaviors for individual species and general biodiversity. Our findings corroborate theirs and show that activities focusing on a single charismatic megafauna species may also have positive effects. Although Skibins et al. (2013) developed their model using interactional theory, we based ours on TPB and centrality to life, thereby strengthening their conclusions with similar findings based on different concepts and theoretical frameworks.

Our findings mainly support Ajzen's (1985) TPB. However, we did not find a significant relationship between perceived behavioral control and intentions to perform the three pro-environmental behaviors. Although significant effects were expected, which of the TPB's three cognitive structures is most involved in a given behavioral decision varies among different behaviors and human populations (Brown et al., 2010). As perceived effects of musk ox safari participation also had stronger relationships with participants' attitudes and subjective norms than their perceived behavioral control in all three models, a possible explanation can be a lower focus on perceived behavioral control during the safaris. Although guides provided information about threats to the musk ox, other species in the area, and the local ecosystem during safaris, they did not focus on concrete environmental actions and how participants could perform these actions. This may have contributed to its weak relationship with intentions to perform the three environmental behaviors.

Limitations and Future Research

Our data were from a case study with a sample of participants on organized musk ox safaris in Dovrefjell during the 2018 peak season. Due to the right of public access (Friluftsloven, 1957), not all wildlife watchers in the area participated in guided activities, and similar studies on visitors searching for wildlife on their own might yield different results. Moreover, the impacts of WWT on wildlife, the environment, and participants vary greatly from one activity to another (Ayazlar, 2017; Newsome et al., 2005). Our findings cannot be

generalized to all WWT experiences or all experiences based on charismatic megafauna. Nevertheless, they showed that positive environmental outcomes are possible within this group of activities, and that centrality to life may be associated with behavioral intentions through its relationships with attitudes and subjective norms. Future studies on wildlife activities based on charismatic megafauna may provide more insight on the effects of this group of activities, especially if more than one activity is compared. As centrality to life is often used as one of the main dimensions of recreation specialization (Bryan, 1977), future studies on how other dimensions of specialization are related to TPB can also provide further insight on participant characteristics and how they affect future behaviors. Similarly, centrality to life has also been used in multi-dimensional studies on involvement. Studies implementing other measures of involvement can provide further insight on its effects on TPB and future behaviors.

We measured participants' intentions to perform pro-environmental behaviors directly after participating in the safaris. Actual pro-environmental behaviors over time would have been the best measure of positive environmental outcomes, but we did not have time or resources for a follow-up study measuring actual behaviors. Another issue preventing this was a relatively small sample size ($n = 219$) and a follow-up survey would further reduce our sample size, limiting possibilities for data analysis.

Management Implications

Our findings indicate that highly involved participants are more likely to have positive attitudes and strong subjective norms toward pro-environmental behaviors. These participants are also more likely to have positive environmental intentions. These findings indicate that WWT providers and managers of areas rich in wildlife should involve participants and visitors to increase chances for positive environmental outcomes. Furthermore, our findings indicate that short duration WWT activities based on a single charismatic megafauna species have the potential for environmental outcomes. This finding may be useful to managers of national parks and other wildlife areas when deciding what WWT activities to allow. In areas with vulnerable species, it may not be possible to offer long duration or frequent WWT activities. Our study shows that a short duration guided wildlife watching experience may be a good option in these cases, as musk ox safaris typically lasted four to five hours and still had positive relationships with participants' intentions to perform pro-environmental actions. Future guiding and product development should focus on fostering high involvement from participants and aim to foster positive attitudes toward environmental behaviors and affect participants' subjective norms, as both centrality to life and musk ox safari participation's indirect effects through these dimensions were greater than its direct effects.

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