A Phenomenological Exploration of How People with Limited Mobilities Experience Adventure Tourism in Virtual Reality

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Thesis Abstract

The aim of this study is to better understand how people with limited mobilities experience adventure tourism using virtual reality (VR). Taking a phenomenological position, my research uses a methodology based in Interpretive Phenomenological Analysis (IPA) to explore the nuances and complexities of disabled experiences using a VR headset. Disabled experiences and disabled voice are consistently limited in tourism research, even when VR is theorised as an assistive tool to access tourism experiences. There are few in-depth studies from a disabled perspective. In response to this, I sought to apply a qualitative phenomenological approach to understand the lived experience of disabled people using VR to access adventure tourism. I use IPA as a guiding framework explore the lived experiences and perspectives of seven women and five men with limited mobilities across South Wales.

My contributions to research tourism are threefold. Firstly, my findings demonstrate that participants wished to use VR as a tool for escapism. The wish to escape was influenced by participants' disabilities and bodies and use of the VR to escape was dictated by the body's relationship with the technology; thus, VR was deemed inaccessible by participants. Secondly, as a methodological contribution, I demonstrate the value of using IPA for accessing complex and nuanced lived experiences. Furthermore, I question how VR can be beneficial to disabled people, or how it is used in research and practice if it has been considered inaccessible. Thirdly, whilst drawing on relevant literature, I decentre the able body and challenge able-bodied assumptions in tourism research. I centralise disabled voices and the disabled bodies as a point of understanding and a way of perceiving through the body. In doing so, I contribute to an emerging literature addressing the marginalisation of disabled voices from research.

Declaration and Statements

DECLARATION

This work has not previously been accepted in substance for any degree and is not being concurrently submitted in candidature for any degree.

Signed: Louisa Hardwick

Date: 20/06/2024

STATEMENT 1

This thesis is the result of my own investigations, except where otherwise stated. Where correction services have been used, the extent and nature has been clearly marked in the footnotes.

Other sources are acknowledged by giving explicit references. A bibliography is appended.

Signed: Louisa Hardwick

Date: 20/06/2024

STATEMENT 2

I hereby give consent for my thesis, if accepted, to be available for photocopying and for inter-library loan, and for the title and summary to be made available to outside organisations.

Signed: Louisa Hardwick

Date: 20/06/2024

Acknowledgements

I would like to thank the multitudes who helped me to complete my PhD. No man is an island, and no lone researcher is ever really a lone researcher.

First and foremost, I offer an infinite amount of thanks and gratitude to my parents for supporting me in my everlasting studentship. Mami, you once called me courageous but without you and Gwyn courage would be impossible. I'd be much more afraid to fall if I wasn't so sure of my landing. I promise not to annoy you too much with all the 'doctor' puns I have waiting up my sleeve.

To the extended family, without your support through this process, this document would never have seen the light of day.

I am incredibly grateful to my spectacular supervisory team. Dr Maggie Miller, you inspired me to be here today, and I can't thank you enough for firing the starting pistol. Dr Helen Williams, your guidance and encouragement throughout was invaluable. Prof. Katrina Pritchard, your expertise and comments were always helpful and on point. Thank you both for getting me to the finish line. I will never look at another table without thinking of you guys.

I would like to thank the participants. This thesis is quite literally nothing with you!

Finally, to those in my PhD cohort room. Thank you for the never-ending supply of cardamon coffee, escape room trips, Jacob's Joins, and PowerPoint party nights. I take all of you and everything I have learnt from you with me.

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1.1 Aim and Objectives of Thesis

My research explores how people with limited mobilities experience virtual reality (VR) adventure tourism, through a phenomenological lens. VR is posited as a *next step* across industries, including tourism (Geraets et al., 2021). Within tourism research, VR has been discussed as a next step for the past three decades (Cheong, 1995; Guttentag, 2010; Verma et al., 2022; Williams & Hobson, 1995). These studies are conceptual, discussing potential links rather than using evidence-based research (Tussyadiah et al., 2018). Further links between disability, VR and tourism are emerging but remain limited and hypothetical (Guttentag, 2010; Iftikhar et al., 2022; Mueller, 2021). Little is known about how these intersect experientially. Given this, the broader focus of my thesis is to gain an experiential understanding of disabled people using VR to access adventure tourism. To help fulfil this aim, I identify key theories that will facilitate an in-depth understanding of this phenomenon. In doing so, I identify gaps in existing literature. Furthermore, to achieve my aim, I have set three research objectives.

My first objective is to gain an understanding of the nature of a virtual experience and how it relates to disability (Shew, 2020). My second objective is to identify what might inhibit access to a virtual experience. As an under-researched phenomenon (Fennell & Garrod, 2023; Maran et al., 2022), my thesis will identify where future research could focus and facilitate a holistic understanding of the experiences of disabled people using VR to access adventure tourism. My final objective revolves around the application of a research methodology and research framework rarely used in tourism research, Interpretive Phenomenological Analysis (IPA) (Smith et al., 2022). Tourism research increasingly uses phenomenology to explore the lived experience as tourism is understood to be an experience-based economy (Kirillova, 2018; Szarycz, 2011). It is noted as a valuable theoretical framework methodology (Varley et al., 2020). However, there is inconsistency in the application of phenomenology in tourism research (Kirillova, 2018; Pernecky & Jamal, 2010) and use of IPA is limited in scope at the time of writing. IPA engages experiential data with an in-depth level of insight. Due to this, there are a small number of researchers who feel IPA is suited for tourism research, e.g. Farkic, 2020; Rickly, 2022; Sedgley et al, 2017; Singh & Srivastava, 2023; Thomas & Nieuwerburgh, 2022. To fulfil my thesis's, aim of gaining an experiential understanding of disabled people using VR to access adventure tourism, my research takes a phenomenological standpoint. To gain the level of insight needed, I use IPA as a theoretical framework and methodology to explore the lived experiences of twelve disabled people based in South Wales, UK.

1.2 Positionality and Background

Before pursuing postgraduate education, I travelled on and off for almost ten years, and continuously for five. I saw first-hand the impact tourism had on local populations and their economies. I saw tourism from multiple sides, as a tourist, as a local, and in industry. Eventually I wanted to gain a more theoretical understanding of what I was witnessing, and so I enrolled on an MSc of Business Management and Tourism. However, due to my disability I was unable to fulfil the requirements for the Tourism pathway and there were no alternatives. My MSc changed to solely Business Management. Despite this, my MSc research was dedicated to tourism research, exploring performative self-representation on Instagram. When the subject of further study was broached

during this time, I knew I wanted to remain committed to tourism research. This is an area of research in which I feel most at home. I began searching for a topic to dedicate the next three years of my life to. I settled on adventure tourism and disability early on in my initial research, inspired by own love for the tourism niche, my own disability, and the disabilities of those around me. Virtual reality did not come under consideration until I found Guttentag's (2010) paper on the possibilities of VR for travel and its section on possibilities for disabled travellers. I knew from my own knowledge as a gamer that VR had developed since that paper had been published. Linking these three ideas together to form a research topic felt like the next logical step and, so I began my doctoral journey.

To begin this doctoral journey, I first had to understand my own positionality within the research. I am disabled. I am disabled in similar ways to some of the participants. It wasn't always the case. In my younger years, I was a gymnast, a ballet, and a ballroom dancer. It was assumed that these hobbies would develop into a career if I could only pick one. Life, however, had other plans. In the space of a week, I injured my left knee and the cartilage surrounding the knee, ending those career paths. Life continued to have other plans; in my teen years, I contracted a form of meningitis, which caused many neurological and physical effects. This includes a chronic muscle weakness in my already damaged left knee. In my young adult life, I got hit by a car on my left side. My years caught up with me and I was left unable to walk at all. Through physiotherapy, I have managed to regain that skill, but I am now disabled. My travel capability has been restricted in ways I'd never thought about until the possibilities were taken from me. My ambitions to hike through New Zealand, for example, were ended by my inability to walk or stand for long periods of time, if the flight time didn't ensure I'd be in pain for months. However, in my view, I am still one of the lucky ones. A friend of mine, once an active skier, is now, in their own words, wheelchair bound due to a rare genetic disorder. My grandmother, a keen adventurer, became bedbound through age. These are the true inspirations behind this PhD.

To ensure reflexivity as a disabled scholar and acknowledging my positionality I maintained reflexive activities, further outlined in Chapter Four: Research Methodology (Section 4.7). One of these practices was reflexive postcard writing. Throughout this document you will read some of my postcard reflections, starting with Figure 1 at the end of this chapter. These were written at different self-identified checkpoints throughout my doctoral journey. I have placed them at the beginning and the end of each chapter. These will be discussed further in Section 4.7.4. In the next section, I discuss the terminology used throughout this thesis.

1.3 Terminology Used

When acknowledging my positionality as a disabled scholar and discussing disabled participants, terminology must be considered. Throughout my thesis I use disabled first terminology to honour the voices of the participants. I recognise that person first terminology is the established norm for academic research (Boerger et al, 2020; Crocker & Smith, 2022). However, there are a variety of labels and person-first terminology is not often used outside of academic research (Botha et al, 2023). Moreover, there is debate within research over using this terminology, as it does not preserve disabled people's rights to self-determination (Botha et al, 2023). The terminology used within disabled academic research must be determined by the disabled researcher or participants. Assuming a preference of terminology has discriminatory implications (Boerger et al, 2020). Disability is multifaceted, dynamic, and individual to the person and the terminology must reflect that (Crocker & Smith, 2022). In my Methodology Chapter, in Section 4.8, I request that the participants provide a

description of their disability and preferred terminology. In these self-descriptions, terminology preference was split evenly. However, during interviews, most of them referred to themselves as a disabled person. I also refer to myself as a disabled person. Therefore, disability first terminology is used throughout.

1.4 Justification for Research

In this section, I outline the justification for my research and how I developed relevant research questions to fulfil the aims and objective.

Firstly, I sought to better understand my research topic and the underlying assumptions of disability in academic research (Alvesson & Sandberg, 2020). Disability is a dynamic topic with many facets, which makes discussion around disability challenging (Hosking, 2012). The Equality Act 2010 defines disability as a physical or mental impairment that has an enduring and substantial negative effect on a person's ability to carry out everyday activities. Additionally, the WHO (2023) define disability as something integral to the human experience. Multiple people are defined this way and there are several different types of disabilities; cognitive, physical, intellectual, developmental or, sensory (Freer, 2019). Some of these disabilities stand alone, some overlap, or people experience more than one disability at the same time. Furthermore, there are those who may broadly fit into this definition of disability but who do not identify as disabled (Mueller, 2021). The identity of 'disabled' may feel stigmatising due to a lack of representation, a lack of community and understanding of disabled needs, or a lack of education about disability and its varying forms (Freer, 2023; Mueller, 2021). Ultimately, disability is a complex and multidimensional concept (Withers, 2020). Understanding this led me to identify gaps in existing literature.

1.4.1 Critical Gaps: Limitations in Literature

Throughout the relevant literature pertaining to my chosen research topic, there is a consistent limited consideration for disabled people. Disabled voice is rarely present and there are few in-depth discussions from a disabled perspective (Darcy et al., 2020; Goodley et al., 2017; Sarkady et al., 2021).

1.4.1.1 In tourism research and theory

Disability is rarely discussed in tourism research and what is present usually discusses mobility-based disabilities (Chikuta et al., 2018). In adventure tourism research, adventure tourism is a fluid concept, with movable parameters (Bichler & Peters, 2021; Rantala et al., 2016). These parameters rarely move to encompass disabled people or bodies in them. Adventure tourism has been constructed from an ableist viewpoint, where the body is the core of adventure tourism (Doran, 2016). Typologies and segmentation can create idealised notions of bodies, excluding disabled people and implying that disabled people do not engage with travel or are not deemed viable as consumers (Gillovic & McIntosh, 2020). By placing the body as the core of adventure tourism and creating stereotypes from typologies and the binaries set within them (Wenham, 2020; Zalatan, 2004), disabled bodies are ignored and excluded.

In tourism theories, such as the tourist gaze, disabled bodies are not considered. Through the tourist gaze, adventure tourism is understood to be an embodied performance (Urry & Larsen, 2011). However, the tourist gaze fails to address the complexities of embodiment, the bodies themselves, and is criticised as a predominantly White, male gaze (Bandyopadhyay & Ganguly, 2015; Godfrey et al., 2020; Huang & Lee, 2010). This is due to theories of embodiment being constructed around an ideal body type that does not include disabled bodies (Palmer & Andrews, 2019; Williams et al., 2023). Bodies outside of this ideal, non-White, non-disabled, non-male, are placed under scrutiny through objectification, exotification, or discrimination (Chambers, 2023; Dillette et al., 2019; Robinson, 2020). Furthermore, the tourist gaze is influenced by narratives that stem from the colonial pursuit of exploration, especially in the Global South (Mattsson, 2021). These narratives have similar body ideals as theories of embodiment. Thus, non-ideal bodies are not always present in these narratives (Cruces Portales & Nogués-Pedregal, 2019). Therefore, there is a struggle to reconcile what embodiment might mean in the tourist gaze when disabled bodies are significantly limited in presence in theories of embodiment and colonial narratives. However, these observations are rarely examined further within tourism (Rickly, 2021).

Furthermore, there is a popular assumption within tourism research that VR could resolve issues of accessibility for disabled people (Guttentag, 2010). This assumption has become more prevalent in academic conversation since COVID-19 (Sarkady et al., 2021). Despite this lack of disabled voice in tourism research, accessibility and VR are popularly theorised together as an exciting possibility (Williams & Hobson, 1995; Guttentag, 2010; Iftikhar et al., 2022). However, there is very little practice or evidence-based research to support the theorisation in this way (Flavián et al., 2021). The assumption of VR for accessible tourism remains just that.

1.4.1.2 In theories of disability

In theories that centre around discussions of disability there remains a dearth of disabled voices. Academic literature predominantly discusses disability through the social model of disability, agreeing that disability is a knotty concept (Degener, 2017; Kaplan, 1999; Leonardi et al., 2006). Critical Disability Studies (CDT) is an emerging theory dedicated to untangling this knot (Goodley et al., 2018). CDT is a critical theory and critical theory aims to facilitate social transformation, once it has identified the aspects of society that need change and who can enact those changes (Horkheimer, 1972/1992). Therefore, CDT centres disability using the social model of disability and posits disability as a product of society restricting the development of autonomy for disabled people due to the existing power structures (Meekosha & Shuttleworth, 2017). However, within academic literature, disabled people are not centred in discussion. By positing disability as a product of society, disability is theorised under CDT as an attribute of one homogeneous social group (Goodley et al., 2017). Therefore, representation of disabled voice only occurs at a group level (Withers, 2020). This means that research focusing on individual experiences of disability and knowledge produced from this is significantly limited (Schalk, 2018). This has been recognised as detrimental to disabled people and is jarring as scholars using CDT recognise that disability is multidimensional, intersectional, and individual (Vehmas & Watson, 2013). The limited focus on the individuality of disability misses nuances of disabled experiences that may be beneficial to discussions of disability at the social group level (Shildrick, 2019). Therefore, knowledge may be limited within research.

Furthermore, there is a paucity of disabled scholars or researchers performing studies, even within disability studies (De Picker, 2020). If disabled voice is present, the focus remains on the voice of the participants and non-disabled researchers are interpreting the experiences (Condie, 2023; Stone & Priestly, 1996; Tregaskis & Goodley, 2004). There are few studies that claim to have been conducted by disabled scholars, e.g. De Picker, 2020, Condie, 2023). This is not an ethical issue, but a lack of

disabled voice raises questions on how well disabled experiences can be centred and represented by non-disabled researchers (Peuzzo, 2020). The want of disabled voice highlighted potential areas for further exploration, including in tourism research.

1.4.1.3 In VR technology

There is significantly limited considered for disabled bodies in VR academic research and in VR design, where technological developments do not consider the needs of disabled people (Goodley et al., 2017). There is little academic discussion connecting the body to VR technology despite it being a wearable technology, (Matamala- Gomez et al., 2019). Moreover, VR headsets like the Apple Vision Pro or the Meta Quest 2 are advertised as accessible but there are few integrated accessibility features (Mott et al., 2019; Zallio & Clarkson, 2022). There are usually those with sensory disabilities, such as subtitles or colour-blind options (Dudley et al., 2023), and rarely consider physical or intellectually based disabilities (Beudart et al., 2017). However, further adaptations, improvements and assistive technologies are required for comfortable use, due to the lack of consideration of disabled bodies when designing the technology (Gerling et al., 2020). Additionally, these adaptations must be provided across all the virtual reality headset, in the hardware, software and within the programming as well (Zhao et al., 2019). This consistent lack of consideration for disabled bodies has been termed technoableism (Shew, 2020). VR has been theorised as a useful for accessibility in tourism research, which means it is theorised as an assistive technology. However, this technoableism means that this consistent assumption of VR as an assistive tool for accessible tourism is an unreasonable one.

Considering these potential areas for further exploration and given the lack of practice or evidence-based research, I formed my research questions, as outlined below.

1.5 Research Questions

After identifying possible areas of research identified in the previous sections, I turned to forming my research questions. The aim and objectives of this thesis require an in-depth and contextually sensitive empirical exploration. My study aims to understand how people with limited mobilities experience adventure tourism in VR. Investigating this phenomenon requires an approach that seeks to elucidate on an experience. This led me to my phenomenological standpoint. Phenomenology, as a philosophical stance and a research approach, investigates how individuals make sense of phenomena (Given, 2008). Thus, I use a phenomenologically informed theoretical framework to explore research questions that fulfil my thesis' aim:

1. How do people with limited mobilities experience adventure tourism in virtual reality?
    a) What contributes to the overall experience?
    b) What are the barriers to experiencing virtual reality adventure tourism?

The first two questions fulfil my first objective of understanding the nature of a virtual experience and how it relates to disability. This will facilitate a rich and holistic understanding of this experiential phenomenon. The last question will realise my second objective of identifying what might inhibit access to the virtual experience. By fulfilling my objectives with these research questions, I will fulfil the overarching aim of my thesis. Further consideration of the complexity and multidimensionality of disability made me feel that phenomenology would be an appropriate approach to develop more meaningful understandings. Moreover, IPA an evolving theory of understanding that provides a

distinctive epistemic framework that provides the deep level of insight required to answer these questions and fulfil my thesis aim (Shinebourne, 2011; Smith et al., 2022). With the research questions and objectives in mind, I used these frameworks to explore the lived experience of seven female and five male disabled people using a specific VR experience based in South Wales, UK.

1.6 Thesis Structure

This thesis comprises six chapters, including this introductory chapter. The initial three chapters lay the foundations of my argument. In these chapters, I identify areas of contribution (Chapter Two: Literature Review). Furthermore, I explain why I chose my phenomenological theoretical lens (Chapter Three: Theoretical Perspective. The subsequent chapters (4 and 5) discuss my research process (Chapter Four: Research Methodology) and present my analysis and findings (Chapter Five: Findings). The last chapter (Chapter Six: Discussions and Contributions) interprets these findings, discusses my contributions, and concludes my research. Below I outline a summary of each chapter.

Chapter One: Introduction

The aim of this introductory chapter is to provide background and justification for my study. Furthermore, I presented the research questions and objectives to highlight the overall aim of my study. I summarise my thesis structure to ensure clarity and understanding of the following chapters.

Chapter Two: Literature Review

This literature review provides a detailed understanding of the foundational contexts of this study. This chapter is divided into three themes: adventure tourism (Section 2.2), disability (Section 2.3), and virtual reality (Section 2.4). I review the relevant literature in each theme. I discuss theories that contribute to the construction of these areas of research. I explore the links between these disparate themes and how they are applied together. This chapter identifies and explores the limited literature that does so. Furthermore, I identify areas of contribution.

Chapter Three: Theoretical Perspective

This chapter introduces the theoretical framework on which my thesis is founded. This research is situated within an interpretivist paradigm, which includes a relativist ontology and a subjectivist epistemology. The core tenets of phenomenology as a philosophical standpoint are introduced. The specific branch of phenomenology used is Merleau-Ponty's (1945/2014) embodied phenomenology. Moreover, the theoretical foundations of Interpretative Phenomenological Analysis (IPA) are introduced. The rationale for using this phenomenological framework is provided.

Chapter Four: Research Methodology

IPA has a methodological framework, which informed my research design and methods. I explore how to use IPA and VR at a methodological level. This chapter details the fieldwork stage of this study, including my pilot study and main study. I outline the analytical stages of my research. Furthermore, I provide an in-depth discussion on maintaining reflexivity, regarding my positionality.

Chapter Five: Findings

This chapter is a presentation of my research findings. This chapter is split into three thematic sections. The first theme, Escapism (Section 5.2), revolves around the need to escape and its context. The second theme, the Immersion Cycle (Section 5.3) discusses feelings of cyclical immersion and what contributes to this. The final theme, (In)accessibility (Section 5.4) explores the accessibility of VR and barriers to the virtual experience. Each theme comprises of three further sections that explore the overarching themes in-depth. These capture and illuminate the multifaceted experiences of disabled people using VR to access virtual experiences. It discusses the influences of their bodies and contexts on the experience and the VR experience itself.

Chapter Six: Discussions and Contributions

In this chapter, I outline my discussions and contributions. I address how my findings answer my research questions and fulfil the objectives in Section 6.1 – 6.2. My research provides empirical (Section 6.3), methodological (Section 6.5), practical (6.6) contributions. In Section 6.4, my key theoretical contributions are presented and discussed in-depth. Finally, Sections 6.7 and 6.8 consider my research limitations and identify future areas of research.

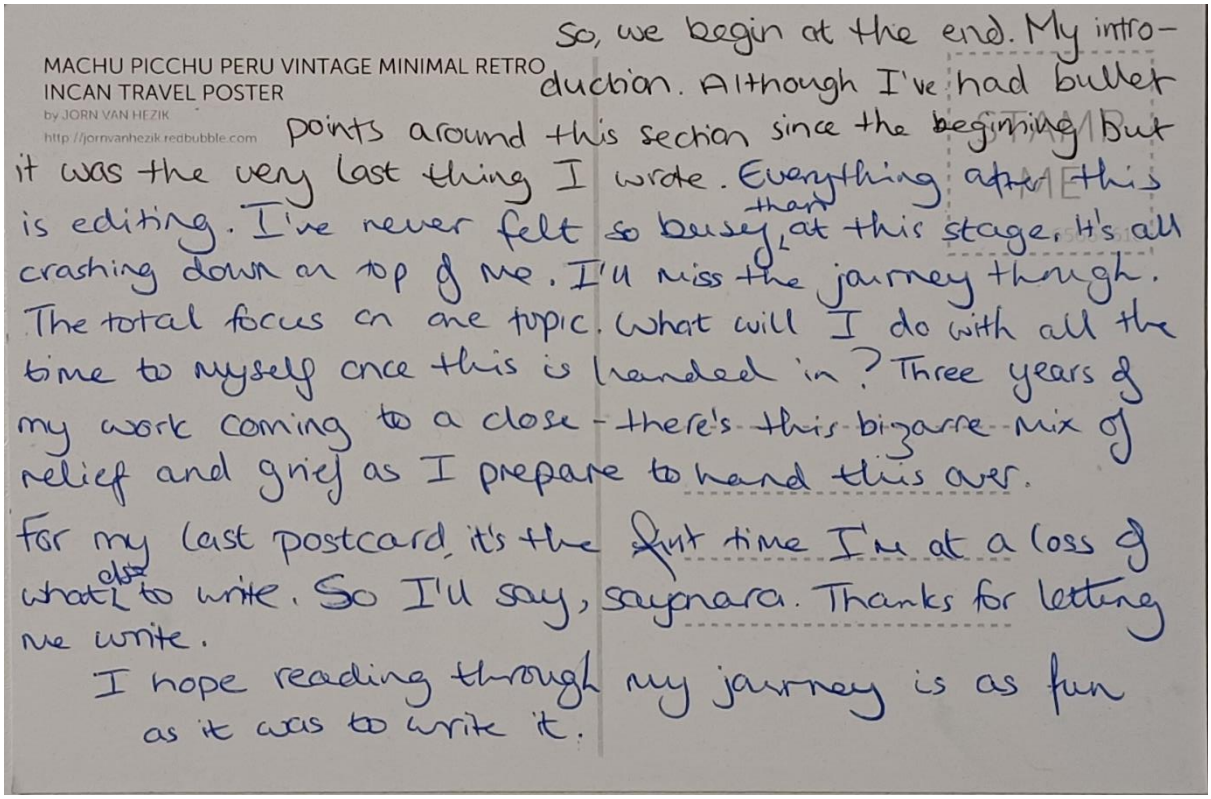
1.7 Chapter Summary

My thesis aims to gain an experiential understanding of disabled people using VR to access adventure tourism. This chapter outlines the ways in which my research will fulfil this aim. It will do so by answering the research questions to fulfil the objectives. As the central figure shaping, conducting, and analysing this research, my positionality as a disabled scholar was highlighted and the used of disability first terminology was explained.

The following chapter, the literature review, lays the foundations for this study and engages with the relevant literature to better understand how my research can bring new insights to the phenomenon of virtual adventure tourism experiences for disabled people.

Figure 1

Personal postcard from the Introduction journey



Chapter Two: Literature Review

2.1 Introduction

2.1.1 Structure of the Literature Review

2.2 Adventure Tourism

2.2.1 Introduction

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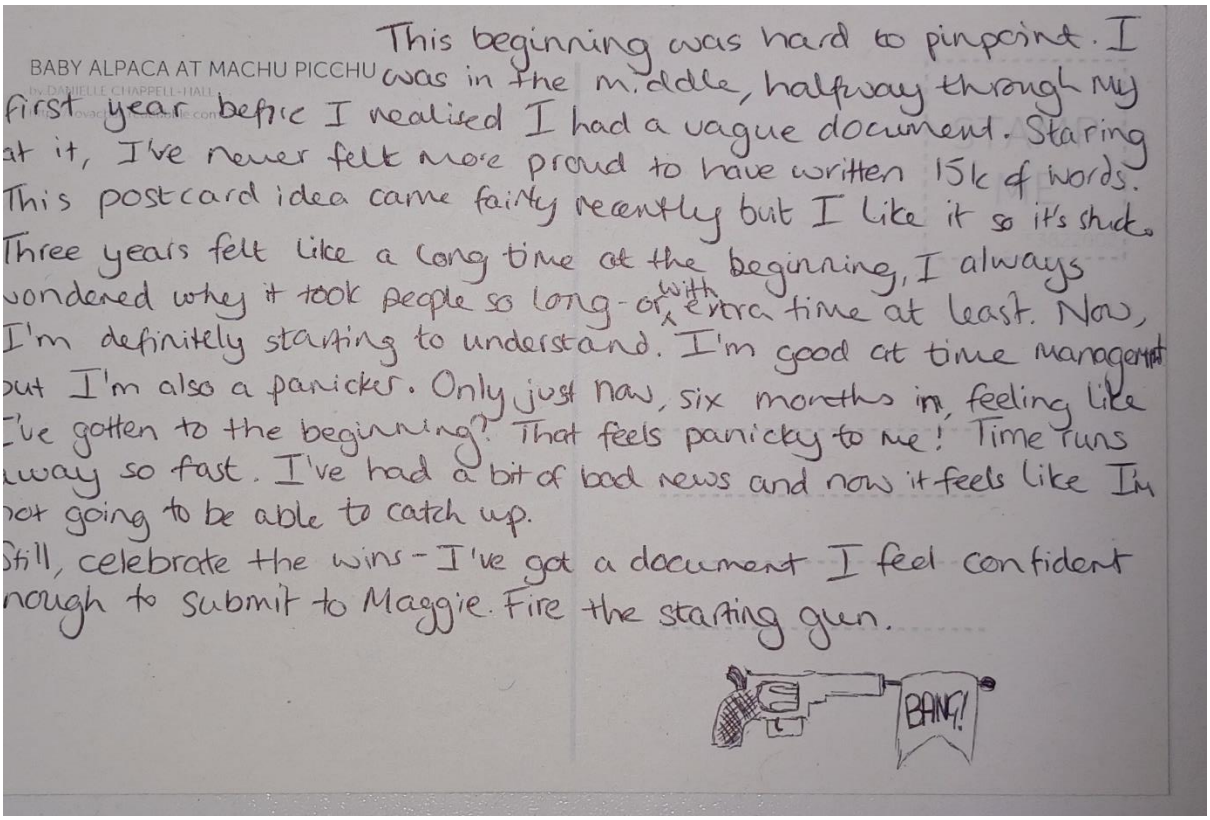
2.3.5.1 Limitation as Ableism

2.3.5.2 Representation as Ableism

2.3.6 Technology, CDT and Technoableism

Figure 2

Personal postcard from the beginning of the Literature Review journey



This beginning was hard to pinpoint. I was in the middle, halfway through my first year before I realised I had a vague document. Staring at it, I've never felt more proud to have written 15k of words. This postcard idea came fairly recently but I like it so it's stuck. Three years felt like a long time at the beginning, I always wondered why it took people so long - or with extra time at least. Now, I'm definitely starting to understand. I'm good at time management but I'm also a panicker. Only just now, six months in, feeling like I've gotten to the beginning? That feels panicky to me! Time runs away so fast. I've had a bit of bad news and now it feels like I'm not going to be able to catch up.
Still, celebrate the wins - I've got a document I feel confident enough to submit to Maggie. Fire the starting gun.

2.1 Introduction

The purpose of this literature review is to provide a detailed review of the literature and contexts within which this study is situated. To identify academic literature relevant to my thesis, I identified key words from my research question such as 'people with limited mobilities' or 'disability'. Using those, I identified search paths until I brought them together into an annotated bibliography. I further identified links between the chosen papers and arranged them into three broad themes. These themes, adventure tourism, disability, and virtual reality, required an in-depth exploration. With my overarching research question and thesis aim in mind, I have brought them together into a thematic literature review. It is not my intention to present an exhaustive understanding of the histories and continuously developing research of these themes, but to selectively highlight the theories, concepts, and developments pertinent to this research project.

I have divided this chapter into three areas of literature. I begin by discussing adventure tourism (Section 2.2) as it is the primary context for this thesis. In these sections, I critically review relevant literatures and offer an in-depth, critical examination of Urry & Larsen's (2011) theory of the tourist gaze, given its significance to my research. Current research themes (Section 2.2.4) are explored to explicate gaps, including the limited consideration of disabled tourists and accessible tourism (Sections 2.2.4.1 – 2.2.4.3).

The second theme I explore is disability (Section 2.3). I identify academic approaches to disability and highlight the social model of disability as the understanding of disability with which this thesis aligns.

I critically explore relevant theoretical assumptions, including Critical Disability Theory (CDT), before examining links between CDT and adventure tourism (Sections 2.3.5 – 2.3.5.2) and CDT and technology (Section 2.3.6).

The final theme, virtual reality, is examined in Section 2.4. I critically review literature examining VR, tourism, and disability. I consider the literature related to virtual experiences (Section 2.4.3 – 2.4.3.1), before examining how theories of sociomateriality (Section 2.4.2) offer a useful lens for this thesis.

Overall, my literature review identified studies linking adventure tourism and disability, or adventure tourism and VR. However, there are few studies connecting across all three areas of literature. Thus, there is a research gap about virtual reality adventure tourism experiences for disabled people that is ripe for further exploration.

2.2 Adventure Tourism

2.2.1 Introduction to Adventure Tourism

The concept of adventure tourism is considered variable, subjective, and malleable due to its context-dependent nature (Cater, 2013; Pomfret, 2021). Furthermore, often-fluid understandings of 'adventure' are becoming further blurred as more definitions and activities are researched (Mykletun, 2018; Rantala et al., 2018; Varley, 2006). Originally, adventure was defined as simply the curiosity of someone exploring the unfamiliar (Simmel, 1971). Connection to nature, wishes to escape, and to find novelty have since been added (Janowski et al., 2021; Varley & Semple, 2015). Alongside academic definitions, industrial and product-based definitions have gained prominence, adding physical activity, interaction with the natural environment, and immersion in the local culture (UNWTO, 2014). However, when taken together, these can possibly present as marginalising at worst, severely limiting at best, to those who cannot access nature or engage in the level of physicality expected of an adventure activity (Bell, 2019; Rantala et al., 2018). The following section seeks to unpack the concept of adventure tourism and how it relates to this thesis, particularly focusing on these issues of access and disability.

2.2.1 Concepts of Adventure Tourism

In this section I will discuss key characteristics of adventure tourism. As these are rooted in historical phases of adventure tourism, I first consider this legacy. Although adventure tourism has recently become more popular, adding to the definitional complexity, it is not a new form of tourism. It began with the exploration of new environments (Varley & Semple, 2015) and colonial exploration (Mattsson, 2021). During the Age of Discovery, explorers like Marco Polo, Captain Cook and Magellan explored, discovered, and colonised nations, opening travel and trade routes (Love, 2006). Adventure tourism in its current iteration can be traced to activities popularised by these highly adventurous travellers and influenced by their creative narratives of conquering nature (Colley, 2013). These adventurers and their popular narratives constructed adventure tourism as a travel defined by

exploration, curiosity, and achievement through danger. This endures today, as seen in the popularity of activities such as the Everest base camp treks (Mayer & Lukás, 2021).

An increase of mass adventure tourism from the seventies further constructed adventure tourism as for the general public, rather than solely for adventurers (Richards & Wilson, 2006). Adventure tourism has since become one of the biggest niches of the tourism market, with a proliferation of adventure equipment, clothing, and retail tours (Buckley, 2010; Sand & Gross, 2019a). Across this history definitions of adventure tourism and adventure tourists have evolved and been subject to much discussion. Adventure tourism has become more multi-faceted, with debate centring around the definition of 'adventure' (Pomfret, 2019). Multiple and fluid definitions can include a variety of tourists and their activities, but they can also exclude (Beard et al., 2015). By seeking concrete definitions, limits are placed around what adventure *should* be or look like, despite continuous acknowledgement that adventure is a highly subjective concept (Beard et al., 2015; Pomfret, 2019; Rantala et al., 2018). Thus, adventure tourism risks becoming an idealised concept, rather than an accessible one (Mackenzie et al., 2020). Moreover, this idealisation extends to adventure tourists, their view of adventure tourism, and their perceived ability to engage with this niche (Lozanki, 2015).

Despite this, both industry and academic research continue to create and extend on definitions of adventure tourism. These definitions include scales, such as the commonly accepted spectrum of hard-soft activities explored below, often adopted in both academic research and industry definitions (Beard et al., 2015; Huddart & Stott, 2020). The key characteristics of adventure tourism, the hard/soft binary, ideas of risk and physical engagement, are explored in the next section.

2.2.2.1 Hard/Soft Adventure Tourism

The hard/soft scale for adventure tourism activities is a commonly accepted characteristic that form definitions of adventure tourism (Beard et al., 2015; Huddart & Stott, 2020). This scale can find its origins in the historical development of adventure tourism (Huddart & Stott, 2020; Varley & Semple, 2015). Key characteristics and associated activities of both hard and soft adventure tourism have been identified in Table 1 below.

Table 1

Key Hard/Soft Adventure Tourism Definitions and Characteristics

	Hard adventure tourism	Soft adventure tourism
Characteristics	High levels of perceived risk and higher levels of actual risk (Cater, 2006; Hill, 1995; Mu & Nepal, 2016) High level of perceived symbolic capital (Fitchett et al., 2021: Schott, 2007) Heavy reliance on the natural world, specifically inhospitable or hostile environments (Petroman et al., 2018)	Lower levels of perceived risk and of actual risk (Mackenzie & Raymond, 2020) Higher levels of perceived accessibility (Lo et al., 2019; Sand & Gross, 2019a) More social elements and group settings (Varley & Semple, 2015)

	Higher emphasis on activity, that relies on the location (Petroman et al., 2018; Rantala et al., 2018)	Higher emphasis on location (Rantala et al., 2018)
Activities	BASE jumping Caving/spelunking Mountaineering Trekking White water rafting (UNWTO, 2014)	Archaeological expeditions Backpacking Camping Canoeing/kayaking Guided adventure tours Hiking Safaris Scuba diving/snorkelling Skiing/snowboarding (Schneider & Vogt, 2012; UNWTO, 2014)

The binary scale of hard and soft tourism was created to explain the diversity of travel patterns and behaviours behind adventure-seeking (Schneider & Vogt, 2012). However, creating binaries in this way encourages a simplistic viewpoint of adventure tourism that does not accurately reflect the complexity of the concept (Ryu et al., 2021). It is understood that these hard/soft activities are not universally applicable and further the idealisation of adventure tourism (Clarke et al., 2022). Indeed, scholars propose that activities associated with adventure tourism can be both hard and soft (Janowski et al., 2021). Moreover, studies use these terms in various contexts, agreeing that they should exist, but rarely agreeing on any fixed definitions (Bichler & Peters, 2021; Mykletun, 2018; Schneider & Vogt, 2012). These discussions have been ongoing since the seventies, when adventure tourism entered the mass tourism historical phase, without reaching a consensus (Richards & Wilson, 2006; Pomfret, 2019; Gross & Sand, 2020).

These debates impact how adventure tourism can be discussed. It raises questions about adventure tourism as a coherent or valid concept, beyond the industry definitions (Rantala et al., 2018). Some scholars even suggest that it may be impossible to study adventure tourism as a concept, without a systematic or sufficiently inclusive definition of adventure tourism and related activities (Bichler & Peters, 2021; Rantala et al., 2018). As a rapidly growing industry, dimensions are being continuously added, both to types of adventure tourism and to the adventure tourists themselves (Varley & Semple, 2015). This makes it challenging to understand how research and theoretical development can keep pace or how a coherent framework of adventure tourism can be developed (Gross & Sand, 2020). I now turn discussion to characteristics generally considered unique to adventure tourism; risk, and physical engagement.

2.2.2.2 Risk and Physical Engagement in Adventure Tourism

Despite little consensus on how to define adventure tourism, (Gardiner et al., 2023), there are commonly proposed characteristics associated more with adventure tourism than other tourism niches (Buckley, 2012; Swarbrooke et al., 2003). These characteristics are often linked to the historical phases discussed previously. Thus risk, linked to early narratives of conquering nature and achievement through danger, is commonly associated with adventure tourism (Martinkova & Parry, 2018). This relates to the thrill or challenge of adventure (Cater, 2006; Schott, 2007). Buckley (2012)

suggests that an emotional rush, or a feeling of thrill, can come from a sense of risk by allowing people to control, conquer or manage the risky situation, in which they have placed themselves.

Two versions of risk are identified in adventure tourism. Firstly, there is real risk, which requires safety measures and is a quantifiable statistic, estimating the likelihood of danger or harm (Cater, 2006). Secondly, there is perceived risk, which relates to the tourist's feelings and how they view an experience as risky. Overall, perceived risk is considered the most influential to providing the emotional rush or thrill (Mu & Nepal, 2015). Furthermore, physical engagement is a characteristic identified as an essential element for adventure tourism (Janowski et al., 2021). The physical demands of adventure tourism vary, depending on where the activity seemingly falls on the hard/soft scale, or on the body types of those exerting physical effort (Pomfret & Branwell, 2016; Swarbrooke et al., 2003).

Perceived risk is as variable as perception of the physical demands of adventure tourism. As perceived risk is an individual perception, it may be difficult to determine what is considered risky to tourists (Ponte et al., 2021). Moreover, understandings or experiences of physical engagement at an individual level, or for different groups, such as disabled people. Thus, by associating set characteristics with adventure tourism, the limitations already in place are extended (Bell, 2019). In this way adventure tourism is further idealised as a concept. For disabled tourists, levels of both perceived risk and actual risk can be higher than non-disabled tourists (Rubio-Escuardos et al., 2021). Moreover, risk can be present in other tourism niches, such as mass tourism of packaged beach holidays (Hansen et al., 2019). If risk is associated mainly with adventure tourism but is present across all tourism niches for some tourists, this raises questions about whether risk or physical engagement is integral to just adventure tourism (Buckley, 2012; Pomfret & Branwell, 2016; Schott, 2007). Adventure tourism becomes a concept with severe limitations if the risk is considered too high for non-disabled tourists to consider an acceptable risk (Lozanski, 2015).

The more we discuss adventure tourism, the clearer the challenge of defining it becomes. Adventure tourism as a theorised construct is often critiqued as lacking cohesion or having a framework through which adventure tourism can be researched (Gross & Sand, 2020; Ponte et al., 2021). With such subjective characteristics, there are questions as to whether adventure is a coherent concept for research (Rantala et al., 2018). From this initial review, the term adventure tourism forms more of an umbrella category due to its fluid definitions. Consequently, when discussing theory, tourism research at large, pulls from other disciplines, such as psychology or sociology (Cohen & Cohen, 2019). One such theory is the tourist gaze, which can affect the way adventure tourism is viewed and understood (Urry & Larsen, 2011).

2.2.3 The Tourist Gaze

The concept of the tourist gaze, developed by Urry (2002), provides a framework for understanding how tourists perceive and experience the places they visit. It is theorised as an interpretative process, relying on visual imagery and how these shape tourists' perceptions and experiences of a tourism place or experience (Urry & Larsen, 2011). When tourists engage in travel, they often focus on specific attractions or cultural elements that are considered 'authentic' or representative of the destination. This is often guided by commercially created destination imagery (Cornelissen, 2005; Urry & Larsen, 2011). The tourist gaze is directed towards these elements and tourists may prioritize capturing photographs or participating in activities that align with their preconceived view of the place. By posting these photographs for public consumption, these can

influence or destination marketing imagery, returning the tourist gaze to the specific attractions (Tussyadiah & Fesenmaier, 2009). This enacts a cycle of conferring importance of a set landscape between tourist gaze and public media, and back to the set landscape (Stone & Nyaupane, 2019).

Additionally, the impact of the tourist gaze extends beyond individual experiences. It can have social and cultural consequences for local communities and environments. Tourists and their gazes can disrupt local lifestyles, traditions, and economies (Urry & Larsen, 2011). It can lead to the transformation of local spaces to cater to tourist needs, sometimes resulting in gentrification or the displacement of residents (Jover & Diaz-Parra, 2019). This may affect how the local lifestyles and traditions appear in the tourist gaze (Samarathunga & Cheng, 2021). In this way, the tourist gaze plays a role in the commodification of the destination. Tourists often view local people and cultures as exotic and different from their own, leading to objectification and stereotyping. This creates a distinction between the tourist and the local, creating power imbalances and perpetuating stereotypes (Stone & Nyaupane, 2019). Local people and cultures may be commodified as exhibitions for tourist consumption. In return, the local gaze, which defines how tourists are viewed by indigenous populations, made up of tourist images and stereotypes, is positioned as complementary to the tourist gaze (Maoz, 2006; Wassler & Kirillova, 2018). This can cause the objectification of the tourists in return.

Conceptualisations of the tourist gaze are constantly shifting due to multifaceted understandings of individual experience, as influenced by the local gaze (Urry & Larsen, 2011). The tourist is a personal construction embedded in collective social interaction, in a constructionist view of our realities. (Wassler & Kirillova, 2018). Understanding the tourist is further constrained by individual tourists' own understanding of what they are seeing or feeling and their interpretations of this (Samarathunga & Cheng, 2021). With a focus on the individual, there is no unified understanding of what a singular tourist gaze looks like, much like understandings of adventure tourism, due to the differing sociocultural factors of a tourist's background (Samarathunga & Cheng, 2021).

Originally, the idea of the tourist gaze attracted criticism for reducing the complexities of the individual's tourism experience to a visual experience (Shang et al., 2022). It failed to account for ideas of perception rather than seeing (Walsh et al., 2019). Perception is a process of understanding sensory information, including other senses as well as the visual, interpreting them and then consciously experiencing that interpretation (Crane & French, 2021). By reducing the tourist gaze to a literal gaze, the tourist is positioned as a passive consumer of a destination and wider, active interpretative processes are ignored (Godfrey et al., 2020). The original theory failed to address the complexities involved in the interaction of individuals between tourists, the people they travel with and the hosts that offer them tourism experiences (Maoz, 2006). A lack of focus on social interactions constrains how the tourist gaze is understood as a constructionist theory and questions the knowledge that can be produced from using the theory (Shah et al., 2023). Addressing these criticisms, Urry and Larsen (2011) acknowledged the local gaze, and that tourism is experienced through all the senses, by experiencing sensations that might be out of the ordinary for the tourist. This leads to theories of embodiment within the tourist gaze, which I discuss in the following section.

2.2.3.1 Embodiment Within the Tourist Gaze

The tourist gaze is now understood to be an embodied gaze, taking more than the visual into consideration (Wassler & Kirillova, 2018). How the tourist understands an experience through the senses should be discussed to understand this idea of the tourist 'gaze' (Agapito et al., 2013). An individual perceives their worlds through multi-sensorially, so all the senses must be included in the

understanding of the tourist gaze (Brochado et al., 2021). Emotions are integral to the embodied gaze, as the responses of the body to a place or environment engender emotions (Frazer & Waitt, 2016; Tucker, 2016). Even this response to the early criticisms of the tourist gaze, however, fails to address the complexities of embodiment (Bandyopadhyay & Ganguly, 2015). It fails to address the bodies themselves, and is often criticised as a predominantly White, male, gaze (Godfrey et al., 2020; Huang & Lee, 2010). I now discuss theories of embodiment to better understand what embodiment might mean in the tourist gaze.

Theories of embodiment are often constructed around an ideal body type (Palmer & Andrews, 2019). The desired body type is Western, male, White, non-disabled, and hypermasculine, especially in adventure or adventure tourism (Williams et al., 2023). Within the tourist gaze, bodies are often placed under scrutiny through objectification, exotification, or discrimination (Chambers, 2023; Dillette et al., 2019; Robinson, 2020). Female presenting bodies can be objectified by the local gaze, creating a sense of discomfort into how a tourism space is experienced (Chambers, 2023). Black people when travelling can often experience an exotification of the local gaze, due to racially discriminatory or colonial narratives created by the tourist gaze and reinforced by stereotypical images of tourists (Dillette et al., 2019). Overweight bodies can often be discriminated against, due to the physical connotations of being physically fit, muscular or hypermasculine, that are seen in colonial narratives of difficult and physical exploration and discovery (Prianti, 2019; Robinson, 2020). Bodies are 'othered' due to colonial narratives, which exists within, and is reinforced by, the local gaze. Where the tourist gaze positions the locals as 'other', the local gaze positions the tourist as 'other'. This 'othering' of bodies within a tourism space can inhibit access to or enjoyment of a tourism experience in a way that white, male, and idealised bodied tourists may not experience (Dillette et al., 2019).

By focusing on the tourist gaze as embodied, it centres the body as a point of perception, through sensory engagement and emotions. However, this raises questions as to how bodies that fit outside of this embodiment ideal may be centred. Disabled bodies, including those who have sensory disabilities, are not discussed within the tourist gaze. Thus, scholars themselves highlight that the tourist gaze could be a theory that unwittingly marginalises disabled bodies (Aitchinson, 2010; Rickly, 2021). Embodiment for disabled people revolves bodies having access to spaces, which is explored further in Sections 2.2.4.2 and 2.2.4.3 (Morrison et al., 2020). If disabled tourists are unable to access the space, they cannot perceive the space. This limited consideration of the disabled bodies, and other bodies, through aligning with restrictive theories of embodiment, means there is a struggle to reconcile what Urry and Larsen (2011) might mean when they discuss embodied experiences (Rickly, 2021; Small et al., 2012).

2.2.3.2 Adventure Tourism Within the Tourist Gaze

A focus on embodiment further requires that adventure tourism should be considered an embodied experience, that requires "intense bodily arousal, from bodies in motion" (Urry & Larsen, 2011, p. 22). Therefore, physical engagement is considered the key characteristic of adventure tourism within the theory of the tourist gaze. Here then, 'bodily arousal' means an engagement of emotions, creating a physical reaction to the feeling of risk. This contradicts Urry's (2002) initial idea of a passive gazer on a visual landscape. Therefore, the notion of the tourist gaze was updated to position adventure tourism not as a 'gaze' but as a performance (Urry & Larsen, 2011). Tourism is accomplished through performances in complex networks of tourists and hosts, historically constructed and influenced by destination imagery (Cloke & Perkins, 1998; Perkins & Thorns, 2001). Adventure tourism was deemed a more engaged form of tourism, with fully embodied participation

or performance (Cloke & Perkins, 1998). However, the idea of the 'gaze' was not completely dismissed. Adventure tourists are both passive gazers and the active performers of tourism, often influenced by the idea of dangerous places from destination imagery or by wanting to put the body into danger (Urry & Larsen, 2011). The characteristic of perceived risk is theorised as a visual component within the tourist gaze (Xie et al., 2023). It is a reaction to what tourists visualise happening or possibly happening in the future. This suggests that those who have sight-related sensory disabilities may not understand risk within adventure tourism contexts if they are unable to visualise it (Obigbesan et al., 2023). This once again raises questions as to how the body is understood within the tourist gaze if it appears to ignore disabled bodies (Rickly, 2021).

Furthermore, viewing adventure tourism through the tourist gaze requires critical examination of colonial narratives. These narratives stem from colonial exploration (Mattsson, 2021). The narratives have the same body ideals apparent in theories of embodiment. Colonial narratives act to objectify the local population, casting them as hosts for a tourist's experience only, whilst the tourists play the colonial explorer (Godfrey et al., 2020; Robinson, 2020). Local populations are gazed at through an exotified lens, especially in the Global South (Mattsson, 2021). As a result, the mutual gaze, tourists, and locals gazing at each other, could be considered racially discriminatory and marginalising (Mowforth & Munt, 2015), through adventure tourism's enduring historical roots and theories of embodiment. The local population often fulfil these objectifying and racially biased colonial narratives to encourage tourism (Cox Hall, 2022; Shullenberger, 2008). Limitedly represented in these narratives are bodies outside of the ideal body type, which are objectified or discriminated against by the local gaze (Cruces Portales & Nogués-Pedregal, 2019).

Overall, adventure tourism in the tourist gaze is considered an embodied performance (Cloke & Perkins, 1998; Rickly, 2021; Urry & Larsen, 2011). Risk, however, is theorised as purely visual, which could possibly be considered alienating to those with sensory impairments. Adventure tourism is viewed through colonial narratives in the tourist gaze, which has similar body ideals to theories of embodiment. Thus, these are discriminatory against individual bodies outside of the ideal Western, male, White, non-disabled, and hypermasculine body (Williams et al., 2023). I now turn discussion to the individual tourist.

2.2.3.3 The Tourist Within the Tourist Gaze

As reviewed so far, the tourist gaze is theorised as a personal, individual construction, created by tourists' interpretation of tourism spaces and social interactions (Urry & Larsen, 2011; Wassler & Kirillova, 2018). The tourist is positioned in dual roles of gazer and the entity being gazed upon. In the gaze towards, the tourist is the central point of perception and the active participant of the tourist scenescape (Urry & Larsen, 2011). This gaze towards often extends after the tourist activity, through posting on social media, leaving reviews, or continuing to have the social relationships after travel (Manimont et al., 2022). The gaze back, the local gaze, presents the tourist as a passive participant, the one being gazed at in return (Cruces Portales & Nogués-Pedregal, 2019; Lin & Fu, 2021). Despite this focus on the individual and the multiple gazes within the theory (Urry & Larsen, 2011), there is little attention to how tourists perceive themselves or how they gaze inwards. Indeed, there is limited literature dedicated to individual tourist self-identity, including within discussions of the tourist gaze (Bandyopadhyay et al., 2022). Rather, research on tourist self-identity tends to consider more social or group identity, such as cultural identity, youth identity, ethnic identity, or postcolonial identity (Amoamo, 2011; De Martini Ugolotti, 2015; Dabamona et al., 2021; Layland et al., 2018).

There is a small but growing body of literature that explores individual self-identity. However, discussion on individual self-identity tends to focus on personal motivation (Bond & Falk, 2013; Lewis et al., 2010). How people are motivated to travel can revolve around an image of self or self-representation, linking back to the social media usage of tourists (Bond & Falk, 2013). Individual self-identity literature also discusses the development of self-identity through travel, including voluntourism, and how that is related when returning home or how to project this image (Gazley & Watling, 2015; Wearing & Neil, 2000).

Similarly, in the literature around the tourist gaze, focus tends to be on the representation of self, rather than identity of self, particularly on social media (Canavan, 2020; Korstanje, 2020). Social media self-representation is influential on the construction of the tourist gaze, in conferring the importance of certain scenescapes (Walsh et al., 2019). Indigenous self-identity, at a social group level and revolving around colonial narratives, is a repeated focus for research applying the theory of the tourist gaze (Lin & Fu, 2021). However, tourist identity and what it means to be a 'gazing' tourist is not often discussed at an individual level, despite emphasis on the tourist gaze as a constructionist theory (Urry & Larsen, 2011). If the embodied sense-making of tourism scenescapes are personal constructions (Wassler & Kirillova, 2018) then perception of self as a tourist is a personal construction, influenced by and influencing tourist gazes. Instead, the individual self-identity of the tourist within the tourist gaze is conspicuous in its paucity. In the next section, I review current themes of adventure tourism to explicate gaps in this area of literature.

2.2.4 Current Research Themes

In this section, I highlight the common themes within adventure tourism research and identify current limitations. I will discuss these further in Sections 2.5.1, 2.5.2, and 2.5.3. Consistently discussed research themes include the experience economy, and the psychological implications of adventure tourism (Sand & Gross, 2019b). A wide range of methods are applied in adventure tourism research, across quantitative, qualitative, and mixed methods (Sand & Gross, 2019a). Extended literature reviews or interviews analysed thematically are the most popular methods of data collection and analysis. However, alternative methods, such as auto-ethnography, are rising in popularity (Cheng et al., 2018; Sand and Gross, 2019b). Due to the interdisciplinary nature of tourism, researchers often engage with approaches from other fields, such as phenomenology (Richards, 2020). However, there is a lack of interdisciplinary research and work is largely theoretical (Duxbury et al., 2022; Mackenzie et al., 2023).

As noted above, the experience economy is a common thread of study. Research within this theme involves a diverse range of concepts, such as the nature of 'adventure', the tourist gaze, tourist typologies and motivations (Cheng et al., 2018; Gross & Sand, 2019b). Experience is explored from both tourist's and tourism operator's viewpoints. However, it is noted that most of the research focuses on the immediate outcomes and effects of an adventure tourism experience (Allman et al., 2009; Hunt & Harbor, 2019). Long-term studies are few, possibly due to the short- term perspective of the tourism industry, academics, and the usually short- term nature of travel (Williams & Soutar, 2005). Long- term industry effects of COVID-19 may influence this perspective and the number of studies that focus on continuing impacts of adventure tourism in the future (Nepal, 2020).

Regarding the psychological implications of adventure tourism, health and wellbeing are the fastest growing areas of research focus (i.e., slow adventure, Varley & Semple, 2015). Adventure tourism for

wellbeing is emphasised as developing self-efficacy and resilience, facilitating connections to nature and to increasing physical activity levels (Breunig, 2020). This construction of adventure tourism, although seemingly more accessible than others which focus on high levels of risk and physical activity due to its 'slow' nature is ableist, constructed without consideration for disabled bodies. Disabled bodies may be unable to develop self-efficacy, often needing to rely on others in natural environments, or require help to increase physical activity (Bell, 2019).

By briefly touching upon the common themes, I highlight what is *not* a common theme. Accessible tourism is not something often discussed in adventure tourism. This may be because accessible tourism does not have a universally accepted conceptualisation, similar to adventure tourism (Darcy et al., 2020). Furthermore, there is a consistent lack of minority or marginalised voices. Black voices or voices from the Global South are seldom represented (Benjamin & Dilette, 2021; Cheng et al., 2018). Disabled voices are not often present, both as a topic of research and as the researcher themselves (Goodley et al., 2018). In research topics that focus on adventure tourists as objects of study, like market segmentation or typologies, there is little focus on these voices (Huddart & Stott, 2020). This may be due to the limited consideration for disabled bodies when constructing adventure tourism. This significantly limited presence of disabled tourists and accessible tourism will now be discussed.

2.2.4.1 Adventure Tourists

Tourist typology and market segmentation is the grouping of tourists by their psychological characteristics, their motivations. Cohen (1972) is credited as the beginning of tourism typology discussions (Cruz-Milan, 2018; Fletcher et al., 2017). Further explorations and additions often refer to Cohen as the basis for new typology developments. Adventure tourists and related typologies are understood to fall generally under Cohen's Drifter or Explorer typology (Rickly, 2016). Table 2 below highlights typologies of tourism.

Table 2

Select Typologies and their Related Characteristics

Cohen's Typologies (1972)	Characteristics	Related Typologies	Characteristics
The Drifter	Independent Adventurous Seeks total immersion and escape in local cultures. (Beard et al., 2015; Cohen, 1972)	Belonging Seekers (Fan et al., 2017	Seeks immersion and belonging to cultures other than their own (Fan et al., 2017).
		Long-Term Travellers (Ryu et al., 2021)	Driven by adventure. Socially minded. Seeks to escape (Ryu et al., 2021).
		Dirtbag (Rickly, 2016)	Focused on one adventure activity, outdoor rock climbing. Solo travel. Sleeps in car (Rickly, 2016).
The Explorer	Socially minded. Group tours.	Budget Explorers (Ryu et al., 2020)	Culturally minded. Financially motivated. Socially minded.

	Less focus on local immersion. Seeks to escape. (Beard et al., 2015; Cohen, 1972)		Seeks to escape. (Ryu et al., 2021)
The Individual Mass Tourist	Seeks the familiar. Solo travel. (Cohen, 1972)	Social Media Addict (Fan et al., 2019)	Seeks experiences as highlighted through social media, including adventure activities (Fan et al., 2019).

It is proposed that adventure tourists within the drifter/explorer typologies are often motivated by a need to escape (Crompton, 1979; Pomfret, 2006). The motivation to travel influences tourists' consumer behaviours and is considered an essential concept to explain them (Fletcher et al., 2017). Motivation is a psychological construct that has been conceptualised in adventure tourism as what initiates a person to travel (Eccles & Wigfield, 2020). The broad concept of motivation applied does not allow for a conceptual unpacking of reasons behind the need to escape or consideration of the nuances of the individual tourist (Iliev, 2020; Schneider& Vogt, 2012). Dann (1977) first argued that the overall motivation for tourism in general is escapism, that travel is a response to what tourists feel is missing in their home environments. Since then, most theories of motivation in this research niche are based on escape (Richards & Morrill, 2020). This raises questions about how useful the classifications of motivation might be as a defining tourist characteristic if they are all linked by the same motivation.

Motivations for engaging in adventure tourism are as subjective and as individualistic as the idea of adventure (Pomfret, 2019). Typologies are considered useful when discussing groups of tourists at large, industrial scales (Ponte et al., 2021). At an individual tourist level, typologies limit discussions around motivations, which are as complex, nuanced, and different as the individuals that are omitted from consideration (Popp et al., 2021). By categorising types and experiences this way, typologies oversimplify the tourist experience, ensuring that the tourist, their experiences, and their motivations become homogenised. They become one-dimensional concepts (Herdin, 2012). Tourism typologies oversimplify the experiential aspect of tourism, changing adventure tourism and the tourists who participate into a singular conceptualisation that does not reflect the multifaceted nature of adventure tourism, individual tourists, and complex motivations. Typologies are constantly being developed because of this oversimplification (Fan et al., 2017; Ryu et al., 2021). Tourism typologies cannot meet the demands for discussion surrounding complex and subjective tourism motivations and experiences (Humagain & Singleton, 2021). Moreover, by oversimplifying this way, research constructs typologies in ways that exclude disabled tourists. The homogenous motivations described in these typologies, such as escapism into other culture, are framed as if they are achievable for all tourists (Wenham, 2020). However, disabled tourists may be excluded from the cultures they wish to immerse in, so these motivations may be unachievable to fulfil (Moura et al., 2020). Reflection on currently significantly limited research and further in-depth discussion around what is already conceptualised is required.

Market segmentation operates similarly to typologies, in that it groups consumers or tourists, but based on certain physical characteristics (Woodside & Martin, 2008). In the adventure tourism market, there is an industry division between hard and soft adventure tourism. There are further segments by generations, such as millennials and Gen Z, gender, and physical characteristics (Adventure Travel Trade Association, 2023). Other segments include travel group sizes and educational background (Bryans, 2023). Disabled tourists do not appear in these segmentations,

thereby implying that disabled people do not engage with travel or are not viable as consumers (Gillovic & McIntosh, 2020). Furthermore, the focus remains heavily on Western tourists, from a Western perspective, resulting in the perception of adventure tourism as culturally and physically homogeneous (Buckley et al., 2014).

The significantly limited consideration for disabled tourist further demonstrates the limitations of simplistic classifications. Segmentation and typologies as tourism classification systems are not universally applicable and can create idealisation of what an adventure tourist should look like (Zalatan, 2004). Not considering tourists other than these homogenous groups could possibly feel restrictive to tourists who fall outside of these groups (Sigala, 2019). Disabled tourists are excluded at a typological level, due to research constructed under ableist assumptions of travel being accessible to everyone (Gillovic & McIntosh, 2020; Wenham, 2020). I now turn discussion to literature that does include disabled tourists.

2.2.4.2 Disabled Tourists

Disability, in its individual, dynamic complexities, is becoming a point of interest for tourism research. This is due to the continuing increase of disability's presence in the world, especially as we age (WHO, 2023). The developing awareness of disability in academic research and market research leads to interest in the so-called Purple Pound (Södergren, & Vallström, 2022). Purple is often associated with disability awareness, and the Purple Pound refers to the collective spending power of disabled households and their financial value as consumers (Shin & Alexander, 2023). It highlights the significant economic impact that disabled people and disabled communities have on markets. The spending power of these communities is projected at around £274 billion, with businesses and industries losing around £2 billion a month by not fulfilling the needs of disabled people (WeArePurple, 2020). Despite this, disability within tourism research has been a consistently neglected viewpoint (Singh et al., 2023). This could be because disabled people as a promising market segmentation in terms of growth for the tourism industry has only recently been acknowledged (Cloquet et al., 2018; Singh et al., 2023). This previous lack of industry awareness has influenced a lack of awareness in tourism research. The focus of research is on able-bodied tourists and the industry developed around the population without disabilities (Gillovic et al., 2021). A limited understanding of the complexities of disabilities is influential in neglecting this viewpoint (Buhalis & Darcy, 2010; Singh et al., 2023).

In adventure tourism, market segmentation rarely mention disabled tourists. Moreover, the limited market segmentation research focuses on mobility-based disabilities, due to the assumed high level of mobility required to participate in adventure tourism (Chikuta et al., 2019; Perangin-Angin et al., 2023). The importance of mobility cannot be understated as the body has been constructed as the core of adventure tourism. If the body is affected by mobility, so too is the ability to access the adventure tourism experience (Doran, 2016). This infers that adventure tourism has been constructed in an ableist way. Limited consideration for bodies outside of the ideal body standard is found in theories of embodiment (Palmer & Andrew, 2019). Although mobility-based disabilities are important to consider, solely focusing on the body, mobilities leads to a further dearth in the already limited literature surrounding other disability types that might affect adventure tourism experiences (Rubio-Escuderos et al., 2021).

There are few in-depth studies that discuss disabled tourists in adventure tourism through the perspectives of the disabled tourists themselves (Darcy et al., 2020; Rubio-Escuderos et al., 2021). Those that do suggest that disabled tourists are motivated to travel to experience something that non-disabled tourists would also find difficult to achieve (Chikuta et al., 2019). Adventure tourism may offer this experience, especially in hard adventure tourism, which has an element of challenge (Moura et al., 2023). This idea of risk or achievement has another dimension for disabled adventure tourists, who need to push themselves beyond the constraints a disability might have placed on them to gain an increase in self-confidence (Chikuta et al., 2019; Darcy et al., 2020). Another motivation would be escapism, which studies suggest may be felt more strongly by disabled tourists. It represents a chance to escape the higher number of inequalities and dependencies that they face every day (Moura et al., 2023).

Overall, however, the studies suggest that adventure tourism is generally perceived as inaccessible to those with disabilities, especially those with mobility-based disabilities (Darcy et al., 2020). Accessible tourism is a response to combat this idea to better facilitate experiences for this ever-growing segment.

2.2.4.3 Accessible Tourism

Accessible tourism does not have a universally accepted conceptualisation, differing from country to country, having various meanings in governing bodies and academic research (Darcy et al., 2020). This may be because it is an emerging notion, and there is no universally accepted idea of the barriers to accessible tourism. Temporary barriers are the most considered, such as pregnancy or age-related mobility, but there is very little consideration to permanent barriers, such as for sensory disabilities or neurodiversity (Dickson et al., 2017). The idea of accessible tourism is an optimistic one. Buhalis and Darcy (2010) define it as "a form of tourism that involves collaborative processes… that enables people with access requirements… to function independently and with equity and dignity through the delivery of universally designed tourism products" (p.10). Even this definition shows the complicated nature of accessible tourism. Accessible tourism is an interdisciplinary aspiration that requires continuous and collaborative commitment between all involved disciplines and industries (Natalia et al., 2019). As it stands currently, there is little collaboration between tourism stakeholders to make accessible tourism achievable, despite policies led by UNWTO that encourage otherwise (Tomej & Duedahl, 2023).

That is not to say change is not happening at all within the industry. Foundations and charities such as Makingtrax in New Zealand, which specialises in adventure tourism (Makingtrax, n.d) and Tourism for All in the UK (Tourism for All, n.d), which specialises in family tourism, have been created to offer accessible tourism opportunities, provide education and advice for tourism providers, and provide their own practical solutions. These solutions and adaptations, however, vary between tourism niches. Niches like heritage tourism develop their own unique adaptations. Conflicting interests of conservation and architecture built during historical periods when disability was not a consideration often mean heritage sites are inaccessible to those with extra physical requirements (Goodall, 2006; Johnstone et al., 2023). Caernarfon Castle recently installed a glass lift for wheelchair accessibility (Cadw, 2023). This is not always feasible in smaller sites and sites like these can turn to technology for accessibility such as virtual reality, as, for example, in Shakespeare's birthplace in Stratford-upon-Avon (Racz & Zilizi, 2019; Johnstone et al., 2023). However, this adaptation cannot be used for accommodation design where buildings prove a similar barrier, and every part of the hotel needs to

be accessible (Piramanayagam et al., 2019). Accessibility that works for one niche, does not necessarily work for another, ensuring that cohesive collaboration and universal accessibility may be an impossibility.

The notion of accessible tourism is as complicated in academic research as it is in the tourism industry. A multitude of barriers, both physical and attitudinal, have been identified by researchers over the years that prevent or restrict accessibility to tourism (Nyanjom et al., 2018; Tomej & Duedahl, 2023). However, these discussions rarely offer ways of addressing the identified barriers in practice (Apollo & Rettinger, 2019). Furthermore, there are few theories to ensure development of conceptual frameworks that may aid industrial collaborative processes (Polat & Hermans, 2016; Tomej & Duedahl, 2023). Other theories and models have been applied hoping to develop this conceptual framework, such as the social model of disability and critical disability theory, which will be discussed further in Sections 2.3.2 and Sections 2.3.4 (Nyanjom et al., 2018). As yet, few have been applicable as coherent 'accessible tourism frameworks' (Apollo & Rettinger, 2019; Polat & Hermans, 2016; Rubio-Escuardos et al., 2021)

In adventure tourism research specifically, accessibility is not something often discussed. Although it has been discussed over the last few decades (e.g. Cater, 2000; Hall & Brown, 2022; Holland, 2012) with some focusing on limited mobilities and with increasing focus on neurodiversity or other disorders (e.g. Jepson et al., 2024). Overwhelmingly, the discussion focus however, is on temporary accessibility requirements or mobility-based requirements (Chikuta et al., 2023). This could stem from the ableist construction of adventure tourism, where the body is the core of adventure tourism, and the body is the main point of access for tourists to engage in adventure tourism (Doran, 2016). Accessibility, in a similar vein to disability and disabled tourists, remains a limited point of discussion in tourism research.

2.2.5 Section Summary

For the first part of this literature review, I have discussed the foundational contexts of adventure tourism, such as the concepts and key characteristics. I have highlighted key elements of Urry and Larsen's (2011) tourist gaze theory, like theories of embodiment. I have identified current research themes, like typologies and the nature of tourism experiences. In addition, I have highlighted the dominantly ableist perspectives in adventure tourism research literature.

More importantly, throughout this section, I have highlighted gaps in research pertaining to adventure tourism. Within the concept of adventure tourism, there is a lack of a unified understanding of the meaning of adventure, enabling an idealised notion of adventure tourism (Bichler & Peters, 2021; Rantala et al., 2018). Adventure tourism has been constructed from an ableist viewpoint, where the body is the core of adventure tourism, which ignores bodies outside of this idealised notion (Doran, 2016). However, the parameters of the debate need to be identified so there can be meaningful scholarly discussion. The characteristics of risk and physical engagement considered key aspects of adventure tourism have movable parameters and are often discussed without consideration for disabled people (Buckley, 2012; Pomfret & Branwell, 2016). This limited consideration appears in the theory of the tourist gaze, where possibly restrictive theories of embodiment are used (Williams et al., 2023).

Throughout the tourist gaze, the tourists themselves remain little discussed, favouring discussion of self-representation over self-identity (Canavan, 2020). There is significantly limited consideration of

bodies existing outside of the idealised bodies of colonial narratives and theories of embodiment, which are often placed under scrutiny (Cruces Portales & Nogués-Pedregal, 2019; Rickly, 2021). Finally, throughout current areas of tourism research, there are gaps surrounding typologies, accessible tourism, and disabled tourists. Typologies and the binaries set within them can create idealised notions of bodies, thereby creating stereotypes that ignore disabled people (Wenham, 2020; Zalatan, 2004).

Even within research exploring disabled tourists, disabled voices are rarely present, with few in-depth discussions from disabled perspectives (Darcy et al., 2020; Rubio-Escuderos et al., 2021). If accessible tourism is discussed, it usually focuses on mobility related disabilities or temporary access issues, like pregnancy (Chikuta et al., 2023). This may be due to the complicated nature of accessibility within the tourism industry, which emphasises the interdisciplinary nature of tourism (Apollo & Rettinger, 2019). This, however, further highlights the lack of practice-based or interdisciplinary tourism research (Mackenzie et al., 2023).

As disability remains an ongoing lack of consideration from current tourism research, the following section will explore disability to gain a deeper understanding of it as a research topic, linked to adventure tourism. Specifically, I will discuss the representation of disability in research that this thesis aligns with, the social model of disability, and a relevant associated theory, critical disability theory.

2.3 Disability

2.3.1 Introduction

This section introduces disability as it is understood from both a legal perspective and a theoretical perspective. The Equality Act 2010 defines disability as an impairment that can have a long and substantial adverse effect on someone's ability to carry out day-to-day activities. More than one billion people worldwide fall under this definition (World Health Organisation, 2023). This figure will continue to rise due to age-related disabilities within the aging population and an increase of chronic health conditions. The WHO (2023) define disability as something integral to the human experience, because one in six of us are disabled or experience disability. Although both the UK 2010 Equality Act and World Health Organisation have a clear definition of disability, it is still an intricate and often murky notion. There are several different types of disabilities; cognitive, physical, intellectual, developmental or, sensory (Freer, 2018). Some of these disabilities can stand alone, some may overlap, and people may even experience more than one at the same time. Disability is complex and inevitable part of the human condition and a great many of us will find ourselves impaired at some point or other, as we age (WHO, 2023). Additionally, there are those who broadly fit into this definition but do not identify as disabled (Mueller, 2021). The identity of 'disabled' may feel highly stigmatising due to a lack of representation, a lack of community, or a lack of education about disability and disabled needs (Freer, 2023; Mueller, 2021). Disability is a dynamic and multidimensional situation with many factors, which can make the discussion around disability challenging.

However, placing disability at the centre of discussion means having a perspective of disability that is inclusive enough to be able to discuss all who fall under the idea (Hosking, 2012). The concept of disability can be knotty and complex (Kaplan, 1999). To try and untangle this concept, I turn to understanding the models of disability.

2.3.2 Models of Disability

There are differing viewpoints of what disability can mean, in academic theory, in power structures and within varying industries (Leonardi et al., 2006). As an individual discussing disability without being exclusionary or over-inclusive is challenging (Hall, 2019). There are two principal models for discussing disability, the medical model, and the social model (Marks, 1997). The medical model defines disability as a disease, it is considered a defect that requires a cure (Degener, 2017). This creates a binary when researching disability, separating people into two inflexible categories, disabled and non-disabled (Vehmas & Watson, 2014). This binary posits disability as an objectively defined impairment. Often it is deemed a personal tragedy, which creates a lack of agency for the disabled person (French & Swain, 2004). The medical model of disability implies that a disabled person as a passive recipient of their disability, someone without knowledge of their own body (Evans, 2004). Furthermore, this binary of disabled and non-disabled ensures that disability appears as something needing to be cured, something unchanging and inflexible. A disabled person could never be otherwise and so in reverse. Throughout most of the 20th century, the medical model has been the dominant paradigm and is often reflected in the law and legal institutions around us, such

as the Equality Act 2010 (Hosking, 2012). However, this model was challenged with the development of the social model of disability in the late 1960s and 1970s (Degener, 2017).

The social model of disability, originated by disabled scholar Oliver, is based on the idea that disability is a social construct, rather than an impairment (Degener, 2017). Disability is analysed as a social, historical, and political phenomenon. It is categorised as a complex interrelatedness between these phenomena and the social disadvantages experienced because of them (Schalk, 2018). The social model of disability seeks to accept disability as a normalcy of existence, not a sickness to be cured or fixed. The aim is to value disabled people as integrated members of society as experts of their own disabilities and impairments (Oliver, 2013). By reconstructing the idea of disability within a social space, the focus shifts away from the impairment or disability itself, more towards how it is perceived in that social space and how the definitions are actively socially produced (Vehmas & Watson, 2014). The concepts of independence, and what is deemed normal within our bodies, are areas of concern within the social model of disability. How disability interacts with other social constructs, such as class, and why people may treat disability as a personal tragedy are further areas of concern (Goodley et al., 2019). The social model of disability is not without its critics. Oliver (2013) criticised its ongoing development as an all-encompassing theory, when it was intended to be a beginning point of discussion for disabilities within social environments. He intended the social model to have an individual focus, like the medical model of disability. Instead, the social model can ignore the medical nature of disabilities and impairments, such as continuing pain or other ongoing symptoms that can impact on quality of life (Lawson & Beckett, 2021). Another aspect of disability ignored by construction of the social model, is the self-perception of self and identity politics. Despite acknowledging the intersectionality of disability, the social model of disability has been criticised as having a lack of diversity in both legal or political documents such as UN Convention on the Rights of Persons with Disabilities and in academic research that discusses disability through the model (Degener, 2017; Lawson & Beckett, 2021).

Although the social model rejects the medical model's idea of disability as a personal tragedy, disability is constructed as a problem. It refocuses the problem as a societal reaction towards disability, which create ideas of tragedy on a collective level rather than the personal (French & Swain, 2004). There is more focus on how disability should be conceptualised, but less focus on examining the actual, lived experience of disability, which can be complicated due to its multidimensional nature (Riddle, 2020). Thus, I now turn to an examination of the multidimensionality of disability as seen through the social model of disability.

2.3.3 Multidimensionality of Disability as a Social Phenomenon

The multidimensionality of disability refers to the understanding that disability is a complex social phenomenon influenced by various factors (Hall, 2019). While disability is often associated with an individual's impairment, the impact extends beyond the individual level, affecting their social circles (Pinilla-Roncancio, 2018). Several dimensions can contribute to the multidimensionality of disability as a social phenomenon, such as the medical dimension. Table 3 below highlights some, but not all, of the dimensions that disability can include, to highlight the complexity of disability.

Table 3

The Multidimensionality of Disability

Medical	The biological or physical aspects of disability, which may include impairments, chronic health conditions, or mental health disorders. Medical interventions and treatments are often associated with this dimension (e.g., Goggin & Ellis, 2020; Lawson & Beckett, 2021).
Social	The interpersonal relationships between individuals. Societal attitudes, norms, and stereotypes about disability impacts the inclusion and participation of disabled individuals. This can include ableism or disablism (e.g., Park et al., 2023; Vehmas & Riddle, 2019).
Environmental	The physical environment plays a crucial role in determining the accessibility and inclusion of individuals with disabilities. Factors like infrastructure, transportation, and architectural design can either enable or hinder the participation of disabled individuals in various activities (e.g., Smith et al., 2020; Waddington & Priestley, 2020).
Economic	Economic factors significantly influence the experiences of disabled individuals. Lack of access to education, employment opportunities, and financial resources can create additional barriers for disabled people (e.g., Johansson et al., 2021; Pinilla-Roncancio, 2018).
Political	Disability rights and policies impact the recognition and protection of the rights of disabled individuals. Political decisions can shape the support and services available to the disabled community (e.g., Reher, 2020; Schnitzler, 2020).
Cultural	Different cultures have varying attitudes and beliefs towards disability, which can influence the social status and acceptance of disabled individuals within their cultural communities (e.g., Barnes, 2019; Van Steen & Wilson, 2020).
Psychological	The individual's psychological experiences, including self-perception, self-esteem, and mental well-being. The way disability is perceived and internalized by the person can influence their quality of life (e.g., Freer, 2023; Tsatsou, 2021).
Intersectionality	Disability often intersects with other social identities such as gender, race, ethnicity, sexuality, and socioeconomic status. These intersections create unique experiences and challenges for disabled individuals based on their multiple identities (e.g., Moodley & Graham, 2015; Hosking, 2012).

The complexity of disability is highlighted in Table 3, with a summary of key dimensions. Recognizing the multidimensionality of disability is essential for developing comprehensive and inclusive governmental policies, practices, and support systems (Withers, 2020). The social model of disability understands this multidimensionality of disability, as opposed to the medical model that focuses on the binary of sick/not sick or disabled/non-disabled (Meekosha & Shuttleworth, 2017).

The intersectionality of disability further adds to the complexity of how it is understood. How the interconnected nature of social identities, such as gender and race, overlap can create unique experiences of discrimination and privilege (Shaw et al., 2011). Gender, for example, can intersect with disability to create this discrimination, as disabled women or other gender identities may encounter gender discrimination at the same time. This results in barriers to healthcare, employment and social inclusion (Emerson et al., 2020; Kim et al., 2019), whilst also taking on what are considered ‘traditional roles’, such as the household division of labour (Matin et al., 2021). Childcare can be considered socially gendered and oftens fall on the woman (Sullivan, 2021). Literature discussing this intersectionality is limited, focusing on mothering disabled children, rather than being a disabled mother or pregnant whilst disabled (Bourke-Taylor, 2021; Douglas et al., 2021; Panuccio et al., 2022).

There is a multidimensionality of disability at an individual level, within the body itself. Just as disabled people are not one homogenous group, the way disability affects or interacts with the body is not limited to a singular disability. For example, being blind is not as simplistic as being without sight. Being blind affects sense of balance, spatial awareness, and motor control (Jiang et al., 2021). An individual disability does not exist in a vacuum. Understanding the central role of the body, its multidimensionality within the body and in the social world around it, is a key principle of Critical Disability Theory, which is where I now turn discussion.

2.3.4 Critical Disability Theory (CDT)

CDT is a critical theory. That is to say, it focuses on society to reveal and critique power structures, offering explanations of how these power structures are too exclusionary to encapsulate all who participate in society (Devetak, 2013). Emerging from the Frankfurt School of the 1930s, five key principles of critical theory are proposed (Jahn, 2021). There must be a *critique of ideologies* that underpin social, political, and economic systems to question dominant narratives and beliefs that may perpetuate inequalities in society (Rush, 2004). Critical theory aims to facilitate *social transformation*, once it has identified the aspects of society that need change and who can enact those changes (Horkheimer, 1972/1992). Central to a critical theory is the *examination of power dynamics and social inequalities*. This is done by exploring how power is distributed and maintained according to the social, political, and economic systems (Rush, 2004). A critical theory must understand the *importance of historical contexts* when examining social phenomena, as social issues and power structures are often historically situated and evolve over time (Horkheimer, 1972/1992). Critical theory is *interdisciplinary*, drawing from disciplines like philosophy, sociology, political science, or cultural studies to allow for a comprehensive analysis of complex social issues (Rush, 2004).

Many critical theories have evolved from these bases as the historical contexts change, such as critical race theory, postcolonial studies, and feminist critical theory. CDT has evolved from these bases and follows the ideas that society is restricting the development of autonomy for society's disabled participants due to the existing power structures (Meekosha & Shuttleworth, 2009). Engaging with other critical fields like queer or postcolonial studies, CDT is an emerging field of study that has begun to acknowledge the multidimensionality of disability (Goodley et al., 2018).

Corker (1999) was one of the first to fully articulate the foundations of CDT, using the social model of disability and drawing on Horkheimer's understandings of critical theory (Vehmas & Watson, 2014). Critical of the binary created by the medical model of disability, she challenged the definitions of disability and deconstructed the idea of disability within a social space (Corker, 1999). As a critical theory, CDT centres disability using the social model of disability. It examines the power or social structures through the perspective of disabled people (Withers, 2020). This brings disability into visibility, as the centre of the subject matter. Here, disabled people or people with disabilities are the focus of research, either as participants in research or as researchers themselves, shifting away from outside, non-disabled perspectives and to a more inclusive way of thinking (Goodley et al., 2018; Reaume, 2014). CDT also highlights ableism as a pervasive form of discrimination that reinforces societal norms favouring able-bodied individuals, which that will be examined in Section 2.3.4.2 (Hall, 2019). More importantly, CDT posits that disability is not something to be cured, but a socially constructed concept in a society that has arbitrarily assigned criteria, such as cognitive differences.

This social construction of disability is influenced by power dynamics, cultural norms, and historical context (Shildrick, 2019).

Understanding historical context is a key principle of CDT, so it is important to note where CDT began. The Disability Rights Movement of the late sixties and seventies in the United States laid the foundation for CDT (Grech, 2016). Inspired by the civil rights movement of the early sixties, disabled activists began advocating for equal rights, access, and political recognition. In the UK, this led to the Chronically Sick and Disabled Persons Act 1970, the first legislation in the world that focused on disabled people. In turn, this led to the current Equality Act 2010 (Hampton, 2020). The social model of disabilities gained prominence in the eighties, developed by disabled activists and disability focused scholars, and was adopted as a central principle of CDT (Saxton, 2018).

Nevertheless, critics of CDT highlight that studies often take a collective approach, discussing disabled people as one, homogenous group (Withers, 2020). Vehmas and Watson (2014) suggests that CDT researchers criticise social grouping as detrimental to disabled people but continue to apply grouping within their research. This juxtaposition is jarring as research applying CDT recognises the multidimensionality, intersectionality, and individuality of disability. Small and Darcy (2011) recognise that there are disadvantages to discussing disability as a collective group. Disability can be as complex as the society which has constructed it. There is a continuum of disability; not everyone will have the same experience, even within the same type of disability. Whilst this juxtaposition has been acknowledged (Schalk, 2018; Goodley et al., 2017), no solution has been offered. A society without differing social groups is just not possible (Vehmas & Watson, 2014). This discussion of disabled people as a homogenous group is seen as a reaction to the criticism medical model of disability, which individualises disability. Shildrick (2019) criticises this reaction by suggesting that limited focus on the uniqueness of disability misses nuances of disabled experiences that would contribute to the experiences of the social group. As such, knowledge may be limited within research.

Additionally, CDT research is further criticised due to the paucity of disabled scholars (De Picker, 2020). Often when discussing disabled voice, the focus is the voice of the participants with non-disabled researchers interpreting (Condie, 2023; Stone & Priestly, 1996; Tregaskis & Goodley, 2004). Whilst this might not be an ethical issue, it raises questions of what disabled voice could mean, how well the disabled experience can be interpreted and represented by non-disabled researchers applying CDT (Peruzzo, 2020; Tregaskis & Goodley, 2005). Recommendations for negating possible problems of over-interpretation of voice is to situate research within the social model of disability, this requires a commitment to a multifaceted understanding of disability and co-creation of data (Condie, 2023; Stone & Priestly, 1996). One of the dimensions of disability is the physicality of disability and how the body affects and is affected by disability. I now examine how the body is understood when applying CDT.

2.3.4.1 CDT and the Body

Oftentimes, our bodies exist in the peripheral (Mulgrew & Tiggemann, 2016). If our bodies are considered ‘normal’, we ignore them (Giese & Ruin, 2016). Only when our bodies fail us, whether a stubbed toe or a debilitating illness, do we start to pay attention. Researchers using CDT aim to recognise and understand all human bodies, using disabled bodies as a base. It is proposed that this knowledge should then be repurposed across other research areas and in public spaces (Flynn, 2021). For example, having a ramp to make a public space more wheelchair accessible would benefit

non-disabled people by making the area easier to access for all. Furthermore, technological innovation using disabled bodies as a base for usability could ensure technology that is accessible for more people. In this way it is proposed that the disabled body can be viewed as a unique starting point for understanding how all bodies can be lived in, lived with, and viewed in a wider context (Flynn, 2021; Overbue, 2007). However, early critical disability studies removed the body from discussion almost entirely by framing disability as a product of society (Cole, 2007; Goodley, 2017). Thus, the impaired body was not a consideration of study, simply a by-product of how it was viewed. Responding to this criticism, CDT scholars recentred the body as the place where self and society meet and interact, leading to in-depth understandings of the body in society and challenge societal views on the body (Goodley, 2019).

Generally, popular mainstream representations of the body focus on body image, favouring form over function (Bergstrom et al., 2004; Mulgrew & Tiggemann, 2016). For example, discussions of body positivity centres the body in a similar way to CDT but focuses on body image only (Horn, 2021). In contrast CDT researchers adopt a position of body neutrality (Ho et al., 2020). Body neutrality focuses on the body as an extension of self, rather than a presentation of self, and promotes an acceptance of the body as it functions (Cohen et al., 2021). Acceptance here means understanding of how your body functions and its limitations. By using the body neutrality as a guide to discussions of the body Ho et al. (2020) posit that this may encourage mainstream understanding of the disabled body and the ways it functions. Whether our bodies are in the peripheral or fully within the public conscious, there is nothing more personal than our bodies (Saxton, 2018). It shapes our experiences, how we perceive ourselves and our world around us. It is this understanding that leads to embodied phenomenology as a common theoretical positioning within CDT, which I discuss further in my Theoretical Framework chapter (Abrams, 2016, 2020; MacLeod, 2019).

The body is increasingly becoming a central figure in politics, in social politics, in formal governing structures, in legal practices, as a political dimension to disability (Murphy, 2021). Bodies are spoken about politically now more than ever (Shepherd, 2022). For example, there is an upsurge of anti-trans rhetoric continuing in the UK in both social politics and governing structures where trans bodies are centred (Hines, 2020). Moreover, immunocompromised bodies were centred during COVID-19 (Parsloe & Smith, 2022). As CDT was rooted in the political activism of the sixties and seventies, the political dimension of disability is considered highly influential when viewing disability through CDT. This has a profound effect on how the body is viewed within society as a whole and in social politics (Erevelles, 2011). If Goodley (2019) suggests the body as a meeting place for society and self, then it must also be a meeting place for politics as part of society. In our political systems, the medical model of disability remains the most represented (Hosking, 2012). This dictates how our bodies are viewed by our political systems, impacting the rights and inclusion of disabled people, including accessibility measures and social welfare policies (Davis, 2002). It impacts industries that operate within countries that have anti-discrimination measures in place, like the UK, by affecting how they operate within that country (Erevelles, 2011).

Consequently, Vehmas and Watson (2014) and Meekosha and Shuttleworth (2017) criticise CDT scholars for being unable to engage with the politics of society and the body, due to the emphasis on the social model of disability, despite its political roots. CDT scholars cannot challenge the power structures it wishes to as a critical theory, if it cannot engage with politics, and it cannot affect change within societal views if this dimension of disability is not addressed (Degener, 2017). The medical model of disability in politics may foster existing ableism, which can be body-centred and systematically interact with political power structures to stigmatise disability (Hall, 2019).

2.3.4.2 Ableism

Ableism is discrimination in favour of non-disabled people (Christiaens & Brittain, 2023). Ableism is as multifaceted and multidimensional as disability and can be intersectional. Ableism as a prejudicial attitude and discriminatory behaviour is rooted in the concept of 'normalcy' and what is socially accepted as a 'normal' - non-disabled - body (Wolbring, 2012). Any bodies considered outside the 'normal', such as disabled bodies, will not benefit from that full participation. Ableism devalues disabled people's bodies as abnormal and results in discrimination, including in social policies that can limit opportunities of disabled people's full participation in society (Reynolds, 2017). Under medical ableism, there is a singular health ideal or standard to which bodies must conform to be deemed completely healthy, instead of a variety of healthy standards (Krahn et al., 2021). Although general health is now accepted as a complex issue, an ideal standard persists (Krahn et al., 2021; Nery-Hurwit et al., 2022). This is often encouraged by visual media favouring form over function and presenting an idealised presentation of self (Dworkin & Wachs, 2009). It is a singular standard that assumes total function of the body, without impairment if either body or mind as the two can be separated under the medical model of disability and conforms to an appearance of total function (Nery-Hurwit et al., 2022; Dworkin & Wachs, 2009). This ableist viewpoint persists at political levels, cultural and social levels as well as medical, all influencing each other (Krahn et al., 2021; MacMillan, 2021). Addressing ableism was a key motivation for the development of CDT and remains highly relevant in contemporary research (Reaume, 2014).

At a cultural level, mass media such as advertising, television or film can spread ableist views (Parsons et al., 2017). Moreover, disabled people are largely ignored in mainstream media, with the exception of science-fiction where there is more of a disabled presence (Parsons et al., 2017). Even then, science fiction often contains the narrative that future technology will 'fix' a disability, such as the 2009 sci-fi film Avatar where an engineered 'alien' body is preferable to living with a disabled body (Flynn, 2019). These ableist narratives are pervasive in mainstream media and are representative of and influential on societal views of disability (Mulgrew & Tiggemann, 2016).

Ableism can produce narratives of pity or, conversely, inspiration, which can appear as positive discrimination (Doonan, 2021). The UK Government Equalities Office definition of positive discrimination is when there is a favouring of people with protected characteristics under the Equality Act 2010 without actual consideration for the people under these protected characteristics (Government Equalities Office, 2020). Although well-meaning, narratives of pity or inspiration are often created without consideration towards disabled people. Hill-Collins (2000) coined the term 'supercrip' to express an image of a disabled person conquering great challenges by overcoming their disability. Such ableism will be discussed from a tourism perspective in Section 2.10. This highlights that ableism appears everywhere and across industries, not just at a political level. Although, this too can trickle down to affect industries (Gupta & Priyadarshi, 2020).

2.3.5 CDT and Tourism

Few tourism studies considering disability situate themselves within CDT, even where these apply a critical lens or are guided by critical theory (Small & Darcy, 2011; Eichhorn et al., 2013; McIntyre, 2018). Nevertheless, as accessible tourism research grows, CDT is being applied more frequently (McIntyre, 2018; Benjamin et al., 2021). The need for CDT within tourism is because the

tourism industry often operates within the medical model of disability. For example, insurance policies are restrictive for disabled people as the cost of insurance is higher for those with additional needs (Bowen et al., 2020). Small and Darcy (2011) suggest that CDT should challenge this, by identifying the lack of social adaptations and seeking their inclusion. This lack may be explained by ableism existing within tourism, an industry that is often positioned as favouring able bodies over disabled ones, despite recent progress (Gillovic & McIntosh, 2020; Biddulph & Scheyvens, 2018).

Ableism presents in tourism as barriers to access. Perceived risk can be a barrier of access as the risk may be deemed too high when performing adventure tourism whilst disabled (Bell, 2019; McIntyre, 2018). For disabled people, adventure tourism is where risk becomes danger as this segment of tourism prioritise the non-disabled body (Jaquette Ray, 2009; McIntyre, 2018). Risk is shared if carers are required for disabled people (McKercher & Darcy, 2018). If disabled people are unable to find carers willing to share the risk, then they will be unable to access adventure tourism. This contributes to a dearth of disabled tourists participating in adventure tourism (Gillovic & McIntosh, 2020). Limitation as a form of ableism is examined further in the next section.

2.3.5.1 Limitation as Ableism

As highlighted previously, there is an ongoing theme of signification limited consideration in both tourism research and the tourism sector. In current adventure tourism research, there has been an ongoing limited presence of disabled voice and discussion of disabled tourists' participation (Darcy et al., 2020). Whilst suggestions for future adventure tourism research focus on minority voices, the disabled voice has yet to be mentioned, implying a continuing paucity in adventure tourism research (Cheng et al., 2018; Sand & Gross, 2019b). Risk and safety management are highlighted as required areas of focus, but rarely linked to disabled tourists where the level of perceived risk is higher (Hansen et al., 2019). However, claims are made of growing research interest in the participation of disabled people in tourism, from disabled tourism experiences and wellbeing (Stumbo & Pegg, 2005), to their potential as an underdeveloped market niche (Dominguez Vila et al., 2015). Despite these claims, disabled tourists are consistently highlighted as a scarcely studied group in academic literature (Cloquet et al., 2017; Moura et al., 2023). This lack of disabled voice might be explained by a lack of disabled academics (Brown & Leigh, 2018). Those who are not disabled may question whether it is correct to conduct research on disability (Nishida, 2016). Nonetheless, invisibility, unintentional or otherwise, is considered ableist and academic tourism research is no different. Studying tourism using CDT, centring the disabled body rather than ignoring it, will address this ongoing limitation even if disabled tourists are not the primary focus (Flynn, 2022).

In market research, from both an academic and an industry perspective, the segmentation and statistics do not tend to include disabled tourists (ATTA, 2023; Bryans, 2023). Despite market segmentation focusing on the groupable physical characteristics, there is little to no focus on the aspects such as disability, which affect or is affected by other characteristics, due to its complexity and multidimensionality (Pinilla-Roncancio, 2018). CDT encourages the inclusion of disabled people in consumer marketing research, in tourism and other industries (Coogan & Cluley, 2017). Disabled people are valuable consumers, with a projected spending power £274 billion a year (WeArePurple, 2020). When focusing on segmentation, to ignore disability is to ignore more than one billion people, a number which is only increasing (Depoy & Gilson, 2023).

Tourism experiences exclude disabled as there are many possible barriers to participation (Devile & Kastenholz, 2020). This could be a lack of accessibility in areas of nature, where mobility-based accessibility may be deemed contra to the protection of natural environments (Wall-Reinius et al., 2023). Societal attitudes of the host community can act as a barrier, due to ableist attitudes such as ignorance, where a disabled person is overlooked, othered or omitted completely, or even outright hostile discrimination (McKercher & Darcy, 2018). These societal attitudes are CDT's focus, as they are systemic, permeating across every industry (Meekosha & Shuttleworth, 2009).

Overall, there is a consistent dearth of disabled voice and participation throughout tourism research and in the industry. There are claims of growing research interest, but disabled tourists remain scarce as a researched social group. This may be due to the paucity of disabled scholars. Ultimately, there are many barriers to participant of tourism experiences due to a limited consideration for disabled tourists, which is an ableist standpoint. However, even when there is attention paid to disabled tourists, ableism can still be present. In the next section, I discuss representation as ableism.

2.3.5.2 Representation as Ableism

Ableism as representation can appear as harmful media representations or positive discrimination. Tourism promotional materials can be ableist in the use of images and narratives (Benjamin et al., 2021). Representations of disabled tourists often feature those taking a risk, framing this as inspirational (Doonan, 2021). The risk is indicated as a physical challenge, the disabled person has a mobility related disability, and they can conquer this physical challenge despite their disability (Benjamin et al., 2021). This has led to concerns about 'inspiration porn', so called because it deliberately objectifies one group of people for the emotional or entertainment benefit of another (Shelton & Waddell, 2021). Inspiration porn typically downplays individual characteristics and emphasises disability, objectifying disabled people for the viewing benefit of non-disabled people. Narratives like these are prevalent across many promotional materials, not just in tourism, but sport brands like Nike have advertised with narratives such as a man in a wheelchair playing basketball with the slogan 'No Excuses' (Grue, 2016). This idea of an inspirational narrative creates an image of what has been coined as the 'supercrip'. The supercrip is the dominant imagery of disability in marketing, as a glorified, heroic, and extraordinary figure (Schalk, 2016). It aligns with the medical model of disability, which perceives disability as an illness or something to be fixed. It caters to non-disabled audiences, whilst ignoring the concerns from the disabled communities that might disagree with this inspirational, 'supercrip' narrative (Shelton & Waddell, 2021).

Overall, tourism promotional materials cater to a non-disabled audience, with little representation of disabled tourists (Benjamin et al., 2021). If present, and not being idealised as a heroic participant, they are not the focus of the picture, have homogenous disabilities and physical characteristics, such as White and elderly. It is representation of mobility issues, specifically in the lower body, and seem to neither consider nor represent other disabilities (Garrod, 2021). Although destinations are still developing their ideas of inclusivity and accessibility, few offer a comprehensive marketing approach to accessibility that allows representation for a variety of disabilities. Those that extend beyond mobility still focus on physical disabilities like sensory impairment (Clouquet et al., 2017; Yamamoto & Galuban, 2022). The representation of disabled people as inspirational superheroes is considered ableist, or discriminatory in nature (Clouquet et al., 2017). This could not only discourage participation of disabled people but may not facilitate acceptance or understanding by others of

disabled people within the industry. In addition, such representations may influence the tourist gaze and affect how disabled people view themselves as tourists (Walsh et al., 2019).

Ableism in the tourism sector, specifically within promotional materials, is often discussed within literatures focusing on disabled people, which makes research on tourism using the framework of CDT conspicuous in its paucity (McIntyre, 2018). CDT's focus on tackling ableism appears to align with this discussion. Benjamin et al (2021) are one of the few tourism researchers who explicitly state that they are using CDT as the grounding for their analysis on representation within tourism and promotional media.

2.3.6 Technology, CDT and Technoableism

A related debate concerns ableism within technology. This is of concern to those who study CDT, such as Goodley et al (2017) who theorise that technological developments are ignoring the needs of disabled people. This may be because of the ableism embedded in our power structures and cultural or social backgrounds, by the members of the society who create the technology (Shew, 2020). This has been termed technoableism by Shew (2020), a researcher who combines CDT with technological studies.

A key area researched in relation to technoableism is video gaming. This is relevant since virtual reality (VR) technology was originally created for gaming, as an interactive form of home entertainment, and is still advertised primarily for this use (Siani & Marley, 2021). There is a lack of representation within gaming. Disabled gamers make up to 30% of gamers across all gaming platforms like consoles and virtual reality (Thompson, 2019). However, in-game representation of any disability is lower than 1% (Fox, 2021). In gaming media, there is lack of assistive technology to help with gaming. An industry report by Scope (2021) suggests that what does exist is limited in range and games that are advertised as accessible, are only accessible to those with sensory disabilities.

However, certain VR headsets appear more accessible, and accessibility is integrated in some ways (Mott et al., 2019). With headsets like the Apple Vision Pro or the Meta Quest 2 there is flexibility of movement for those who have trouble standing or sitting for too long in one space. However, adaptations, improvements and assistive technologies are still required for comfortable use (Gerling et al., 2020). Meta Quest 2 and other VR headsets, like the PlayStation VR2, provide no assistive technological hardware (Aquino et al., 2023). Adaptations required for comfortable play are not limited to hardware, however. These required adaptations need to be across all the virtual reality headset, in the hardware, software and within the programming as well (Zhao et al., 2019). There are adaptation problems within the games and apps offered on VR, across the software, the hardware and in the accessibility features within games (Scope, n.d). Some games and VR headsets have been updated to provide limited accessibility features, thereby recognising that disabled people use technology. This highlights that technoableism is not just in the host piece of technology but within the individual software being hosted. Despite this recognition of disabled people, VR still conforms to that 'ideal' body standard, which is an inherently ableist viewpoint (Gerling & Spiel, 2021). As addressing this is CDT's main concern, CDT is suggested as a research alignment in technological academic research (Shew, 2020).

It is not just entertainment or mainstream technology that displays technoableism. Many assistive technologies conform to the concept of an 'ideal body' and that technology is required to help them achieve this standard (Hamraie & Fritsch, 2019). Although playing an important role for the

participation of disabled people in a normative society, this may hinder this accessibility to social environments (Johnstone et al., 2022; Rauchberg, 2022). A hearing aid may allow a person to hear individual conversations in a crowd, but it may not be compatible with mobile phone technology of even watching a movie in the cinema, depending on the noise level (Johnstone et al., 2022). The focus of assistive technologies is largely based on physical, sensory, and visible mobilities (Rauchberg, 2022). Moreover, there remain barriers to accessing these technologies as well, most notably the financial cost. Assistive technologies are often specialised and personalised but, as many disabled people are unable to work due to their disabilities, they are unable to afford the technologies that may enable them to work (Brown et al., 2021).

Technology academics who use CDT in their research advocate for universal design (Hamraie & Fritsch, 2019; Egilson & Jonasdottir, 2023). Universal design conceptually provides for truly equitable, flexible use with low physical effort and full social inclusion (Steinfield, 2013). Egilson & Jonasdottir (2023) promote the pairing of CDT and universal design, to allow universal design to foster inclusion within the medical industry and question the medical model of disability. However, they do not go beyond this theoretical pairing to make this an option, because achieving truly universal design is impossible due to the complexity of accessibility (Simon-Liedtke, Baraas, & Regnesentral, 2022). Although the sentiments of universal design stem from offering inclusivity to disabled people, it does not always do so. By trying to be inclusive to everyone, the individual body may be forgotten (Hamraie, 2016). Shew (2020) states that development of technology, including universal design, is developed without the discussion of possible disabled consumers, and universal, assistive technology cannot develop without recognising that disabled people are experts of their own experiences.

2.3.7 Section Summary

This section summarised and reviewed literature discussing understandings of disability from differing perspectives. Models of disability include a medical model, which frames disability as a personal tragedy and a curable defect. This remains the dominant model in legal and political governance (Degener, 2017). The social model of disability frames disability as a social construct and is the dominant model in disability research literature (Schalk, 2018). Critical Disability Theory is an emerging academic theory that uses this model. Researchers using CDT are concerned with the ableism and discrimination surrounding disabled bodies, as the disabled body is theoretically positioned as a basis for understanding all human bodies (Flynn, 2021; Overbue, 2007). Ableism, which is discrimination in favour of non-disabled people was identified as prevalent across many industries, including tourism and technology (Christiaens & Brittain, 2023). This literature review highlighted the ableism within the tourism industry and in tourism research. In tourism research there is a lack of in-depth studies using CDT as a theory (Moura et al., 2023). Moreover, this section highlighted how visibility and representation can be ableist, through discriminatory narratives as inspirational superheroes (Doonan, 2021). Finally, this research highlighted how technoableism is prevalent, even in assistive technologies which seek to help and include disabled people in society (Hamraie & Fritsch, 2019).

Throughout this section, gaps in this research area were identified, such as continued shortage of disabled people throughout industries. In CDT, there is a scarcity in individual disabled voice as it is a theory with a collective, homogenous focus (Goodley et al., 2017). By focusing on disabled people as a generic social group, knowledge is often missed at an individual level that could benefit at a social level (Cole, 2007; Shildrick, 2019). There is an identified paucity of disabled researchers in CDT, which

queries how well the disabled experience can be interpreted across multiple disciplines of research (Brown & Leigh, 2018; Rauchberg, 2022).

In the following, and last, theme of this literature review, I discuss virtual reality. VR is relatively new as a technology and as a subject of research. The next section discusses the virtual experience, the various roles VR plays in tourism and the theory of sociomateriality.

2.4 Virtual Reality

2.4.1 Introduction

It would be difficult to imagine a world without computer technology. In a society that uses wearable tech as increasingly normal and powerful minicomputers can be tucked into your bag, virtual reality (VR) is seen as the *next step* for various industries, like healthcare, architecture, and tourism (Geraets et al., 2021). VR is a newer form of technology, although the term 'virtual reality' has been around for longer. The term was first coined in the 1930s by French theatre director Antonin Artaud, as 'réalité virtuelle', 'virtuelle' here being the French for *potential.* Artaud defined it as the creation of a shared imagined space, a potential or alternate reality (Weber, 2011). He used it to describe the feeling of 'being there', as if the audience members were a part of the theatre on the stage. This idea has endured throughout the years as technology has developed, bringing the idea from the stage and into our homes, with continuing links to entertainment and the feeling of 'being there'.

Immersive technologies can be discussed as being on a continuum, demonstrated in Figure 3 (Milgram & Kishino, 1994):

Figure 3

Milgram And Kishino's Immersive Technology Scale

VR is on the far end of the spectrum, opposite to what is considered a 'real environment' (Milgram & Kishino, 1994). The 'real' environment being suggested as a physical, tactile environment that has a no computer aided visuals. VR is the opposite as a totally computer created environment. It is a highly visual space but with no physical or tactile element, other than the physicality of the technology being used to access these simulated environments (Saab et al., 2021).

VR has been in the public conscious since the early seventies with the idea of a 'Holodeck', which is a virtual reality room on the Star Trek animated series (Rumsey & Dantec, 2023). Since then, it has been a staple for sci-fi based media storytelling, appearing in films like Ready, Player One (Spielberg,

2018) and in video games like Assassin's Creed (Ceuterick & Ingraham, 2021). When VR first began being developed by Meta and Sony PlayStation, the intention for the headsets was for video games and entertainment, linking back to the original creation of the term 'virtual reality'. Entertainment was the purpose of the first virtual headset available for commercial use, the Meta Rift. This was crowdfunded, achieving its $250,000 goal in four hours, and reaching $2.5 million by its end date. VR proved to be a viable enough entertainment product to attract the interest of entertainment developers Meta and Sony PlayStation (Shelstad et al., 2017). Although the technology began to gain in popularity, it wasn't until COVID-19 that VR personal use became more commonplace. As lockdown began in the UK in March 2020, people turned to video games for entertainment and VR to help them escape from lockdown (McMahon et al., 2020; Pallavicini et al., 2022; Roche et al., 2019). It positively affected both the physical and mental wellbeing of recreational users during lockdown, something which will be discussed in Section 2.4.4, which explains the uses of VR in tourism (Siani & Marley, 2021). It allowed users to feel as if they were outside at a time when being outside was inaccessible (Barreda-Angeles & Hartmann, 2022). Research has shown that use of VR mitigated feelings of loneliness by allowing connection with others and offered a more interactive form of entertainment (Pallavinci et al., 2016; Siani & Marley, 2021).

The virtual experience was the driving force behind VR's popularity during lockdown, because of the immersive nature of it and the feeling of escapism it provided (Siani & Marley, 2021). What the virtual experience is and what it requires will be examined in Section 2.4.3. First, I turn discussion to the concept of sociomateriality, a theoretical perspective that provides valuable insights when examining VR and its related technology.

2.4.2 Sociomateriality

Sociomateriality is a theoretical perspective that emerged from the field of technology and organisational studies. It has been applied in various fields, including science and technology studies, tourism, and disability studies (Davies & Riach, 2018; Kulkarni et al., 2023). It challenges traditional dualisms that separate the social and the material. Instead, sociomateriality emphasises the irrevocable interconnectedness of social and material elements (Weidler-Lewis et al., 2020). From this perspective, social and material recursively and actively shape each other, rather than being distinct and separate entities (Orlikowski, 2007). Neither the human nor the material dominates, but work together (Introna, 2019). If the term materiality consists of the analysis of materials and forms, then sociomateriality shifts that analysis to the interactive development and uses in practice through human and material engagement (Leonardi, 2012). One of the key tenets of sociomateriality as it seeks to explore how sociocultural aspects of life intertwine with materials and forms is constitutive entanglement (Davies & Riach, 2018).

Previous notions of materiality posit our relationship with technology, or other materials, as a relationship of mutuality or reciprocity (Trentmann, 2009). This presupposes an independence of objects and an ontological separation (Mutch, 2013). Sociomateriality suggests that there is no ontological separation, no independent objects with characteristics inherent within them (Barad, 2003). Humans are deeply and constitutively entangled through matter such as bodies, technology, tools, which are produced through humans (Pickering, 2013). They are interdependent and cannot be understood separately from each other, in isolation (Orliowski, 2007). Virtual reality and virtual worlds, for example, are not simply a matter of people interacting with the virtual headset and the

virtual spaces but involves a complex relationship and negotiations between humans and material artifacts (Schultze, 2011).

From this perspective, it suggests assistive technologies are not simply tools to be used, working independently of a disabled person, but are actively involved in shaping and co-constituting disabled experiences (Lynch et al 2022). Part of this shaping of the disabled experience is how the body interacts with and is understood by the materials. Research using sociomateriality challenges the notion of a clear boundary and separation between the disabled body and assistive technologies, by acknowledging the embodied nature of technology (Bend & Priola, 2023). The body, as part of our social contexts, and the material are entities that are deeply entangled, with technologies shaping experiences of disability (Johnstone et al., 2022; Rauchberg, 2022). These technologies interface, connect and communicate directly with the body, such as hearing aids or prosthetic limbs. In these cases, assistive devices are intimately linked to the body and this body-technology interaction is a central aspect of understanding the sociomateriality of assistive technology (Kulkarni et al., 2023; Müller, 2015).

Research using sociomateriality has been criticised as being difficult to apply consistently across diverse academic disciplines (Arnaud & Faure, 2018). The roots in science and technology studies limit its seamless integration into fields with different methodological and theoretical traditions. There may be differences in epistemological positioning or differences in understanding how to apply sociomaterial practices (Woodward, 2016). Sociomaterial practices often remain embedded in a work-oriented productivity focused logic (Bend & Priola, 2023). Sociomateriality has been critiqued as being too broad regarding the technology that is discussed when using this theory (Mutch, 2013). There are studies using sociomateriality that discuss technology in broad terms such as ‘digital technologies’ or assuming that similar technologies are used across varying organisations (Coreen, 2020). The impacts and uses of technology vary, especially when discussing technology that is neither work-oriented nor productivity focused (Vosselman & Loo, 2023). However, studies using sociomateriality have been critiqued for being too specific (Introna, 2019). The focus is on specific technology, used only in specific practice contexts. There studies are difficult to generalise (Arnaud & Faure, 2018). There appears to be no middle ground. Moreover, entertainment-based technology based is rarely a point of focus for research using a sociomaterial theoretical perspective and so insights surrounding these types of technologies are missed (Ehret et al., 2022). Furthermore, by emphasising non-human agency there is concern the human agency may be downplayed (Introna, 2019). The intentional actions and decision-making of human actors might be overlooked, which suggests that sociomateriality might not fully capture the nuances of human agency. This potentially leads to an imbalanced understanding of how social practices emerge, evolve, and interact with non-human actors (Mutch, 2013).

Despite these critiques, sociomateriality offers valuable insights when examining the intersection of VR and human experiences, despite VR traditionally being more entertainment focused than productivity focused (Shelstad et al., 2017). Through sociomateriality, experiences with VR are fundamentally entangled with the technologies that enable them, such as the headsets, the controllers, and the virtual environments (Tuomi & Tussyadiah, 2020). These VR technologies are not separate from the user’s experience but actively shape and co-constitute it in the same way that assistive technologies might. This may mean that users interact with VR in a way that blurs the lines between the virtual and the non-virtual (Stanko et al., 2022). How our bodies are entangled with the physical aspects of the VR technology has a significant impact on how they are used and the virtual experiences that they facilitate (Rauchberg, 2022; Sagnier et al., 2020). From a design perspective, designing VR technology and experiences through a sociomaterial lens encourages VR designers to

consider this constitutive entanglement of social and material factors when creating virtual environments and experiences (Beltagui et al., 2023). Keeping this approach in mind helps to explain appropriate and expected uses of VR in various social contexts, thereby guiding effective or inclusive technology design and use (Candi & Beltagui, 2019).

Due to the sociomaterial approaches emphasising sociocultural aspects of our lives, this approach uncovers and addresses the possible ethical and social implications of VR technologies, such as issues relating to identity and the blurring of the virtual and the non-virtual through immersion (Stanko et al., 2022). Therefore, it encourages a more holistic examination of how VR technologies may impact individuals, whilst emphasising this sociocultural influence. VR experiences, specifically the software surrounding the virtual environments, are one of the integral pieces in the enjoyment of VR for an individual user (Jang & Park, 2019). What the virtual experience is and what it requires will be examined in the following section.

2.4.3 The Virtual Experience

The term 'virtual experience' refers to an interaction between a user and a computer-generated environment (Trabelsi-Zoghlami & Touzani, 2019). It requires the users to interact with an environment independent of the non-computer-generated world around them. This is delivered through various technologies, such as VR headsets, or AR experiences like Pokémon Go. Accessing virtual environments, virtual worlds or both are essential for the virtual experience (Trabelsi-Zoghlami & Touzani, 2019). Virtual environments and virtual worlds are related concepts but have distinctly different meanings in the context of computer technology and virtual reality (Gao & Sai, 2020).

Virtual environments are computer-simulated spaces that aim to replicate non-digital environments or scenarios (Neo, eta al, 2021). This could mean 2D simulations overlayed onto non-digital surroundings, or it could mean the more complex 360˚surround of a 3D computer-generated environment from a VR headset (Abd-Alhamid et al., 2019). Virtual environments are usually task-oriented, created for a specific or a singular purpose, such as training or educational simulations (Dias et al., 2019). These environments can be interactive or static. An interactive virtual environment allows users to actively engage with digitally simulated objects, whilst a non-interactive environment is more like a scene that users observe but do not directly interact with (Cheng et al., 2023). Virtual environments have existed for as long as there has been digitally created spaces (Trabelsi-Zoghlami & Touzani, 2019). Immersive technologies have allowed virtual environments to develop further, offering more 3D and immersive environments. VR headsets especially have developed the idea of truly immersive worlds and feelings of presence within an environment (Neo et al., 2021), which have become integral to the virtual experience and are discussed further in the following Section 2.4.3.1

Research suggests that virtual environments have a widely applicable usage, due to their specific, work and productivity focused design (Dias et al., 2019). Throughout industry and interdisciplinary research, virtual environments have several applications, from medical training to engineering and construction (Angelov et al., 2020; Delgado et al., 2020; Lacerda De Araujo et al., 2019; Rojas-Sanchez, 2023). Despite being so widely applicable and VR being lauded as the *next step*, virtual environments and their benefits remain under researched (Parmaxi, 2023). This may be due to the technology still undergoing constant development. There are limitations that other developed

technologies do not have, such as data storage capabilities (van Brakel et al., 2023). Moreover, there is a lack of accessibility in these virtual environments due to cost-related factors (Shelstad et al., 2017). However, the virtual experience, as dictated by the virtual environments, is considered invaluable, despite this lack of research and industrial usage, due to the feelings of immersion and presence that can be generated within these environments (Ghani et al., 2020).

2.4.3.1 Immersion and Presence

Immersion is considered integral to the virtual experience, in much the same way industry definitions place this central to adventure tourism. In adventure tourism, immersion implies connection and a sense of belonging to local cultures and environments (Fletcher et al., 2017; UNWTO, 2014). In VR, immersion refers to being deeply engaged and absorbed in the virtual environment (Lee et al., 2020). In this way, a user feels surrounded and sensorily engaged in a virtual environment, sometimes to the extent of losing awareness of their non-virtual surroundings.

This can be linked to the significant literature on Csikszentmihalyi's (2014) psychological concept of flow. Flow is defined as the "holistic sensation that people feel when they act with total involvement" (Csikszentmihalyi, 1990, p. 477). Flow, and how people may access or experience this holistic sensation, can be considered highly individual (Liu & Csikszentmihalyi, 2020). Moreover, there can be barriers to accessing or experiencing flow. Disabled people may be unable to access experiences that promote flow, due to pain, a lack of adaptations or being unable to access environments that are safe for them (Miller & Reid, 2003; Mohr et al., 2023; Timmons & MacDonald, 2008). Dimensions of the flow experience that link to the feeling of immersion with a virtual experience include a merging of action and awareness, a sense of control, total concentration, and a loss of self-consciousness (Bodzin et al., 2021; van Schaik et al., 2011).

There are multiple parts of a virtual experience that contribute to the sense of immersion or flow experience and there has been debate over what are the definite requirements for experiencing immersion (Witmer & Singer, 1998). Most agree that to be completely immersed is one of the key objectives in VR development, more so than other immersive technologies, such as AR (Cummings & Bailenson, 2016). It enhances the users' overall experiences and creates an emotive sense of connection with an experience (Skarbez et al., 2017). Some of the key attributes required to ensure immersion are focused attention, interaction, and engagement with the virtual environment (Witmer & Singer, 1998). Focused attention ensures that the non-virtual physical or alternate environment does not intrude on the experience. This attention is focused by engagement with the virtual environment. For VR headsets like the Meta Quest 2, this may be through the controllers, or it may be through visual engagement from the headset (Ceuterick & Ingraham, 2021).

One of the main factors that contribute to immersion in VR is the quality of the visual and auditory elements in the virtual environment (Dincelli & Yayla, 2022). High-quality, highly detailed graphics, relatable textures and detailed animations create a more visually convincing virtual environment (Neo et al., 2021). Users are more likely to feel immersed when the virtual environment resembles the non-virtual world or an expected fictional setting, with only the important details to focus their attention on. Similarly, spatial audio techniques that accurately simulate sound direction and distance contribute to the sense of immersion (Dincelli & Yayla, 2022). By including an aspect of space to the auditory elements on VR, the sounds and noises of the non-virtual, physical environment are realistically replicated. Accordingly, realistic visuals and immersive audio draw users

deeper into the virtual experience, suspending disbelief, focusing attention, and increasing engagement (Neo et al., 2021).

Interactivity is another crucial aspect of immersion in VR. Users expect to have a level of agency and control within the virtual environment. The ability to interact with objects, manipulate this new environment, and possibly affect the outcome of events adds to the feeling of immersion (Hudson et al., 2019). This is achieved through responsive controls, such as the handheld controllers of the Sony PlayStation VR or the Meta Quest 2. Gesture recognition, hand or full-body tracking, or voice control play a role if no controllers are available (Buckingham, 2021). When users can actively interact with the virtual world and see or hear the effects of their actions, they become more deeply immersed in the experience.

Furthermore, the concept of movement plays a significant role in immersion. This does not mean physical movement in the non-virtual world but how the movement is portrayed in the virtual environment (Chang et al., 2020). Smooth movement techniques, such as teleportation, walking, or even using a simulated vehicle, greatly enhances the feeling of immersion in the virtual world. It does so by either replicating the physical environment or being a movement that does not interrupt interaction (Hudson et al., 2019). Uncomfortable, or unrealistic movement methods, such as sudden jumps or inconsistent movement, disrupts immersion and causes discomfort for users, such as motion sickness (Chang et al., 2020). Providing users with a comfortable and smooth way to navigate the virtual environment is essential for maintaining immersion.

Finally, narrative and storytelling play a critical role in immersive VR experiences, especially in gameplay, VR films, and travel-based virtual experiences (Ceuterick & Ingraham, 2021). Engaging narratives, compelling characters, and well-designed storylines draw users into the virtual environment as they would in other media like books or films. This fosters emotional connections and a deeper sense of engagement. When users feel emotionally invested in the story and the virtual characters, they are more likely to suspend disbelief and become fully immersed in the narrative (Weech et al., 2020).

Closely linked to immersion is the idea of presence; this is created when the sense of immersion is strong. Presence is defined by technology that allows a person to ‘be there’, fully present within a virtual space or location (Skarbez et al., 2017). They have been bodily and fully transported to an exist within this simulated world as they would in a non-simulated environment. However, embodiment within a virtual environment is important solely for the feeling of presence (van Brakel et al., 2023). This refers to the feeling of having a virtual body or body parts that represent the users within a virtual environment, which is sometimes known as an avatar. This avatar should mirror the user's movements and actions, creating a sense of ownership and agency (Buckingham, 2021). When users see their virtual hands, body, or other body parts moving in sync with their non-virtual physical movements, it strengthens the idea of being present in the virtual space, and thereby fully immersed.

In addition, social interaction and communication play a significant role in enhancing presence in VR. When users engage and interact with other users in the virtual environment, it adds a social dimension to the experience and enables a sense of connection (Rogers et al., 2022). This is achieved through features like multiplayer, voice chat, or avatars representing other users. Social presence allows users to feel connected to others and fosters a sense of shared presence within the virtual environment (van Brakel et al., 2023). Furthermore, this social connection creates an emotional connection to the virtual environment. This concept of connection to the virtual and, disconnection

from the non-virtual, is often seen as a requirement for presence and immersion (Kara et al., 2023; Price et al., 2021; Rogers et al., 2020).

For total immersion, a user must completely disconnect from their non-virtual surroundings to connect to and be fully present within the virtual environment. This encompasses various types of connection, such as the physical connection of headset and controllers to a person (Price et al., 2021). It offers a tactile form of connection, where hands and heads are physically touching the hardware technology of VR, which may translate into the experience. The connections - physical, social, or emotional - act as tethers to the virtual experience, creating a focused and engrossing experience (Rogers et al., 2020). Although total connectivity contributing total immersion and presence is the aim, this is deemed an impossibility due to several external factors, including internet connectivity, battery power, or experiencing cybersickness (Kara et al., 2023; Rebenitsch & Owen, 2016). However, this means connection of any kind is an integral part of fostering immersion and presence in VR. The implications of this presence and immersion in VR extend across various applications and in various industries, utilised in different ways. The use of VR, immersion, and presence in tourism specifically is where this review now turns to explore.

2.4.4 VR and Tourism

The complexity of tourism has already been much discussed, and it is not therefore surprising that there are multiple uses for immersive technologies (Liu & Wu, 2019) including tourism development, marketing or for conservation purposes. VR is already being used in the tourism industry to enhance less interactive experiences, like museums or art galleries. This use is slowly increasing (Loureiro et al., 2020). VR and tourism have been linked over the past three decades, although it has been limited in discussion (Cheong, 1995; Guttentag, 2010; Verma et al., 2022; Williams & Hobson, 1995). Research has often been conceptual, offering potential benefits of VR applications in tourism, without theory-driven or evidence-based research (Tussyadiah et al., 2018). Technology is emphasised as key elements for future trends in tourism and a driving force for change in tourism (Yung & Khoo-Lattimore, 2019). COVID-19 is cited as a turning point in the interest of VR on tourism research, due to its rise in popularity and the profound effect the pandemic had on tourism (Lu et al., 2022). The body of literature on VR is now growing as a response to this, with increasing interest in uses for virtual reality with tourism, such as virtual tours and for choosing hotel accommodation (Gali, 2022). As such, VR is still often posited having a variety of possible uses, as outlined in Table 4 below.

Table 4

Use Of VR Within Tourism

Planning and Management	Tourism destination and activity development (Pestek & Sarvan, 2021) Management of local area and space through visitor patterns (Puig et al., 2020) Personal holiday planning and easing worries and anxieties surrounding the trip (McLean & Barhorst, 2022; Tussyadiah et al., 2018)
Marketing	Replacing traditional tourism marketing material (Hyun & O'Keefe, 2012; William & Hobson, 1995)

	Positively affecting travel intention (Skard et al., 2021) Fostering a sense of attachment to a location (Wang et al., 2022)
Entertainment	Enhance or redefine theme park rides (Bastiaansen et al., 2022; Jung et al., 2018) Encourage a higher level of interaction in museums and art galleries (Lu et al., 2022) Enhance visitor experiences by providing new perspectives (Trufino et al., 2021)
Conservation	Influence protective behaviours in tourists (Coghlan, 2022) Preserve heritage structures and conserve natural locations (Guttentag, 2010) Foster connection to these indigenous cultures and build an awareness of, or a sensitivity to, them (Nautiyal & Polus, 2022)
Accessibility	Access to a site that is too remote, expensive, or fragile to visit (Guttentag, 2010) Enable disabled tourists access to otherwise inaccessible locations (Iftikhar et al., 2022)

The research outlined in Table 4 shows that use of VR headsets as elicitation tools or as an experience of study is growing, but there are still limited studies that use VR headsets practically this way (Flavián et al., 2021). Mostly research remains theoretical, and, within these hypothetical discussions, VR is still often posited as a powerful tool in tourism, especially within accessible tourism research (Guttentag, 2010) Research suggests that accessibility for tourism activities or attractions can be assisted or enabled and it is to this theme that I now turn discussion.

2.4.4.1 Accessibility and VR

As reviewed earlier in this chapter, disabled tourists and accessibility within tourism is an often-neglected point of view (Fennell & Garrod, 2023). Discussion around the possibilities of VR usage in accessible tourism are less common still. However, it is an emerging point of discussion as the use of VR becomes more widespread in the tourism industry. Moreover, this has become more prevalent in academic conversation since COVID-19 (Sarkady et al., 2021). Inaccessibility in tourism could mean a site that is too remote, expensive, or fragile to visit. It could mean inaccessibility for tourists specifically, such as disabled tourists, or both meanings at once (Guttentag, 2010). It is the former that is discussed the most within this literature and often returning to destination marketing, especially during COVID-19 when inaccessibility became more commonplace (Sarkady et al., 2021).

Available research highlights VR as a unique possibility to enable accessibility, sometimes suggesting total tourism substitution for those who cannot travel, like disabled people (Williams & Hobson, 1995; Guttentag, 2010; Sarkady et al., 2021). By positioning VR in this way, to enable access to any location, VR technology is positioned as an assistive and positive technology. This reflects that VR is conceptualised as a transformative assistive technology in other disciplines, specifically in medical

contexts such as use of physical rehabilitation aids (Clark et al., 2019). For example, VR software has been considered a potentially valuable tool in aiding wellbeing for dementia patients through experiencing virtual travel activities on a VR headset (Appel, 2021). However, in tourism research VR is not explicitly stated as an assistive technology. Moreover, much of the research suggesting VR could be assistive does not focus on disabled voice and positions itself as more theoretic in this suggestion, rather than practice based (Guttentag, 2010; Iftikhar et al., 2022; Williams & Hobson, 1995). Furthermore, the research does not take different disabilities into consideration when discussing VR this way. Disabled people are discussed as one homogenous group, much in the way research based in CDT does (Shildrick, 2019). However, when disabilities are discussed in tourism research, they are often categorised into the following types: physical or mobility-based disabilities, psychological or cognitive disabilities, sensory disabilities, hidden disabilities, or multiple disabilities (Cassia et al., 2020). Despite recognition of these multiple categories, the focus of tourism research remains on mobility-based disabilities, and even that focus is limited in scope (Maran et al., 2022). When tourism research is more theoretical, rather than practice based, in its discussion of VR and accessibility, it is implying that VR is only assistive for one type of disability. There are other limitations to VR as use of technology, outside of how it is conceptualised within accessible tourism research, including technology acceptance and limitations to the idea of total tourism substitution (Iftikhar et al., 2022), these are discussed in the next and final section.

2.4.5 Limitations of VR in Tourism

One of the significant limitations of using virtual reality in tourism, or indeed any other industry, is that it almost entirely reliant on technology acceptance (Disztinger et al., 2017). Despite the identified benefits associated with using VR, these will not be realised if users do not intend to use this emerging technology. Technology acceptance is often measured by the technology acceptance model (TAM), created by Davis (1989). This theoretically predicts the intention to use a technology with two user perceptions: how useful this technology appears to a user, and its perceived ease of use, whether the user will be able to integrate the technology into their lives easily and how user-friendly the technology is. VR technology acceptance extends on TAM (Fussell & Truong, 2022; Manis & Choi, 2019). Hedonic qualities such as enjoyment, aesthetics, or emotions are added to technology used for entertainment purposes (Sangier et al., 2020). Performance expectation is another necessary aspect of technology acceptance for VR. Immersion and presence are key factors in using a virtual environment for a variety of industries and VR headsets are expected to provide these key factors (Fussell & Truong, 2022). The perception of experiencing immersion and presence and the fulfilment of this expectation using VR are instrumental for VR technology acceptance. It leads to hedonic qualities that aid in the industry uses of VR, such as education or video gaming (Abdullah & Ward, 2016; Fussell & Truong, 2022).

Specific to VR's extended technology acceptance model is the concept of cybersickness (Rebenitsch & Owen, 2016). Exposure to a virtual environment can prompt negative side effects such as eyestrain, disorientation, vertigo, nausea, or headache. These symptoms may resemble or present as motion sickness, but in the absence of physical motion they bear other names like cybersickness or Virtually Induced Motion Sickness (VIMS). These negative feelings, or the possibility of experiencing these negative side effects, may stop users from accepting VR as a technology and from wanting to use it (Rebenitsch & Owen, 2016; Sagnier et al., 2020). If none of these criteria are fulfilled, VR will not provide the possible benefits or be further used in industries. The same can be said for using VR

for accessibility. TAM is seen as quite generalised so when discussing specific technologies or specific groups of users TAM must be further extended again to be more context-specific (tom Dieck & tom Dieck, 2018). TAM has been noted as being too simplistic and having limited practical value due to having little predictive validity (Lim, 2018). Furthermore, there are tensions between sociomateriality and the technology acceptance model. TAM is a psychological model that focuses on human agency over the material, whilst sociomateriality emphasises the entanglement of human and social (Anderson, 2016). However, TAM provides an important foundational model for VR acceptance (Ranellucci, et al., 2020).

Types of disability, such as mobility, sensory, intellectual or communication disabilities, each have unique requirements that need to be met to accept VR as a technology. For example, hardware design is more likely to affect people with mobility-based disabilities than those with sensory-based disabilities (Iftikhar et al., 2022). The perceived intensity of the disability affects VR technology acceptance, especially when using VR in tourism. The impact the disability has on individual daily life impacts the acceptance of entertainment-based technology that distract from daily life (Bennett et al., 2019). Hardware design impacts VR technology acceptance for those with physical disabilities, but software design choices also have an effect. The presentation of information in a virtual experience or environment excludes or restricts disabled people from using VR, such as distorted colours or a lack of subtitles for those with sensory disabilities, set height viewpoints for those with physical disabilities (Beudaert et al., 2017). Furthermore, notions of immersion and presence are closely tied to the quality of the visual and auditory elements of a virtual environment (Dincelli & Yayla, 2022; Neo et al., 2021). This implies that those with sensory disabilities who cannot hear or see the virtual experience will never experience immersion. This environment will never be accessible.

Accessibility is not limited to disabilities when discussing technology acceptance. Accessibility here can mean being financially accessible to public consumers, not just industry users. Whilst there may be those who perceive VR as an enjoyable and useful tool, which is easy to use, and have a willingness to use VR, the expensive of the VR headsets may prove a barrier to use (Talwar et al., 2022). This can be seen in extended TAM, as the price willing to pay for technology. As the cost of a VR headset can range from £300 to over £1000, these prices may be too high for users to pay, especially without other perceived benefits (Manis & Choi, 2019).

One of the possibilities for virtual reality tourism that is discussed is total tourism substitution (Guttentag, 2020). Theoretically, using VR as an alternate means of tourism could ensure full accessibility for disabled tourists. However, total tourism substitution has been contested due to a perceived lack of authenticity of experience, particularly in nature-based tourism VR experiences (Mura et al., 2017; Verkek, 2022). Being unable to engage all the senses as much as a non-virtual tourist can contributes to an idea of inauthenticity. Whilst it is not deemed totally inauthentic, haptic sensorial involvement and other sensory engagements are considered crucial components to the perception of authenticity (Mura, 2017). Although VR may seem completely authentic at times, users understand that it is totally virtual, due to this lack of total sensory engagement. Instead, they seek out a non-virtual, more physically engaged experience, which will appear more authentic to them (Guttentag, 2020). A lack of social elements contributes to a feeling of inauthenticity. Non-virtual tourism experiences have social interactions, which enhances the satisfaction of the experience. VR headsets in their current iterations are generally solitary experience. Socialising outside of the virtual environment is viewed as an intrusion (Zhu et al., 2023). This contributes to the feeling of inauthenticity of a virtual tourism experience, rendering it unsuitable for total experience substitution. Furthermore, there are shorter time limits on VR experiences as the VR headset can

become uncomfortable over time and may invoke cybersickness if used for too long (Guttentag, 2020; Rebenitsch & Owen, 2016). Tourism experiences often last several days and have several elements that VR is unable to replicate, such as hotel rooms, transitions between tourist activities and multiday activities. This level of time is impossible with a virtual environment and is unable to act as a total substitute for tourism experiences, for anyone, not just disabled tourists (Guttentag, 2020).

2.4.6 Section Summary

In this last section, I brought together concepts of VR, such as immersion and presence, by drawing on relevant literature. VR has commonly been considered a 'next step' in many industries due to its variety of uses, including within the tourism industry (Geraets et al., 2021; Loureiro et al., 2020). Immersion and presence were identified as integral elements to a virtual experience and much of the reason VR is considered an exciting industrial development (Lee et al., 2020). Within tourism, VR has many uses, but accessibility was highlighted as key amongst them, especially for disabled tourists. Doing so positions VR as an assistive technology in tourism research (Guttentag, 2010; Iftikahr et al., 2022). Sociomateriality was identified as a useful theory through which to study VR, especially when it is positioned as an assistive technology, due to the tenets of constitutive entanglement of technology and human (Sagnier et al., 2020; Stanko et al., 2022). Moreover, this section highlighted gaps and significant limitations in literature surrounding VR in tourism research. Once again, there is a limited consideration for disabled bodies, especially within tourism research where VR is theorised as a tool for accessibility (Beudaert et al., 2017; Guttentag, 2010; Sarkady et al., 2021). Despite this consistent theorisation, there is also a lack of practice-based research to examine this idea (Flavián et al., 2021).

2.5 Chapter Summary

The aim of this chapter is to provide an overarching understanding of the literature guiding my thesis. Considering my research question, *how do people with limited mobilities experience adventure tourism in virtual reality*, three themes of adventure tourism, disability and virtual reality were brought together to best guide the answering of this question.

In examining literature surrounding adventure tourism I found little consensus as to what adventure tourism means as a coherent concept (Bichler & Peters, 2021; Rantala et al., 2016). There are key characteristics at the centre of adventure tourism, such as hard/soft adventure scales, risk, and physical engagement. However, these were fluid ideas (Pomfret & Branwell, 2016). Even within theories like Urry and Larsen's (2011) tourist gaze, notions of adventure were as changeable as the conceptualisation of the tourist gaze itself (Wassler & Kirillova, 2018). Ultimately, adventure tourism was identified as an ableist construction which fostered significantly limiting notions of what adventure and adventure tourists should be by centring the able body (Doran, 2016; Wenham, 2020; Zalatan, 2004). This ableist construction was present in the tourist gaze as it used possibly restrictive theories of embodiment (Cruces Portales & Nogués-Pedregal, 2019; William et al., 2023).

To understand this ableism, understanding how disability is viewed in academic literature was integral. Disability is a complex and contested notion, with many types and many people who may

fall under definitions of disability (Freer, 2018). The social model of disability was identified as the main model used across disability research literature, which views disability as a social construct with many dimensions that affect more than the disabled person (Pinilla-Roncancio, 2018). Ableism was discussed in-depth through CDT as an emerging academic theory and links were made between adventure tourism literature, CDT, and the ableism prevalent in industry (Moura et al., 2023). Specifically, ableism as representation was highlighted in the tourism industry through harmful or discriminatory narratives (Benjamin et al., 2021; Doonan, 2021). Ableism was present in assistive technology, either by only addressing one disability or seeking to cure or fix a disability (Hamraie & Fritsch, 2019), thereby linking to my final theme.

Virtual reality is still a relatively new technology that is gaining in popularity and considered useful across a variety of industries, including within the tourism industry (Geraets et al., 2021; Loureiro et al., 2020). I identified the key elements of VR as immersion and presence, where the user feels fully sensorially engaged with the experience and what creates the feeling of 'being there' (Skarbez et al., 2017). Accessibility was highlighted as a key use of VR in relation to tourism in academic tourism research, which means positioning VR as an assistive technology (Iftikhar et al., 2022; Rauchberg, 2022). Sociomateriality was identified as a useful theory with which to discuss VR and this theoretical positioning of it, mainly due to notions of constitutive entanglement of technology and human (Sagnier et al., 2020; Stanko et al., 2022).

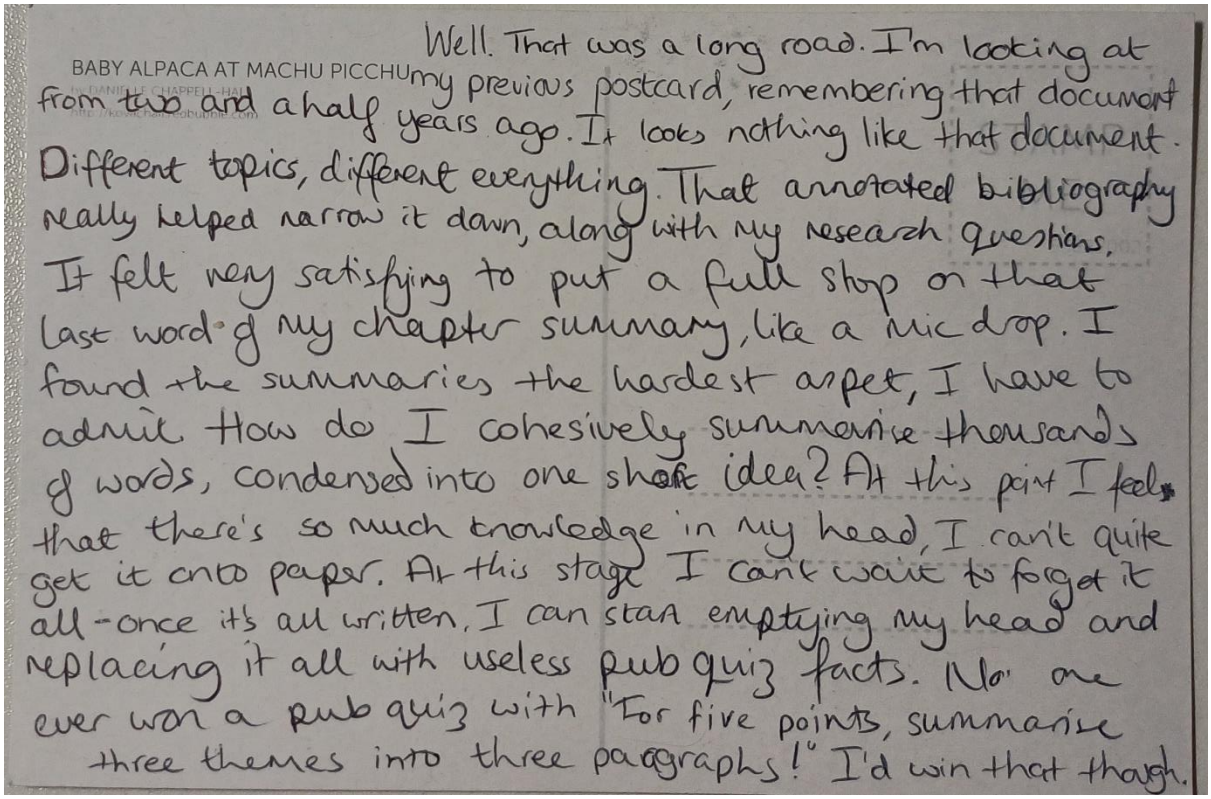
Furthermore, this section highlighted paucities in literature surrounding VR in tourism research. Once again, there is a limited consideration for disabled bodies, especially within tourism research where it is theorised as a tool for accessibility (Guttentag, 2010; Sarkady et al., 2021). Despite this consistent theorisation, there is also a lack of practice-based research to discuss this idea (Flavián et al., 2021). There is a significant limitation of disabled voice, which is conspicuous when VR technology can be considered quite restrictive or inaccessible to disabled people (Beudaert et al., 2017).

Despite the differences, and seemingly disparate nature, across the themes, a paucity of knowledge remained consistent between them. Disabled people are consistently limited in representation in adventure tourism research, VR, and can be ignored in literature discussing disability itself. Disabled voices are rarely present, or only mobility-based type of disability is present (Chikuta et al., 2023). Although adventure tourism's parameters of discussion are movable, they rarely move to encompass disabled people, bodies, or voices (Buckley, 2012). Ableism as limitation was identified in academic tourist literature, both in the first section and in research discussing disability. This was a lack of presence in tourism literature within the industry such as brochures (Benjamin et al., 2021), as well as a lack of disabled researchers within CDT and tourism research (Brown & Leigh, 2018; Rauchberg, 2022). Despite CDT being a theory centred on disability, individual disabled voices were not always present, choosing instead to focus on disabled people as a generic, homogenous group (Goodley et al., 2017). Consideration for disabled bodies were once again lacking from discussions of VR and in the tourism literature that linked VR and disabled people together (Sarkady et al., 2021). I identified VR technology as an inaccessible or restrictive technology for disabled people as it fails to consider disability other than sensory disabilities (Beudaert et al., 2017). Despite this, the two themes are theoretically linked together, often without practice-based research to support this (Flavián et al., 2021).

In my following chapter, *Theoretical Perspective,* I introduce my theoretical framework guided by my own philosophical position. I then discuss how taking an embodied phenomenological position, guided by Interpretative Phenomenological Analysis, enables me to better understand the nature of disabled people experiencing adventure tourism in VR and the related contexts.

Figure 4

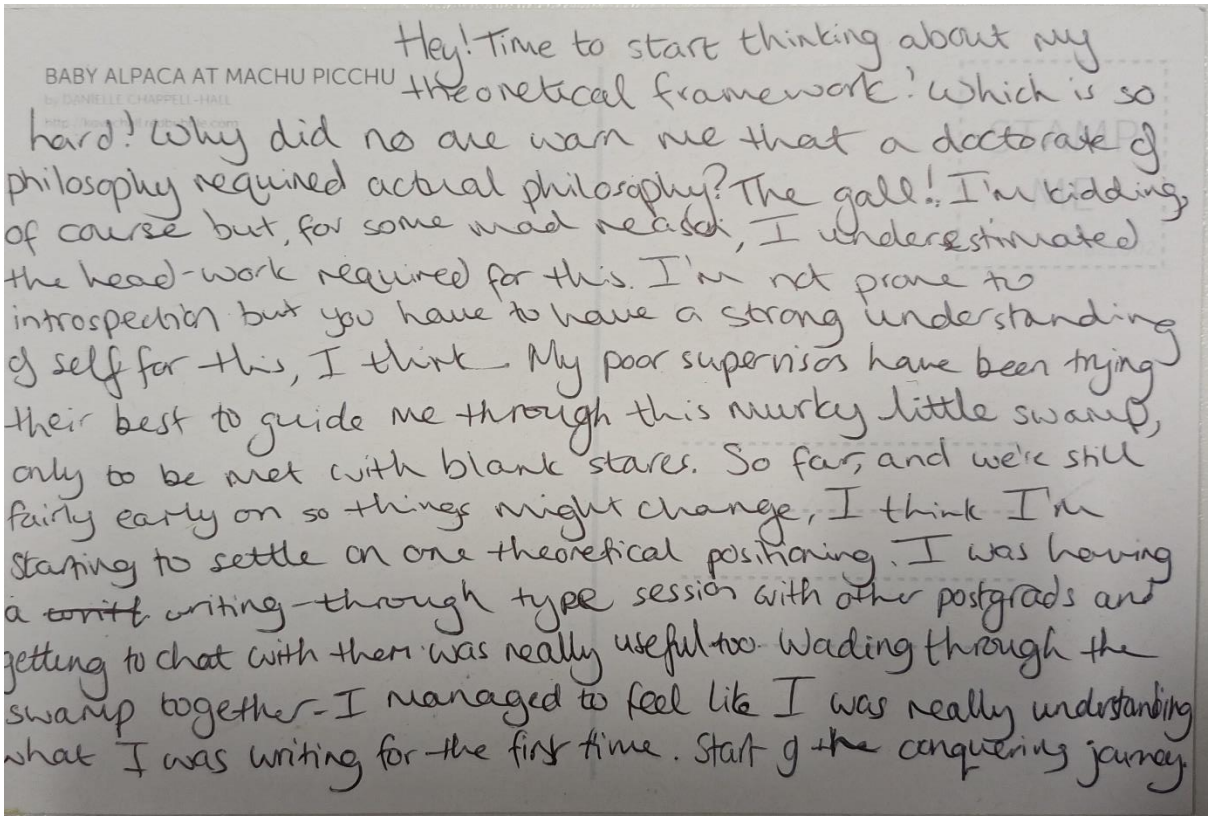
Personal Postcard from the end of the Literature Review journey



Chapter Three: Theoretical Perspective

Figure 5

Personal Postcard from the beginning of the Theoretical Framework journey



3.1 Introduction

The previous chapter identified areas of research that remain limited in scope. Disabled people are consistently excluded from research areas of adventure tourism research and VR. The limited focus on disability focuses on a homogenous, social group level. Considerations for disabled bodies focus mainly on mobility-based disabilities. I have identified a suitable theoretical framework with which to scaffold the exploration of these limited areas of research. In this chapter I introduce phenomenology and Interpretative Phenomenological Analysis (IPA). Phenomenology is both a philosophical stance and a research approach that investigates how individuals make sense of phenomena (Given, 2008). IPA is based in existential phenomenology. Existential phenomenology aims to understand and interpret human experiences, rather than descriptive phenomenology which aims to describe human experiences (Fossey et al., 2002). Therefore, this research is governed by an interpretivist paradigm, which includes a relativist ontology and a subjectivist epistemology.

Before introducing the core tenets of phenomenology as a philosophical standpoint (Section 3.3.), I explore my own ontological and epistemological positioning in more depth (Section 3.2). I address the fundamental debates surrounding ontology and epistemology and consider the value of the interpretivist paradigm. In Section 3.3, I introduce and review the core tenets of phenomenology, such as intentionality of consciousness and the lifeworld. Subsequently, in Section 3.4, I examine the specific branch of phenomenology in which I am placing my research, which is Merleau-Ponty's (1945/2014) embodied phenomenology. Merleau-Ponty (1945/2014) placed the body as the central

figure of our understanding of the human experience. Therefore, I explore how the body is understood through this branch of phenomenology. In Section 3.5, I discuss the epistemic framework that my methodology, IPA, is founded on, specifically hermeneutics and idiography. A phenomenological understanding of the concept of experience and meaning are discussed in-depth in Section 3.6 to provide a basis for understanding how experience is meant in my research questions. Finally, in Section 3.6, I introduce how both phenomenology and IPA are used and understood in tourism research. In the following Research Methods chapter, I explain how my tourism research project conducted and applied IPA as a method.

3.2 Ontological and Epistemological Positioning

The researcher's ontological and epistemological philosophical standpoint scaffolds their entire research project (Saunders et al., 2019). Ontology refers to the nature of our reality, the nature of 'being' (Crotty, 1998). Ontology queries what kind of things exist and how they make up the world. A person's ontology identifies what they consider truth and what they assume to exist. It is the taken-for-granted assumptions on which we base our understandings of the world (Willig, 2019). It is an integral part of research. Ontology shapes the way research is perceived and studied (Saunders et al., 2019). It is what guides the epistemology and methodology of research. Ontologically, I take a relativist stance. Relativism asserts that the nature of reality is relative to individuals and the world in which they live (Cunliffe, 2016). There is no universal, objective truth or reality. There are multiple realities to acknowledge and understand from an individual perspective (Baghramian & Coliva, 2019). Things exist in our lives because we allow them to exist, meaning reality is contextually bound and individually constructed (Goodson & Phillimore, 2004). An ontological relativist stance infers an epistemological stance.

Ontology refers to the nature of our reality and epistemology is how we know what reality is (Neuman, 2014). It is concerned with the nature of knowledge: how knowledge is acquired, the limitations of knowledge, the conditions under which knowledge is possible (Willig, 2019). It addresses questions about what actual knowledge is, rather than beliefs, assumptions and attitudes about something. It provides a philosophical grounding for deciding how knowledge can be judged as legitimate (Blaikie et al., 2022; Moon & Blackman, 2014). All claims to knowledge are based on epistemological assumptions about the nature of knowledge and how 'actual' knowledge is produced. All claims to knowledge are based on a theory of knowledge (Bell et al., 2018). Ontology and epistemology are inextricably bound (Crotty, 1998). Taking a relativist ontological position infers a subjectivist epistemology. Through a subjectivist epistemology, knowledge does not already exist objectively but is constructed (Poucher et al., 2020). Knowledge is a collaborative creation between the researcher and the researched and dependent on the contexts affecting the people who co-create it (Cuthbertson et al., 2020).

This research sits within an interpretivist paradigm, which is guided by the researcher's own understandings about how the world should be understood and studied (Denzin & Lincoln, 2005). Interpretivism focuses on interpreting the meaning of human experiences, realities, and actions, which is appropriate for my research (Fossey et al., 2002). The focus on understanding the human experience means that participants are viewed as fully engaged, fundamental participators of their own worlds, and researchers enquire about their truth and their reality (Yanchar, 2015). There is a relationship between the researcher and researched where knowledge is co-curated (Goodson & Phillimore, 2004). Research situated in interpretivist paradigms are increasingly employed in tourism

research. Using this paradigm enables representation and understanding of the many voices in tourism and a holistic co-creation of knowledge (Wilson et al., 2020).

In the following section, I introduce phenomenology, describing the key tenets of phenomenology as an overarching theory to acknowledge the philosophical influences and underpinnings of Interpretive Phenomenological Analysis, where this thesis is placed.

3.3 Phenomenology as a Philosophical Standpoint

Phenomenology, as a philosophy revolves around lived experiences and the meanings taken from experiential phenomena (Given, 2008). Its etymology is contrived from the Greek word '*phainomenon'* (appearance) and *'logos'* (reason), meaning phenomenology discusses the study or description of something that appears in our worlds (Shinebourne, 2011). A 'phenomenon' is anything that appears in our consciousness. Phenomenology is dedicated to understanding firsthand experiences of this phenomenon and how it appears in our realities (Gill, 2020). Phenomenology is broadly categorised into two main branches to fulfil this goal of understanding experience. Descriptive phenomenology describes the meaning of experience, what and how it was experienced. Existential phenomenology seeks to understand the nature of experience, holistically and in context (Neubauer et al., 2019).

Husserl (1859-1938) first developed the philosophy of phenomenology in the 20th century, later added to by his assistant Schütz (1899-1959). Other philosophers, such as Heidegger (1889-1976) and Merleau-Ponty (1908-1961), are considered influential scholars in this school of thought (Jennings, 2001). These philosophers moved away from the descriptive origin of Husserl's phenomenology, which sought to reveal turning more towards an existential phenomenology (Horrigan-Kelly et al., 2016). With many philosophers extending Husserl's original school of thought, the philosophy is quite diverse (Stolz, 2020). However, there are four key tenets of on which existential phenomenology is based: intentionality of consciousness, rejection of dualistic consciousness, rejection of the epoche, and the Lebenswelt (Moran, 2018; Horrigan-Kelly et al., 2016). In the following section, Section 3.3.1, I summarise these tenets and how they apply to this research project, before narrowing the focus on to the specific phenomenological approach this research project uses.

3.3.1 Tenets of Phenomenology

There are four tenets of phenomenology outlined below. These are the intentionality of consciousness (Section 3.3.1.1), the rejection of a dualistic consciousness (Section 3.3.1.2), a rejection of the epoché (Section 3.3.1.3), and the lifeworld (Section 3.3.1.4).

3.3.1.1 Intentionality of Consciousness

One key philosophical tenet of phenomenology is intentionality of consciousness (Gallagher & Zahavi, 2021). According to Sartre (1970), in phenomenology, our world is outside of and external

to consciousness. Our world is relative to consciousness. Consciousness is intentional. It is directed to an object or content, and it is always a consciousness of something (Zahavi, 2019). When a consciousness of something is discussed, it is meant that the act of looking is an act of looking *at* or *of* something. Consciousness is the act of imagining or remembering *of* something (Smith et al., 2022). For phenomenologist philosophers, it is impossible to separate experience from the object or phenomenon of experience the consciousness is oriented towards (Ahmed, 2006). Intentionality also covers all of conscious life, everything is an accomplishment and result of intentional consciousness, which contributes to the creation of meaning in the lifeworld (Moran, 2018). Intentionality of consciousness, then, is about orientation towards a phenomenon (Ahmed, 2006) We turn our consciousness towards a phenomenon, meaning that an experience of or about a phenomenon is directed towards it. Simply, intentionality is 'aboutness' (Siewert, 2022). This implies that experience is always an experience *of* something, with an intentional orientation towards the phenomenon.

3.3.1.2 Rejection of Dualistic Consciousness

Mind-body dualism denotes the mind and the body as ontologically distinct realms (Jenkins, 2005). The body is the outer world of matter and objects, and the mind is the inner world of consciousness (Tayeb et al., 2023). This mind-body dualism is rejected throughout phenomenology. Phenomenology argues for the centrality of a first-person view, the standpoint from which humans engage in the world (Moran, 2018). In phenomenology, our world is relative to consciousness (Satre, 1970). Husserl emphasised the interconnectedness between subject and object, asserting that they were two inseparable points of existence. Phenomena exist and begin with how they are experienced (Brooke, 2018; Zahavi, 2019). Merleau-Ponty stated that "to see an object is to plunge into it" (Merleau-Ponty, 1945/2014, p. 70). He ascribes a full-body experience to the perception of an object or a phenomenon. Merleau-Ponty argued that our consciousness is fundamentally embodied, that body-mind-matter are one in the same. Our world is not relative to consciousness, our world *is* our bodies. There is no ontological separation between our world, our bodies, and our minds (Walsh, 2020).

3.3.1.3 Rejection of the Epoché

One of the original tenets of Husserl's phenomenology was the epoché, or bracketing, which is where the researcher must completely suspend judgements that they have (Zahavi, 2019). This has since been rejected as an impossibility by existential philosophers (LeVasseur, 2003; Pernecky & Jamal, 2010). The question of whether bracketing for this research project would be possible to fulfil Husserl's original tenet of phenomenology arose early in the project. Could a study call itself phenomenological if it did not fulfil one of the original, key tenets? I was not the first to ask this question. It is discussed by both phenomenologists and qualitative researchers (Dahlberg & Dahlberg, 2020; LeVasseur, 2003; Zahavi, 2018). I personally viewed the epoché as a desirable position, due to my positionality as a disabled researcher, affected by similar disabilities as the participants. Ultimately, I found it an impossible, untenable position, leading to my own rejection of the epoché. In my methods chapter, I have outlined my efforts to remain as reflexive as possible throughout, as I am unable to truly suspend my biases and attitudes. I used reflexive journalling and the postcards shown throughout my thesis. Favouring Zahavi's view that other phenomenological

tenets are more important (2018, 2019), I acknowledge the epoché as an original foundation of phenomenology before rejecting it.

3.3.1.4 The Lebenswelt/Lifeworld

Finally, the lifeworld is a key tenet running through phenomenology. First introduced by Husserl's original descriptive phenomenology (Husserl, 1970), existential phenomenologists, like Heidegger, Merleau-Ponty and Sartre further developed this tenet. The lifeworld is the world that we live in, the world of the ordinary lives that we have, living together and independently from each other. It is the banal, everyday objects, that we passively have and actively engage with (Zahavi, 2019). It is how these daily objects and experiences manifest in our lives and the lives of those around us (Neubauer et al., 2019). It is a dynamic platform from where our experiences and knowledge begin. These phenomena may seem ordinary and universal, but they have different meanings and experiences to those who have lived through them (Dahlberg & Dahlberg, 2020). Phenomenology wishes to describe or understand that lived experience in the Now, in the immediacy of the present (Given, 2008). How someone lives that experience is different for each individual and only those who have experienced phenomena can communicate this to the world outside of it (Mapp, 2008). The researcher must be aware of the individual contexts of the participants that have shaped their lifeworlds to have this lived experience. The researcher must acknowledge that their own contexts, positionalities, and experiences serve as important and valuable guidance throughout the inquiry once again rejecting the epoché (Neubauer et al., 2019). Merleau-Ponty further developed the lifeworld by discussing the body as an integral part of the lifeworld. Only through the interconnection of the lifeworld and the self can you begin to understand either. The body and the consciousness are the same and he attributes more significance to that than Heidegger might (Zahavi, 2019). This led to Merleau-Ponty's theory of embodied phenomenology, the specific phenomenological approach underlying this research project.

3.4 Merleau Ponty's Embodied Phenomenology

Embodiment is a common topic of discussion in research situated in CDT. Embodied phenomenology is highlighted as a theoretical positioning that could be valuable for discussing disabled experiences but is rarely applied (Dickel, 2022; Flynn, 2021; Johannsdottir et al., 2021). Merleau-Ponty, a key figure in the expansion of existential phenomenology, developed embodied phenomenology by rejecting dualistic consciousness and emphasising the inseparability of the body and the mind (Gallagher & Aguda, 2015). Our bodies are who we are and our way of being. The separation of body and mind does not represent the human way of being, but our bodies do (Abrams, 2016). We live through our body without reflection on how we do this. Our bodies guide us with its own wisdom, such as muscle memory or instinct (Finlay, 2011). Our bodies are integral to understanding the human situation (Thorburn & Stolz, 2021). This extended quote from his seminal work, *The Phenomenology of Perception* (1945/2014) best shows Merleau-Ponty's understanding of the body:

> "My existence as subjectivity [=consciousness] is merely one with my existence as a body and with the existence of the world. And because the subject that I am,

> when taken concretely is inseparable from this body and this world." (Merleau-Ponty, 1945/2014, p.76)

The body is the openness to the world. It is in the physical world and the physical worlds of others, as well as their contextual lifeworlds. There is an awareness of the body through the world, through the views of others. It is a complex interplay of subject-object. Perception of the world is inherently participatory through our body (Finlay, 2011). Now I discuss the key aspects of Merleau-Ponty's embodied phenomenology that are addendum to the overarching tenets of phenomenology, before later discussing IPA as a further theoretical framework for this thesis.

3.4.1 The Body as a Point of Perception

Perception is the process of attaining awareness through an understanding of sensory information, how it is interpreted and consciously experienced (Crane & French, 2021), as it is understood in the tourist gaze. Our perceptions are created by the sensations we experience in our bodies, which is why our bodies are such important, central figures when examining perception (Spielman et al., 2020). When discussing our bodies *as* who we are, rather than an extension of who we are, it is important to define what 'body' means, within embodied phenomenology. The body does not just mean the physical representation of our living, material body or our limbs, although this can contribute to the understanding of our bodies as a body of self (Monjaraz Fuentes et al., 2017). The separation between mind, body and material does not exist. It is all encompassing, entangled and felt entirely through the lived world (Gallagher & Zahavi, 2012).

The body shapes our experience, and our senses form the basis of all our bodily experiences (Küpers, 2014). Our body as a point of perception includes how we move our bodies and our intentions of movement (Hopp, 2011). It includes how we think and how we imagine. Our imaginations are dictated by understandings of the world through bodily processes (Rucinska & Gallagher, 2021). The body is a point of view that opens our lived worlds, which are shared and intersubjective. We come to understand ourselves and the world around us through perception of others (Merleau-Ponty, 1945/2014). The intentionality of the consciousness of our bodies are interconnected, like infants learning to understand their new world through copying bodily actions (Ramm, 2021). Ultimately, embodied perception brings the visible and tangible world to life and any interruption to the body changes the way the subjective world appears (Moran, 2018). Spatial awareness is also something that can be perceived through and with the body and it is a key element of Merleau-Ponty's embodied phenomenology.

3.4.2 Spatiality and Body Schema

One of the different sensory modalities and multisensory processes that contribute to how we perceive with our bodies is the idea of body schema (Fuasto-Sterling, 2019). Space and our perception of it is not an abstract concept (Merleau-Ponty, 1945/2014). Our sense of space arises from our bodily interactions and movements within it. Body schema exists at a pre-reflective level, relating to instinct and muscle memory (Finlay, 2011). It is an implicit and dynamic way of understanding the world. As our bodies, spaces, and the world around us changes, our body schema adapts to what is happening around us (Sunday, 2021). It also encompasses our motor abilities,

actions, and future actions. It incorporates how we interact with the environment. These motor abilities will also affect motion intentionality, as an extension of phenomenology's overarching intentionality of consciousness (Hopp, 2011). The intentionality of consciousness is a corporeal as well as a mental phenomenon, as the body and the mind are inextricable (Sunday, 2021). To act intentionally in any way, we need a sense of bodily awareness in a space. Our bodies instinctively understand a space and its potential dangers at a pre-reflective level before we are actively aware of them (Lee, 2022).

Merleau-Ponty's viewpoint of the body and the body schema has been critiqued as not being as universal as posited in the *Phenomenology of Perception* (Weiss, 2015). Although the historical context of when Merleau-Ponty was writing must be considered, it holds that the *Phenomenology of Perception* looks through a male, White lens (Young, 2005; Butler, 2006; Fanon, 2008). If our bodies are unique to us, as are our lifeworlds and contexts, then there can be no universality of the body. As our gender, sexuality and skin colour can create contexts, they will also create different ideas of body schema and spatiality (Weiss, 2015). Merleau-Ponty (1945/2014) addressed the idea of body schema with reference to the disabled body. Assistive objects like wheelchairs or mobility aids become part of the body schema the more it is used. They become an instinctual sensory perception. However, Merleau-Ponty theorised that this would happen across all disabilities and assistive objects, returning to the idea of the universality of the body (Dickel, 2022). This is at odds with the theory of sociomateriality (Section 2.4.2). In embodied phenomenology, assistive technologies become human, part of our bodies and senses. In sociomateriality, assistive technologies have an agency, affecting the body rather than becoming the body. Despite these modern critiques, Merleau-Ponty and his notions of the body, body schema and spatiality remain influential and an ally to the development of knowledge of the body, through whichever lens, and how it exists within spaces (Weiss, 2015).

3.4.3 Embodied Emotions

Emotion was not something Merleau-Ponty often touched upon in his *Phenomenology of Perception (1945/2014),* he spoke about them as embodied and important influences in our bodies. According to Merleau-Ponty, emotions are complex phenomena; they are not simply products of our thoughts. They involve physical sensations and reactions that contribute to our overall emotional experiences. Emotions are expressed through and with our bodies (Francis & Beemer, 2019). What we feel within us, we also use our bodies to express outwardly and make our embodied feelings available to others (Kreuger, 2020). We even use our bodies to portray emotions that we are not feeling, to allow others to have their own interpretation of our emotions, highlighting how integral the body is to our emotions and how we consciously represent them (Nidenthal & Maringer, 2009). Our emotions are outwardly expressed reactions to external stimuli. Our physical environments affect our emotions in a reactionary and instinctual way. We affect our environments in turn, in a coming-together of the world (Spackman & Miller, 2008). Merleau-Ponty (1945/2014) called these outward expressions our bodily attitudes, which incorporates facial expressions, body language and physical responses such as tears or shivers. These expressions and our bodily attitudes are instinctive, at a pre-reflective level (Gallagher & Zahvai, 2021).

The notion of bodily attitudes and the merging of emotion and body are implied within the psychological concepts of affect (Wilson & Frank, 2020; Tomkins, 1962). Theorisation of affect highlights the complex interplay between emotions, the body, and other psychological processes (Graber & Sumera, 2020; Wehrs & Blake, 2017; Wetherall, 2014). Although Merleau-Ponty's

(1945/2014) concept of bodily attitudes predates the theorisation of affect, affect is more widely used in social sciences to investigate these attitudes (Roald et al., 2018), making it important to acknowledge. However, my research follows Merleau-Ponty's (1945/2014) discussion of bodily attitudes, due to being placed within embodied phenomenology. My research moves away from the psychological understandings of the theory.

Furthermore, our embodied emotions are not always reactionary. We also use our bodies to create sensations and create or affect our emotions in a bidirectional feedback loop (Beskia, 2023; Reed et al., 2020). This is the interaction between our emotional experiences, our understanding of those experiences and the bodily sensations linked with them, such as the racing heart of fear. This is a continuous cycle. If emotions are being experienced, the feedback loop will continue. We can use our bodies to regulate these emotions. Making conscious effort to relax can ease fear and lower the heart rate (Hollenstein, 2015). These bodily attitudes and instincts are subjective, or intersubjective when shared. Internal and external stimuli are perceived differently by individual bodies (Gallagher & Aguda, 2015; Seligman, 2018).

In summary, emotions are where consciousness and embodiment meet (Kreuger, 2020). They are embodied with and alongside our sensations. They are externalised by our bodily attitudes, and they are bidirectional. Experiencing emotions is a complex and intricate but embodied and individual lived experience. Our moods, feelings, and emotions affect the way we perceive and our intentionality of consciousness, and how our embodied consciousness engages with the world (Moran, 2018), including outward presentation of that engagement.

In the next section, Section 3.5, I introduce Interpretative Phenomenological Analysis as a distinctive epistemological framework that draws on the phenomenological tenets of existential phenomenology. I discuss the reasons for choosing this as my theoretical framework.

3.5 Interpretative Phenomenological Analysis (IPA)

Interpretive Phenomenological Analysis (IPA) was chosen as a theoretical framework and a research method to form a comprehensive qualitative research approach (Smith et al., 2022). Theoretically, it draws on approaches in phenomenology like hermeneutics and idiography (Shinebourne, 2011). IPA was first theorised by Smith (1996), who argued for a qualitative approach to mainstream psychology that captured and engaged with the experiential. As the originator of IPA, Smith et al., (2022) formed the basis of the phenomenological approach and the methods and will be cited repeatedly throughout these chapters. It is an evolving approach of understanding that began in psychology before moving beyond those borders and is beginning to make appearances in other disciplines, such as tourism (Thomas & van Neiuwerburgh, 2022). IPA's main concern is exploring lived experiences in its own terms, rather than to define experience in fixed measures or in overly abstract concepts or categorises (Smith et al., 2022). Part of this lived experience is the idea of cognition, which concerns perceptions, thoughts, and reflections, with IPA meant to facilitate a connection between cognition and discourse (Smith et al., 2022).

As my research seeks to understand an individual lived experience, IPA felt the most appropriate for this research project. Using IPA also adheres to my own ontological and epistemological positioning, which sits within the interpretivist paradigm. Willig (2013) places IPA within a relativist ontology and a subjectivist epistemology. The truth of an experience is relative to the individual and the knowledge of the experience is co-created between the researcher and the participants. Placing IPA

this way allows for the discussion of multiple realities, individual to the creators of these realities, which are the participants and researcher. IPA places the researcher as a central figure and a co-creator of data (Demuth & Mey, 2015). It also allows for the exploration of individual subjectivities situated within the personal contexts of participants.

In Section 3.5.1, I examine how IPA applies existential phenomenology and the phenomenological tenets. In Section 3.5.2, I consider the importance of interpretation and hermeneutics in IPA. In Section 3.5.3, I explicate the focus on idiography, before the phenomenological concept of experience is explored in Section 3.6. Finally, how phenomenology and IPA are applied in tourism research discussed in Sections 3.7 – 3.7.1.

3.5.1 Phenomenology in IPA

IPA bases itself within an existential and interpretative phenomenology as Smith et al., (2022) hold that humans are interpretative animals, constantly interpreting our sensemaking perception. IPA turns away from descriptive phenomenology as it is a theoretical framework that seeks to understand experience, rejecting the epoché. Instead, reflexivity is an integral part of IPA to ensure the best understanding of experience (Zahavi, 2019). IPA's phenomenological positioning has been debated due to the rejection of the epoché, particularly between van Manen (2014; 2019) and Smith (2018) and Zahavi (2018). However, Smith and Zahavi consider the epoché an untenable position and that other tenets are more important, like the Lebenswelt or the intentionality of consciousness (Halling, 2021).

The Lebenswelt, or lifeworld, was extended by Heidegger to include the '*Dasein*' (Heidegger, 19669). Dasein's literal translation is '*being-there*' and the lifeworld is the context in which the Dasein sits (Moran, 2014). The Dasein encompasses the lifeworld, which is the world of our ordinary lives, and our Being in that world. The Dasein is our consciousness of our lifeworld and our interactions with it (Heidegger, 1927/1962). Interpreting the individual experience of the Dasein is a key focus for IPA (Smith et al., 2022).

Sartre's (1970) extension of the intentionality of consciousness to encompass the self is another key focus of IPA. We, as people, are always in a stage of becoming rather than being. The intentionality of consciousness is continuous, and it is embedded in the world, in cultural and social contexts (Sartre, 1970; Shinebourne, 2011). IPA is influenced by this extension of understanding consciousness, which emphasises social relationships in the lifeworld and how they affect experiences or how experiences are contingent on those relationships (Rowlands, 2020). This links to Merleau-Ponty's understanding of social relationships within the lifeworld, as we understand ourselves through each other and the intentionality of consciousness within our bodies (Ramm, 2021). Our self-consciousness and its continuous development have a significant role in individual lived experiences (Northoff & Smith, 2023).

IPA does not prescribe to a specific branch of existential phenomenology. I am applying Merleau-Ponty's embodied phenomenology to enrich the interpretative process of IPA. Our bodies are essential parts of understanding lived experiences (Flynn, 2021). Applying embodied phenomenology provides a broader theoretical framework to analyse and interpret the individual lived experience (Smith et al., 2022). Hermeneutics and idiography are applied for the interpretative process of IPA, which requires a more in-depth discussion. Hermeneutics are a point of interpretation within IPA and

idiography is an essential theoretical foundation that dictates the methodology of an IPA based study.

3.5.2 Hermeneutics

Hermeneutics, as a theory, is much older than phenomenology, and can trace its roots back to Aristotle, whom Heidegger credits as an inspiration to discuss hermeneutics within phenomenology (Kress, 2006). It is fitting, that the word hermeneutics is derived from the Greek term *hermeneia*, taken from Aristotle's work *Peri Hermeneias*, meaning 'of interpretation' (Backman, 2016). There are two main divisions of hermeneutics, one concerned understanding language and text and one for interpreting meaning (Crotty, 1998; Tingley, 1998). IPA follows the hermeneutic traditions for interpreting meaning, which aims to unveil meanings, implicit or explicit, within language and text. Influential scholars in hermeneutics include Schleiermacher, Dilthey, Heidegger and Gadamer (George, 2021). However, it is Heidegger's theorisation of the hermeneutic circle that is most influential in IPA (Smith et al., 2022).

The hermeneutic circle is the idea that we are always interpreting information based on presuppositions (Grondin, 2015). Understanding comes from us, based on what we already know. We relate our knowledge of the past and connect it to our understandings of the present. It is something constant, always developing new knowledge this way (Debesay et al., 2008). The hermeneutic circle is the dynamic interplay between parts, our prior knowledge, and the whole of any phenomena of interpretation (Gellweiler et al., 2018; Trede & Loftus, 2010). New understandings developed through the hermeneutic circle must be prioritised. We, as interpreters, may not be aware of our past understandings and contexts that shape this new knowledge until we have engaged with the research. Therefore, it is better to understand the interpretation first and then consider our contexts (Heidegger, 1927/1962). This allows IPA to re-evaluate the role of phenomenological bracketing and encourage more reflexive practices (Smith et al, 2022).

In IPA, the term *double hermeneutics* is used, a term created by Giddens (1987), that refers to hermeneutics having two layers of interpretative action (Smith & Osborn, 2003). The first hermeneutic layer is the participants trying to understand an experience. The second layer is the researcher trying to understand the participants understanding their world (Miller et al., 2018). The research and participants are similar in that they are both interpreting a fundamentally human process. The researcher only differs from the participant in that they only have access to the participant's experience through the language participant's use. This is understood and framed through the researcher's contexts (Smith, 2019). To prioritise new understandings, the participants meaning making is the first hermeneutic layer. The researcher's meaning making is the second later. This second layer positions the hermeneutic researcher at the centre of IPA and as the primary tool of analysis (Smith, 2019).

Existentially informed hermeneutic phenomenological research involves the researcher and the participant trying to process what it means to be human (Schuster, 2013). By placing IPA in embodied phenomenology, hermeneutic phenomenological research is asking what it means to live as an embodied being in relation to a particular phenomenon (Chyle et al., 2020). We perceive using our bodies, through sensory information and emotions. We interpret these perceptions using our bodies (Crane & French, 2021). These bodily interpretations form our past and present contexts that create our understandings of knowledge and meaning. The first hermeneutic layer are the participants trying to understand an embodied experience. The second hermeneutic layer is the researchers

trying to understand the participants embodied experience through their own embodied understandings (Kearney & Treanor, 2015).

3.5.3 Idiography

Idiography is to do with knowledge of the particular (Smith et al, 2022) and is the third theoretical foundation of IPA. Modern uses of the term were created by George Allport in 1937, who borrowed them from German philosopher Windelband (1893/1998). Idiography is contrasted with nomothetic, which is described as knowledge of general laws, patterns, and principles. There is a tendency to generalise within groups of people (Lamiell, 1998). With idiography, there is concern for individualism and a commitment to in-depth and textured analysis of unique and subjective phenomena (Moses & Knutsen, 2012). It is an analysis how particular things, events, or processes are experienced by particular people, in a particular context.

The level of detail and texture in analysis desired in IPA is not thought possible through nomothetic research. This is due to the focus on aggregated data and so, IPA- based research is idiographic (Smith et al, 2022). The definition of individual here could mean a specific situation, or it could mean an individual person. IPA draws on both meanings. The use of an idiographic method also allows for the understandings of the context of the phenomena under consideration and how it is situated in personal lifeworlds (Eatough & Smith, 2017). For Smith et al, (2022) there is a link between the idiographic method and using case-studies. How this influences my methodology is discussed in Chapter Four: Research Methodology.

In tourism, the understanding and interpretation of an experience is individual to the tourist (Samarathunga & Cheng, 2021; Urry & Larsen, 2011). Using an idiographic method allows for an in-depth exploration of the nature of an embodied adventure tourism experience. The nuance of an experience is explored through rich data that captures subjective aspects of a tourism experience, such as perceptions and emotions (Frazer & Waitt, 2016; Kinnunen et al., 2022). An idiographic approach provides a holistic consideration of the interconnectedness of various elements and how they contribute to an overall tourism experience. This approach provides a deeper understanding of the diverse and context-specific nature of tourism phenomena (Wijngaarden, 2017).

How an individual understands their experience is at the core of IPA. Throughout this thesis, I use the word ‘experience’ in a variety of ways. I now discuss the phenomenological concept of experience used in IPA.

3.6 Defining Experience

When discussing how disabled people experience VR, I use the term ‘experience’ as a noun to describe the virtual activities the participants will experience, as in the verb. This will be discussed further in my methods chapter. I also use the noun ‘experience’ or the ‘lived experience’ to discuss the whole data collection process: the virtual experience and the interview process. Therefore, defining what I mean when using the term and understanding what constitutes an experience is essential to understanding the phenomenological standpoint I have taken.

3.6.1 Defining Experience

IPA uses Dilthey's (1976) explanations of experience, in which to base their discussion of the lived experience. Dilthey was a German hermeneutic philosopher of the nineteenth century who influenced subsequent thinkers such as Husserl and Heidegger (Makkreel, 2021). In German, there are multiple terms for the word 'experience'; '*erfahrung*' for experiences passively acquired over time, '*kenntnis*' for experience that comes from read and written knowledge, and *'erlebnis'* which is the experience gained by living through something (Wagner et al, 1998). It is no surprise that '*erlebnis'* was the synonym of choice for Dilthey, who was one of the first to emphasise experience as something lived in the immediacy of the present (Makkreel, 2021).

Smith et al., (2022) draw on Dilthey's understanding of *erlebnis*, to focus on the lived experience. A hierarchy of three experiential parts are identified. The first level is classed as an elemental level of experience. This is the everyday, banal flow of experience that a person constantly experiences, but without awareness. The second level is the rise to awareness of what is happening, becoming focused into a singular, distinct experience. Finally, there is the third level, where the experience gains a larger significance in a person's life. This is made up of smaller units of experience, called the comprehensive level (Dilthey, 1976). This illustrates the complexity of the concept of experience. Lived experience is not limited to any one aspect of human existence. It encompasses multiple dimensions, such as cognitive, emotional, sensory, and social. It requires an active and conscious engagement with the world, incorporating all those elements, including bodily sensations, and emotions.

There is a tension here between Dilthey's (1976) theory of experience and Merleau-Ponty's theory of experience. Dilthey creates a hierarchy of experience with identifiable and separate parts, that influence each other (Casey, 2023). As a hermeneutic philosopher, Dilthey focuses on the interpretation of the relationship between object and subject and how individuals understand historical or cultural events (James & Komnenich, 2021). Conversely, Merleau-Ponty posits that there is no relationship between object and subject, just as there are no layers of experience. These are one thing, indistinguishable from the other, as perceived through the body (Weate, 2021). There are similarities between these two theorists. Both consider emotions fundamental to the construction of the lived experience. Dilthey considered emotions at a reflective level whereas Merleau-Ponty understood emotion to be embodied and at an instinctive, pre-reflective level (Nelson, 2023; Svec, 2023). Both agree that the lived experience is an ongoing and evolving process (Shinebourne, 2011). Previous experiences will shape current experiences, which shape how these are interpreted (Dilthey, 1976; Gyollai, 2020).

Ultimately, the lived experience is deeply subjective, reflecting an individual's unique perspective and interpretation of the world (Wright, 2020). How we reflect on the lived experience is unique and central to the understanding of experience in IPA. Smith et al, (2022) understand the complex lived experience through layers of reflection, as discussed by Mohanty (1975) and Toombs (1993). The first layer further draws from Sartre's (1970) phenomenological concept of the 'immediate flow of experience' that involves a minimum level of awareness. We are aware of being conscious. The layers increase in degrees of reflection. The second level involves an undirected reflection on the pre-reflective consciousness including daydreaming, imagination, and memory. The third layer is defined by Smith et al, (2022) as "attentive reflection on the pre-reflective" (p.136), which is when experiencing something becomes an experience, something significant and worthy of or requiring attention. The fourth and final layer is a deliberately controlled reflection, and a reflection on the

previous layer. This layer of reflection is the layer that IPA engages with and where the researcher, methodologically, enters this cycle, by facilitating the participant's reflections on an experience.

So many differing levels of experience, of reflection, and the different layers of the lived experience raises the question of what causes the movement through the first elemental levels to the comprehensive level of becoming a singular, definitive experience. Smith (2019) states that an event turns into an experience because of the significance bestowed on to the event by the person living through or being changed by it. Put simply, when I am asking the participants about their VR adventure tourism experience as a lived experience, I am asking what is significant about it, as seen through these multidimensional layers of experience. I am asking about the meaning the participants are taking from the virtual experience. The definition of meaning in this context and how IPA can be used to search for it will be discussed in the next section.

3.6.2 Understanding Meaning

To understanding meaning, IPA engages with what Smith (2019) terms 'hot cognition'. This is when a person reflects on what has happened in an event and tries to understand the meaning of their experience. Applying significance to the event and reflecting on this creates cerebral activity which is emotionally laden or 'hot' (Smith, 2019). Cerebral and emotional experiences can be a major turning point in someone's life, or they can be ongoing. IPA is particularly suited to the discussion of an ongoing experience due to the presence of this 'hot cognition'. In the context of disability, this could be the enduring nature of a traumatically received disability that a participant is attempting to find meaning in and the effect it is having on their everyday lives. IPA has been applied when discussing permanent developmental or neurodevelopmental disorders, like autism (MacLeod, 2019; Thackeray & Eatough, 2016). Hot cognition maintains the assumption that people are inherently self-reflective and interpretative (Smith et al., 2022). To make sense of the world humans interpret the world as they perceive it, and we are inherently self-interpreting (Brinkman, 2008). To reflect and self-interpret, Smith (2019) suggests that there are specific types of questions that we ask to make sense of our experiences and enact hot cognition. This is discussed through a typology of levels of meaning, in Table 5.

Table 5

Smith's (2019) Typologies of Meaning

Type of Question	Level of Analysis	Density of IPA Focus
1. What does *that* mean?	Literal	**I**
2. What do *they* mean?	Pragmatic/Textual (Puzzle)	**III**
3. What does it *mean*?	Experiential (Significance)	**IIIII**
4. What does it *mean* for my identity?	Existential (Significance)	**III**
5. What does my life *mean?*	Existential (Purpose)	**II**

Smith (2019) has included an indication of which level of meaning is the focal point of IPA research. By identifying these differing levels or typologies of meaning, this has a methodological effect. Although unrelated to the levels of experience laid out above, these typologies guide IPA-based researchers where to focus when asking questions. It guides their analysis to reflect the level of

meaning making in which we are engaging as researchers (Smith, 2019). This also demonstrates how all the levels interweave with one another, where meaning exists in relation to the meaning of other things or contexts (Taylor, 1985). For one typology to exist and be the focal point for IPA, all typologies must exist, from the literal to the existential, all influencing each other.

The first level is the literal level, seeking the definition of a term or a sentence and rarely moving beyond that. The second level discusses the broader concerns of what is just beyond the literal as it appears textually in front of us. The third level is the central point of focus within an IPA study. It introduces an experiential level of meaning and the significance an experience holds for the participant, such as 'what does my ongoing disability mean to me?'. The final two levels discuss meaning making beyond the experience or event itself, becoming more introspective. They question the significance or purpose of the participant themselves in the world around them, seeking answers to questions such as 'who am I?'. These are the highest levels in terms of a search for meaning.

In summary, meaning making is a complex and nuanced interaction between our experiences, how we assign them significance and how we make sense of that. Shown in Table 5, the third level of meaning, asking the question 'what does it *mean*?', is the core concern of an IPA study. As the levels are interwoven an engagement with the literal and pragmatic level is also essential (Smith, 2019). To understand the significance of an experience upon a participant's life, what they meant when they said something must be understood first. I now turn discussion to how these concepts, phenomenology, and IPA are applied within tourism research.

3.7 Phenomenology and IPA in Tourism Research

In this section, I discuss how a phenomenological approach to tourism research is applied, before specifically discussing the application of Interpretative Phenomenological Analysis. Tourism is understood to be an experience-based economy. Tourists seek new experiences to escape from their daily lives or undertake activities that are enjoyable or meaningful to them as consumers (Yeoman & McMahon-Beattie, 2019). The lived experience as the main concern of phenomenology has led to its increasingly popular use in tourism research (Kirillova, 2018; Szarycz, 2009). Common themes in literature using phenomenology as a theoretical framework include embodied emotions, wellbeing, and senses of place and authenticity (Rickly, 2022). Although an uncommon theme, disabled tourists are discussed through a phenomenological lens, with thematic analysis as the most popular method of analysis despite its limitations as a phenomenological method (Gillovic et al., 2021; Smith et al., 2023).

A foundational paper for the use of phenomenology in tourism research is Erik Cohen's (1979) *The Phenomenology of Tourist Experiences*. Despite positioning the paper this way, Cohen does not reference any phenomenological tenets or provide any theoretical basis for this, beyond a descriptive discussion of experience (Pernecky & Jamal, 2010). This paper is popularly cited and considered influential on the development of phenomenology in tourism research (Kirillova, 2018). Phenomenology has been continuously applied in tourism since then and is proving to be a valuable theoretical framework and methodology (Varley et al., 2020). I have brought together papers in Table 6 to demonstrate how phenomenology has been applied, both theoretically and in the methods used. This table is indicative and not intended to be a full, comprehensive review of tourism literature using phenomenology. These papers were picked because of their explicitly stated aims,

which were a discussion of the experience of varying phenomena through phenomenology, including papers explicitly stating the use of IPA.

Table 6

Demonstrative table of phenomenology in tourism research

Author(s)	Discussed Experience	Phenomenology Type	Phenomenologists Mentioned	Phenomenological Tenets Mentioned	Methodology
Andriotis (2009)	Visiting a pilgrimage site on Mount Athos, Greece	Descriptive	Husserl (1970) Moustakas (1994)	Not stated	Thematic analysis of 27 interviews, some groups, and some individuals
Berdychevsky & Gibson (2015)	Sexual risk-taking on holiday	Descriptive	Husserl (1970)	Hermeneutics	Short interviews, hermeneutic based analysis
Bustard et al., (2019).	Smart tourism at the International Northwest 200 Motorcycle Road Race	IPA	Not stated	Not stated	Five focus groups, thematically coded using NVivo
Hayllar & Griffin (2005)	Tourists' experience of a tourist precinct in Sydney, Australia	Descriptive	Merleau-Ponty (1945) Van Manen (1997)	Hermeneutics Engaged in bracketing	Thematic analysis of 31 participants with hour long interviews
Jackson et al. (2018)	Attendance of a popular music festival	Descriptive	Giorgi (2009) Husserl (1970)	Lifeworld Intentionality of Consciousness	Long phenomenological interviews of ten participants
Kinnunen et al. (2022)	Remembering a formative tourism memory	IPA	Not stated	Idiography	Not stated
Laing & Frost (2017)	Experiences of transformation in Italy as seen through travel writing	Interpretative	Van Manen (2014)	Engaged in bracketing.	Thematic analysis of non-fiction travel books
Mann & Abraham (2006)	The role of affect in UK commuters' travel mode choices and experiences	IPA	Smith & Osborn (2003)	Not stated	IPA-based analysis of short 45-minute semi-structured interviews
Marschall (2015)	Tourists revisiting places associated with memories	Not stated	Not stated	Not stated	Deductive thematic analysis of 30 interviews in pre-designed thematic strands
Masberg & Silverman (1996)	Visiting a popular heritage site	Not stated	Heidegger (1962) Husserl (1970)	Not stated	Thematic analysis of sixty questionnaires

Moss et al. (2020)	Embodied experiences of deaf tourists at a popular music festival	Descriptive IPA	Smith (2019)	Lifeworld Intentionality of Consciousness Hermeneutics	Nine interviews analysed using IPA methodology
Obenour (2004)	The significance of the experience of budget travellers' journeys	Interpretative	Not stated	Hermeneutics	Narrative analysis of 27 participants, half an hour interview
Singh & Srivastava, 2023	Revenge travel motivations	IPA	Not stated	Engaged in bracketing	21 short interviews using thematic analysis
Stainton (2016)	TEFL tourism in Thailand as seen through blogs	IPA	Smith et al., (1996)	Hermeneutics	Thematic coding of 36 blogs using NVivo
Thomas & Nieuwerburgh (2022)	Long-term, self-reliant overland travel	IPA	Heidegger (1962) Smith & Osborn (2003)	Hermeneutics Idiography	Long, video interviews of ten participants
Zhong et al., (2023)	Tourist being-in-the-world through poetry	Interpretative	Heidegger (1962) Van Manen (2014)	Dasein Lebsenwelt Hermeneutics	Hermeneutic-based thematic analysis of travel poetry books

Phenomenology is applied to discuss a variety of experiences and phenomena, including experiences of tourist spaces, activities, and more esoteric experiences of transformation through tourism. However, this table demonstrates the inconsistency of the application of phenomenology in tourism research. Some researchers suggest that they are using phenomenology without acknowledging the theoretical tenets, or which phenomenology type is being applied methodically (e.g., Cohen, 1979; Marschall, 2015; Masberg & Silverman, 1996). There is confusion between types of phenomenology and the phenomenological tenets, such as bracketing, a tenet aligned with descriptive phenomenology being used for interpretative phenomenology (e.g., Laing & Frost, 2017; Singh & Srivastava, 2023). Specifically, Hayllar & Griffin (2005) and Berdychevsky & Gibson (2015) state they are using descriptive phenomenology, whilst applying interpretative phenomenological tenets and methods.

Although phenomenology is not methodologically prescriptive, there are methods better suited to capture the lived experience, like inductive in-depth interviews (Frechette et al., 2020; Neubauer et al., 2019). However, methods used vary across research and can be unsuitable for capturing the depth required of a phenomenological study, such as short conversations, deductive methods, or questionnaires (e.g., Andriotis, 2009; Marschall, 2015; Masberg & Silverman, 1996). Furthermore, narrative analysis and thematic analysis do not lend themselves to phenomenologically based research as they do not provide the level of phenomenological depth required during analytic phases (e.g., Berdychevsky & Gibson, 2015; Hayllar & Griffin, 2005; Obenour, 2004). They are largely descriptive where most suggest they are using interpretative or existential phenomenology.

Additionally, when discussing tourism as an embodied phenomenological experience, Merleau-Ponty is often missing or classed as a descriptive (e.g., Moss et al., 2020). Merleau-Ponty is mentioned but methods or tenets applied fall under descriptive phenomenology rather than the interpretative

(Jensen et al., 2023; Moss et al., 2020; Rush-Cooper, 2019). Furthermore, phenomenology in tourism research is sometimes combined with positivism, which directly contravenes the rejection of positivism and Descartes' dualistic consciousness, on which phenomenology was founded (Siewert, 2022; Song, 2017). These inconsistencies lead to criticisms of studies having a phenomenological flavour rather than being phenomenologically based studies (Cibangu & Hepworth, 2016; Kirillova, 2018).

However, the more phenomenology is being used, the more it is understood as both a theoretical and methodological position (e.g., Thomas & Nieuwerburgh, 2022; Zhong et al., 2023). IPA, however, remains limited in scope. I now discuss IPA as it is applied in tourism research.

3.7.1 IPA in Tourism Research

There are a small number of researchers who feel that IPA is particularly suited for tourism research (Sedgley et al, 2017; Singh & Srivastava, 2023). This is due to IPA's dedication commitment to engaging with the experiential at a deeper level than descriptive phenomenology (Smith, 1996). Emotions surrounding an experience, decision making, and complex notions such as authenticity in travel experiences are prominent themes in research using IPA (Mann & Abraham, 2010; Rickly, 2022). IPA has proven effective at studying themes that can be considered sensitive or darker, such as revenge travel and dark tourism (Farkic, 2020; Singh & Srivastava, 2023). The richness of data from using IPA is valuable when participants reflect on a particular travel experiences, by eliciting in-depth insights (Farkic, 2020; Thomas & Nieuwerburgh, 2022).

However, there are some notable limitations in how IPA has been applied within tourism research to date. For example, theoretical and philosophical foundations of IPA are insufficiently addressed. Instead, IPA aligned studies apply the broader phenomenological tenets, ignoring the IPA specific tenets or applying them incorrectly (e.g., Bustard et al., 2019; Singh & Srivastava, 2023). In addition, several IPA studies state the use of coding software, such as Nvivo (e.g., Bustard et al., 2019; Stainton, 2016), which ignores IPA's placement of the researcher as the central figure in analysis (Demuth & Mey, 2015). This leads to criticism when using interpretative phenomenology and IPA-based methods of inadequately addressing the theoretical and philosophical assumptions that influence a researcher's interpretation (Pernecky & Jamal, 2010; Sedgley et al, 2017). Reflexivity and the understanding of a researcher's positionality is an integral feature of IPA (Engward & Goldspink, 2020). To use computer software is to remove the understanding of the context-laden complexity of human experiences. Removal of the researcher as the central analytic instrument is to ignore IPA's phenomenological and methodological commitments (Smith et al., 2022). IPA is a time-consuming process that requires commitment to an in-depth, case-by-case analytical approach. The reflexivity required of an IPA study is constant and intensive (Engward & Goldspink, 2020). Journal publications have a limited word count with which to detail this reflexive and in-depth analysis (Taylor et al., 2023). Tourism researchers may be reluctant to commit fully to IPA as a method of analysis, despite its value in experiential research.

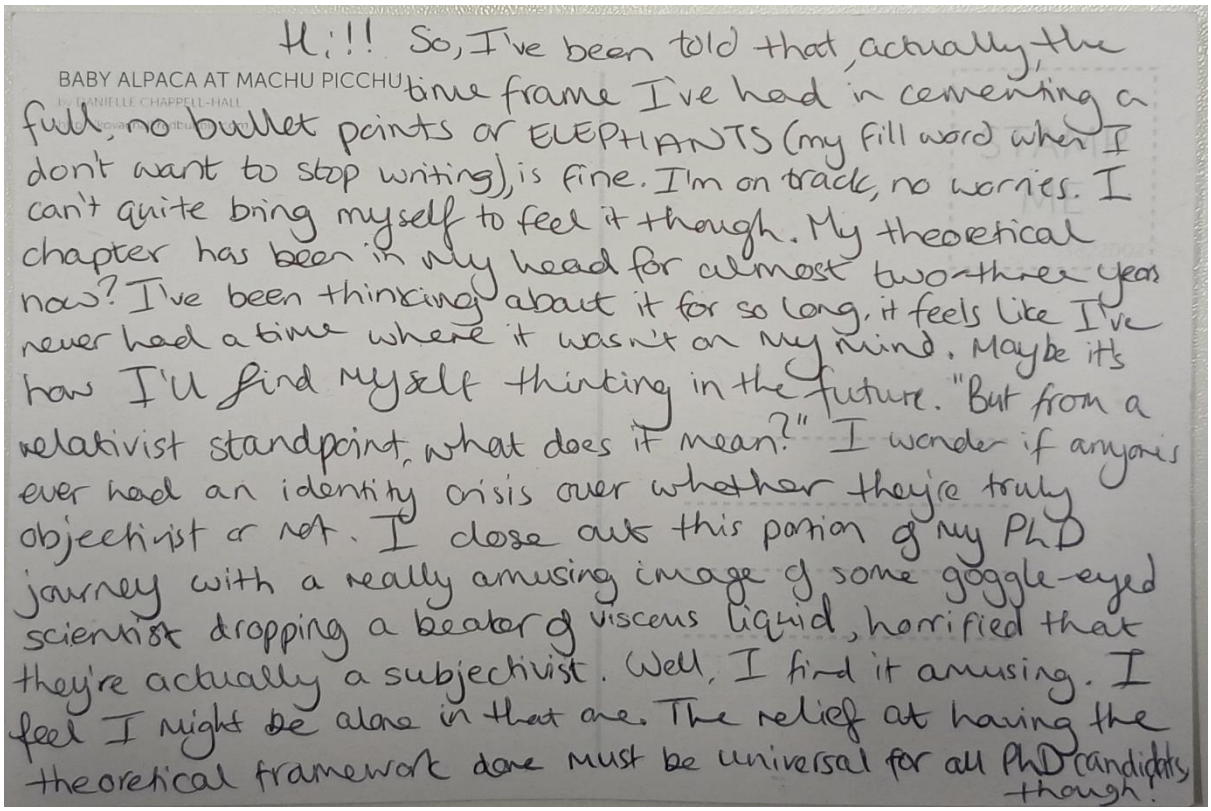
Keeping these critiques in mind, my next chapter Research Methodology will discuss how to apply IPA methodologically, as I have already addressed the theoretical and philosophical assumptions that will influence my interpretation of my data.

3.8 Chapter Summary

The purpose of this chapter was to introduce Merleau-Ponty's embodied phenomenology and interpretative phenomenology as the theoretical frame guiding my research. I began with my ontological and epistemological positioning as a relativist subjectivist, which influenced my choice of phenomenology as a theoretical approach. I introduced embodied phenomenology as the phenomenology upon which I have based Interpretative Phenomenological Analysis (IPA). I explored the tenets of IPA. Finally, I reviewed how IPA is applied in tourism research. Phenomenology in tourism research has been criticised as inadequately addressing theoretical and philosophical positionings of phenomenology. There is confusion between phenomenological types and the appropriate tenets and methods. I highlighted the difficulties of committing to an IPA-based phenomenological approach. However, I emphasised how valuable IPA can be for discussions of experience if applied correctly. In the following chapter, Chapter Four: Research Methodology, I introduce the IPA methods used. In addition, I provide a detailed discussion of the fieldwork, including ethical considerations and steps taken to be reflexive.

Figure 6

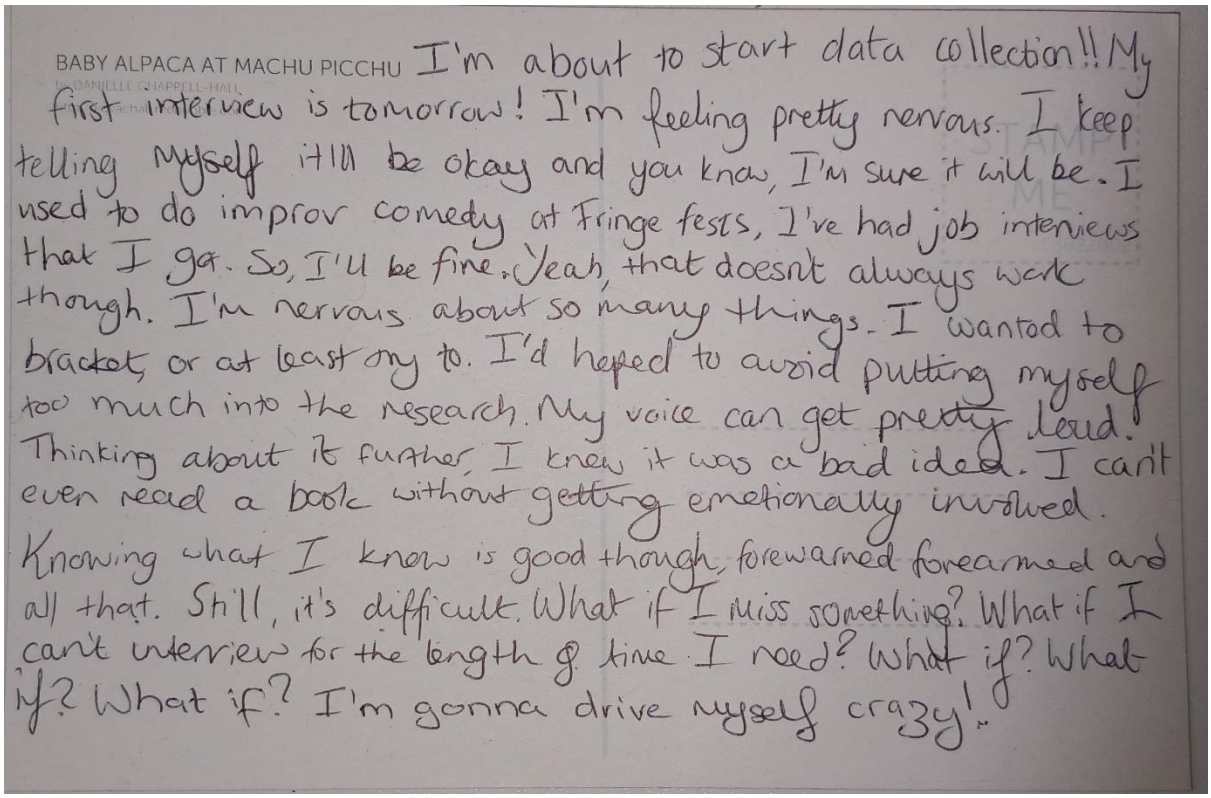
Personal Postcard from the end of the Theoretical Framework journey



Chapter Four: Research Methodology

Figure 7

Personal postcard from the beginning of the Methodology journey



4.1 Introduction

The aim of my research is to develop a phenomenological understanding of how people with limited mobilities experience virtual adventure tourism. To achieve this, I will answer the following research questions:

1. *How do people with limited mobilities experience adventure tourism in virtual reality?*
    a) *What contributes to the overall experience?*
    b) *What are the barriers to experiencing virtual reality adventure tourism?*

To address these questions, I introduced my theoretical phenomenological approach in the previous chapter. I detailed my ontological and epistemological positioning and the phenomenological tenets shaping this research, including Merleau-Ponty's (1945/2014) embodied phenomenology. Subsequently, I explained the theoretical foundations of Smith and colleagues' (2022) Interpretative Phenomenological Analysis that is used as my chosen methodology.

This chapter explains my research design and my methodology. My research design could have employed a more experimental approach. However, the theoretical positioning of IPA outlined in Chapter 3 requires a comprehensive qualitative research approach (Smith et al., 2022). Thus, to best follow my ontological, epistemological, and theoretical position, I aligned my research design with the IPA's suggested methodology. Therefore, my research design was not suited to experimental methods.

Sections 4.2 and 4.3 explore how I use IPA VR at a methodological level and pair it with VR. Then, in Section 4.4, I detail my time collecting data including the influences of my pilot study and the overall main study process. In Sections 4.5 and 4.6, I discuss broader topics of research quality in qualitative research and ethical considerations. I then turn to Section 4.7, which is an in-depth discussion on how I ensure reflexivity throughout my research, regarding my positionality and how IPA has influenced these methods. Finally, in Section 4.8, I introduce the twelve participants who took part in my research.

4.2 Using IPA Methodologically

In this section, I explain why IPA was chosen as both a theoretical perspective and a methodological framework to meet the aim of my research. The previous chapter discussed the theoretical foundations and justifications for using IPA. IPA is an all-encompassing phenomenological approach (Frechette et al., 2020; Smith et al., 2022). As the originator of IPA, I will be citing Smith et al. (2022) throughout. There are methodological guidelines in IPA, such as how the data is collected and analysed. The aim of the research and the associated questions influence the methodological approaches that are chosen. Some methodologies will be more suited to answering the questions than others (Berryman, 2019). To achieve my aim, I needed to gather in-depth, first-person accounts of virtual experiences. My research is informed by the tenets of embodied phenomenology (Merleau-Ponty, 1945/2014) and the phenomenological foundations of IPA, hermeneutics and idiography (Smith et al., 2022). Using IPA as a methodology is an appropriate choice to guide my research design for a novel approach (Nizza et al., 2021). Furthermore, it is a qualitative research approach that aligns with my own ontological and epistemological positioning of relativist subjectivism (Cuthbertson et al., 2020). Considerations for using IPA as a methodology that informed my research design include purposeful sampling with a small sample size, hermeneutic-based analysis, and a phenomenological interview as the recommended data collection method (Frechette et al., 2020). These considerations will be discussed in Sections 4.4.3.1 and 4.4.3.4.

There are tensions surrounding whether IPA can truly be considered phenomenological due to its lack of strict phenomenological commitments (Zahavi, 2018, 2019). I addressed this theoretically in Section 3.5.1, but to address this methodologically I turn to Finlay (2011) who states that “the strength of this method lies in its ability to bring to life the richness of existence through what may be at first sight to be ordinary, mundane living” (p.26). Here, Finlay is asserting that method and outcome are intertwined, due to the interpretative nature of IPA. This is an outcome required of all phenomenological research. Thus, if IPA as a method can achieve this outcome, then it is phenomenological (Smith et al., 2022). Thinking about how to achieve this led me to consider the phenomenological interview as the data collection method.

4.2.1 Phenomenological Interviews

The primary concern of IPA is to elicit rich, detailed, and first-person account of experiences. Smith et al., (2022) recommend a semi-structured, one-on-one, in-depth interview as a data collection method to allow for this. To ensure the depth that IPA and my research questions demand and that the phenomenological tenets are met, I turned to semi-structured phenomenological interviews as defined by Høffding and Martiny (2016) and Høffding et al (2021).

The phenomenological interview must draw on certain phenomenological commitments, such as the life world (Høffding et al., 2021). The aim of the interview is to enter the lifeworld of the participants as it influences the experience under research. Participants should be encouraged to give as much context as possible (Bevan, 2014). Furthermore, the interview must allow the participant to access the fourth layer of reflective consciousness about a lived experience (Maurel, 2009). To enter the participant's lifeworld through this fourth layer, both IPA and phenomenological interview methods suggest that open-ended questions are essential (Høffding & Martiny, 2016; Smith et al., 2022). These open-ended questions should encourage participants to talk at length and appear as if they are free from presuppositions (Smith & Fieldsend, 2021). The questions need to be the general focus of conversation, rather than definite set questions to be answered. Use of the question word 'how' is suggested in the formulation of interview questions (Petitmengin, 2006). They should be directive, rather than fully open. Non-directive, open questions seek a general opinion. Directive, open-ended questions guide the participant to focus on the singular experience being researched (Gous & Wheatcroft, 2020; Petitmengin, 2006). Open-ended probes are recommended. Reformulating previous description as a question or inviting the participant to further develop their description ensures the accuracy of the interviewer's understanding and encourages further depth of data (Bevan, 2014; Høffding et al., 2022). Ultimately, the phenomenological interview must be a co-creation of data, with both the interviewer and the interviewee acting as active participants (Smith et al., 2022). The participant answers questions and provides data, whilst the researcher manages the depth of data by being present and responsive. This allows participants to transition from the pre-reflective layer to the one of deliberately controlled reflection (Høffding et al., 2021; Smith et al., 2022).

A significant advantage of the phenomenological interview is that it allows for meaningful exploration of the lifeworlds of the participants and their experience (Smith et al., 2022). This type of context-rich, first-person account in terms of thoughts, sensations or feelings will provide rich, holistic data for a comprehensive and good-quality IPA analysis. Whilst this fulfils the aim of both IPA and the phenomenological interview, there are limitations to this method. The depth of data depends on the skill of interviewer. Interviews, although recommended for IPA, are hard to do to the level of depth required for an IPA study (Smith et al., 2022; Zahavi, 2018). The verbal element of an interview can be a limitation. There is the possibility that the words or the intent of the words offered by the participants may get lost in translation. This could be due to different speech registers, slang used that the interviewer may not understand or hear at the time. There are elements of the interview that do not get caught until the transcription stage of analysis (Englander, 2020). There is a reliance on a participant's ability to reflect and fully communicate their reflections within a set timeframe (Keightley et al., 2012). Memories are continuously changing, reconstructing with new knowledge, which can impact on the reflections being discussed and analysed. Understanding the type of interview needed to maintain an IPA approach allowed me to understand how to centre the VR experience within the research design. I now discuss how I considered using VR methodologically and alongside phenomenological interviews.

4.3 Using VR Methodologically

Previously highlighted in my literature review, much of the discussion around VR is theoretical, through literature reviews or overviews (Beck et al., 2019; Loureiro et al., 2020; Merkx & Nawijn, 2021). There are few studies that involve virtual tourism experiences on a headset (Yung &

Khoo-Lattimore, 2019; Racz & Zilizi, 2019). Of those few, Meta Rift or Go are used, and the method is followed by a survey or a short interview (Racz & Zilzi, 2019; Kim & Hall, 2021). My research project uses the Meta Quest 2, which is a newer headset than the Meta Rift or Go and is mechanically different. I use VR as a practical part of the research method and the research question. Using VR this way, on a newer headset, meant there was little guidance on how to use VR as an elicitation tool (Dozio et al., 2022). The short interview data collection methods used in other studies do not allow for the richness of detail IPA demands. There was little guidance on how to use a phenomenological interview alongside VR in an IPA-based study.

Furthermore, there is a tension between how IPA and VR can be viewed. VR is a solo endeavour that been constructed through popular media and usage as entertainment (Ceuterick & Ingraham, 2021; Mateer, 2017). It is not generally constructed as a transformative experience that has an emotional impact on the everyday lifeworld of a person (de Regt et al., 2021). Transformative or emotionally charged experiences that have a large significance in a person's life are the experiences IPA is primarily concerned with (Smith et al., 2022). This is the third layer of experience highlighted in Section 3.6.1 of Chapter Three as the comprehensive level of experience, where an experience becomes significant and meaningful. This queries whether IPA is a suitable approach to examine this experience, if it is not considered at the comprehensive level of experience highlighted in Section 3.6.1 of Chapter Three.

However, disabled people are rarely asked about their VR experiences (Creed et al., 2023). Using VR has the possibility for being transformative or emotionally charged experience. A VR experience could have a large significance in a disabled person's life (Bunch et al., 2021). It is theorised in tourism literature as assistive technology, enabling access to tourism experiences (Guttentag, 2010; Sarkady et al., 2021). Moreover, VR has been conceptualised as a transformative assistive technology, specifically as use of physical rehabilitation aids (Clark et al., 2019). To assume that using VR to access adventure tourism is not emotionally charged or transformative because it is generally viewed as entertainment is an ableist assumption (Creed et al., 2023). VR could be considered transformative or emotionally charged for disabled people, which forms part of the research question *how do people with limited mobilities experience virtual adventure tourism?* This ensures that IPA is an appropriate methodology for using VR.

Through using a phenomenological interview, I am asking the participants to reflectively engage with the experience to reach the fourth layer where IPA focuses (Section 3.6.1). This is a deliberately controlled reflection and the one where the researcher methodologically enters (Smith et al., 2022). An event, like a VR tourism experience, becomes *an* experience, a singular, defining moment, when it becomes meaningful. To become meaningful, the event must become significant (Smith et al., 2022). This happens through deliberately controlled reflection. Using the phenomenological interview, I am asking the participants to assign meaning and significance to the VR tourism experience to become *an* experience.

Pairing a tourism experience on VR with IPA and phenomenological interviewing was considered appropriate for my research project. Using a phenomenological interview allows for access to the deliberately controlled reflective layer of IPA into which a researcher enters. How these methods were practically aligned is detailed in the next section.

4.4 Research Process

The following sections cover elements of my research process surrounding the data collection and analysis. The data collection began with the pilot study which took place between November and December 2021, to the main study, which was undertaken in March to September 2022. Data analysis began in May 2022 and ended around April 2023. The pilot study was successful. My supervisory team tried the VR headset between the pilot study and the main study as a reflexive exercise. It allowed me to teach them to better understand the research project and the technology.

Figure 8

Katrina, my supervisor, trying on the VR before the main study.

After the pilot study, changes were made and the main study was conducted. In what follows I outline the pilot study process and its learning points, in Section 4.4.1 and 4.4.2. I review the main study, including choosing participants, data collection and data analysis in Sections 4.4.3. I turn discussion to considerations on research quality, ethics, and reflexivity. In the final part of this chapter, I introduce the participants.

4.4.1 Pilot Study

The pilot study took place in between November and December 2021, after obtaining the requisite approval from the Swansea University, School of Management Ethics Committee (Appendix A.1). The main aim of this pilot study was technical. VR headsets were new to me, possibly for main study participants and certainly for my pilot study participants. VR headsets can present practical problems when using them in research (Garrett et al., 2018). They are technically complex and may be difficult to use, especially for those who have not used them before. The methods for this study rely entirely on the ability to use VR, with participants requiring time to adapt to the new technology (Ashtari et al., 2020). An inability to adapt may present as a barrier. This needed to be examined to discover possible barriers for the main study. A secondary aim of the pilot was methodological; as a researcher, I had never worked with participants before. I needed to ensure that I could teach participants how to use VR. Furthermore, I needed to ensure that I could interview participants effectively and respectfully.

Participant selection for the pilot comprised two people known to me through my own personal networks. Pilot participants fit the basic criteria in convenience sampling outlined in Table 7.

Table 7

Pilot study criteria and rationale

Participant Criteria	Rationale
People with limited mobilities, as defined by The Equal Rights Act 2010	Fulfilled by the participants being bedbound and wheelchair bound. This criterion ensures the research questions are being answered.
Able to provide informed consent (Miller & Boulton, 2007).	The participants were over eighteen and were not impaired in a cognitive or intellectual capacity. This ensured that participants could participate ethically.

To this end, I created an Information Sheet (Appendix A.2) and a Pilot Study Experience Protocol (Appendix A.4) to provide them with the needed information. Once recruited and consent forms (Appendix A.3) signed, the participants used the Meta Quest 2 headset to experience two different adventure tourism experiences.

The Meta Quest 2 (Figure 9) has been chosen for this research project. At the time of the pilot and main study, the Meta Quest 2 was the only headset that did not require an external element like a PC or a video game console (Meta, n.d). As the rechargeable headset itself is the computer, it only required this and the battery-powered controllers for use. There is a hand tracking option, where the hands are the controllers, but it is relatively new and problematic. The controllers were chosen as the method for controlling the headset. With a box to carry it in, the Meta Quest 2 was chosen for its portability and its accessibility, allowing me to take it into the participants' safe spaces without obstacles.

Figure 9

Meta Quest 2 wireless headset and controllers (Meta, n.d)

There were two chosen experiences. One was a safari adventure in Kenya (Figure 10), through the Ecosphere Journeys app (Phoria, n.d). To use this experience all that is required of a participant is to point and click at the beginning and then watch a cinematic display. There is very little dexterity needed in the hands or the movement of the head. This was picked by my bedbound participant.

Figure 10

Screen capture of the Kenyan safari adventure in ecosphere (Phoria, n.d)

The second experience was an exploration of Machu Pichu's ruins (Figure 11), via the National Geographic Explore XR app (Vertigo Games, n.d). A higher level of dexterity is required for this experience as controller usage remained constant throughout and the experience required the user to look behind them, requiring head movement. This was picked by my wheelchair bound participant.

Figure 11

Screen capture of the Machu Picchu adventure in National Geographic Explore XR (Vertigo Games, n.d)

The pilot study took place in the chosen safe space of their home, adapted to their needs. The ethical considerations, like safety, must include researchers (Mohd Arifin, 2018). I judged I was safe in their chosen spaces due to our social proximity. However, this would not be the case in the main study and would be addressed there, shown in Table 8, in Section 4.4.2.

I gave time for the participants to learn the technology, acting as their guide and answering queries. My bedbound participant could not adapt to the technology, and I set up the experience for them. My participant who described themselves as wheelchair bound, took around ten minutes. My aim had been to record the experience, either via the Meta Quest 2 headset itself or by 'casting'. Casting is where the phone records a video of what is happening on the headset screen as it also audio-records (Carr & Ly, 2009). This was to better understand their reactions as they are experiencing

their adventure and to have a future point of reference if they refer to anything specifically. Once the experiences had ended, the Ecosphere Journey taking twenty minutes whilst the National Geographic one took an hour, an unstructured interview followed. All interviews started with the same introductory question of 'how did you find the experience?' and were recorded on both my phone and a Dictaphone for surety of recording (Appendix A.4). The initial interview only lasted ten minutes and did not provide sufficient data.

After their interviews, I asked both to write a postcard, as if they were writing home about the experience they'd just had. This was a way for them to reflect on the experience and provide an extra set of data with information participants might not have thought about during the interview (Jasper, 2005). Both participants requested time to write their postcards, sending over pictures later, and keeping them as mementos of this experience. Upon receiving the postcards, I analysed the limited data collected from the pilot study and the postcards. I tried different methods of analysis to find what might be suitable for the data. Narrative analysis, IPA-based analysis and discourse analysis were used.

4.4.2 Learning Experiences of the Pilot Study

The pilot study was a great learning experience and helpful in identifying potential problems, both methodologically and technologically. The aims of this pilot study In Table 8, I review the learning experiences, the changes these identified and how they were applied in the main study.

Table 8

Learning outcomes of the pilot study

	Learning experiences	Change Identified	Changes Made for Main Study
Methodological	Interviewing participants	An unstructured interview took ten minutes and did not collect enough data	Used a semi-structured interview
	Teaching participants to use VR	Gave a non-specific time frame, which caused pressure	Gave a set half-hour time frame
	VR Experiences	Had too many options, needed to focus on one	Chose Machu Picchu due to its recognisable context, more involvement with the VR headset and controllers and higher level of interactivity.
	Methods of analysis	Attempted different methods of analysis to find one suitable for my research	Ensured commitment to IPA as a theoretical and methodological framework
Technical	Adaptation to technology	Being bedbound made it too difficult to engage with the VR	Updated participant criteria (Section 4.4.3.1)

	Phone casting	Captured images but not sound. Could not be extracted from the phone.	I used a notebook to write down what was said. I used these as a point of reference for the subsequent interview.
	Headset recording	Captured both but was tricky for the participants to do. Could not be extracted from headset easily.	I used a notebook to write down what was said. I used these as a point of reference for the subsequent interview.
Safety Measures	Used participants' own space, due to social proximity	Need a safer space for both participants and me	Participants chose a public safe space, usually a community centre or welfare hall.

The main methodological aim of the pilot was to improve myself as a novice researcher. An unstructured interview proved challenging as it requires a high skill level for active listening (Chauhan, 2022). As a first-time interviewer, I had not developed this to the required level. This placed restraints around data collection during the pilot. The ten-minute length of the interviews was not in-depth enough for an IPA interview, which are advised to last hours (Smith et al., 2022). On this basis semi-structured interviews were used for the main study. This helped me to prioritise the research questions and allow for in-depth responses (Adams, 2015). Within the ten-minute interviews, I was able to infer some commonalities between the two pilot study participants who had touched on some similar points without prompting from myself. There were positive associations with the virtual experience but negative feelings of exclusion from virtual reality hardware due to required adaptations. Notions of immersion or 'feeling real' also appeared quite strongly within those ten minutes. From these commonalities, I was able to create interview questions for the semi-structured interview (Appendix B.4).

The technological aim of the pilot was to identify barriers to using the VR and understand how the VR headset could be used in research. The main difficulty was in recording the experiences. Both ways, headset recording and phone-casting, had similar problems, outlined in Table 8. Instead, I used a notebook during the experience to record what was said and to refer to it during the following interview. Other technical problems identified difficulties of adaptability for certain participants. This helped to update the participant criteria for the main study. My bedbound participant required my assistance to set up the experience and the headset kept sliding off their face. Therefore, a seated or standing position was required for the main study. Hand mobility was also required and therefore precluded anyone whose disability affected their hands or were bedbound. Furthermore, both of the participants allowed me into their personal spaces. I did not feel comfortable asking to be in the personal spaces of those unknown to me. To keep the participants and myself safe, public, and accessible spaces were required (Mohd Arifin, 2018). This required participants to be able to get themselves to a public location of their choice. My own transport needs meant that participants had to be local to my area.

Finally, this pilot study identified a high level of enjoyment the participants experienced throughout the experience. This ensured that they were engaged throughout the process, including the postcard

writing. This kept me committed to the methods and the technology I was using, provided I made the changes detailed in Table 8.

Overall, my pilot study was a great learning experience that fulfilled its technical and methodological aims. Barriers of access to the VR and difficulties for the main study were identified. Methodological changes for the main study were identified, including interview type, VR experience to be researched, and the method of analysis to be used. The following sections discuss how these appeared in the main study, I introduce the participants and detail the IPA method of analysis.

4.4.3 The Main Study

After evaluation of the pilot study and the changes identified in the previous section were addressed, I applied for and gained ethical approval for the main study's data collection. This began in March 2022. This section follows the process of participant recruitment, data collection and data analysis.

4.4.3.1 Choosing Participants

The pilot study updated the participant criteria by adding on extra facets. The basic criteria remained the same and still had to be met, which were twofold; the ability to give informed consent and to still be classed as a person with limited mobility under the Equal Rights Act 2010. Table 9 shows the participant criteria updated from the pilot study.

Table 9

Updated participant criteria

Participant Criteria	Rationale
People with limited mobilities, as defined by The Equal Rights Act 2010, but not bedbound	Fulfilled by the participants being bedbound and wheelchair bound. This criterion ensures the research questions are being answered. Furthermore, a standing or seated position ensures that the headset remains on the head without difficulty, such as sliding off
Able to provide informed consent (Miller & Boulton, 2007).	The participants were over eighteen and were not impaired in a cognitive or intellectual capacity. This ensured that participants could participate ethically.
Dexterity or mobility in hands	This ensured that the participants could use the Meta Quest 2 controllers to access the virtual experience
Could access a public and accessible space of their own choosing	This ensured the safety of the participants and myself.
Local	This ensured I could easily reach, and access participants' chosen safe spaces.

Using IPA as an analytic process, outlined in Section 4.4.3.4, determines the sample size when choosing participants (Smith et al., 2022). It is a time-consuming process, requiring commitment to an in-depth, case-by-case analytical approach. The sample size is kept small, between six and ten for a doctoral level thesis (Noon, 2018).

Participants were recruited using purposive sampling, selected specifically on the basis that they can grant access to a certain perspective on the phenomena under study (Campbell et al., 2020). This requires a certain level of homogeneity in the sample. With these factors in mind, twelve participants who fulfilled all the updated criteria were selected across South Wales. Once the concept of homogeny had been phenomenologically fulfilled through disability, the sample became diverse across gender, ages, and jobs, with seven women and five men being recruited. The purposive recruitment was fulfilled by me emailing two of those who were known to me the information sheet about the study. I further recruited through clubs in South Wales that are dedicated to people with limited mobilities, such as Ski4All Wales, in Pembrey, Carmarthenshire and Surfability UK based in Caswell Bay, Swansea. I recruited from the pain management clinics I attend, online and in person. Initial recruitment was slow and difficult. One participant posited a possible reason by being worried this would be exploitative, which could have been an opinion shared by others. However, once one or two participants had tried it, snowballing sampling occurred. Ron Swanson was a veteran purposively recruited who said they enjoyed VR and recommended it to others as a fun experience. Six other participants of various backgrounds were recruited through snowball sampling. The participants' characteristics are outlined in Table 10 to highlight diversity and how they were recruited. They will be introduced in-depth in Section 4.8 *Meet the Participants,* where they will describe their disability in their own words.

Table 10

Participant Characteristics

Pseudonym	Age	Gender	Pronouns	Employment	How Recruited
Abigail Fifi	32	F	She/her	Stay-at-home mother. Student.	Snowball sampling
Arya	49	F	She/her	Unemployed.	Purposively recruited from a shared online pain clinic
Bilbo	57	M	He/him	Designs and adapts mobility aids. Ex-Forces.	Snowball sampling
Cherry Blossoms	49	F	She/her	Office worker	Recruited through poster in Brynamman Community Centre
Duncan Biscuits	36	M	He/him	Military.	Snowball sampling
GI Jane	39	F	She/her	Unemployed.	Chronic pain in ankles and legs
Hicks	59	M	He/him	Retired.	Purposively recruited
Jack	87	M	He/him	Retired.	Snowball sampling

Jill	79	F	She/her	Retired	Snowball sampling
Leslie Knope	25	F	She/her	Unemployed.	Purposively recruited through email
Ron Swanson	54	M	He/him	Logistical software engineer. Ex-Forces.	Recruited through Ski4All Wales
Sasi	27	F	She/her.	Stay-at-home mother.	Snowball sampling

All participants were emailed the Information Sheet (Appendix B.2). Any questions were asked over email or on a video call and an agreed public location was booked at an agreed time. Participants were all fully informed that they could withdraw at any point without needing to give a reason and that all data would be anonymised and confidential. Data collection began in stages, until all twelve participants had been recruited and interviewed.

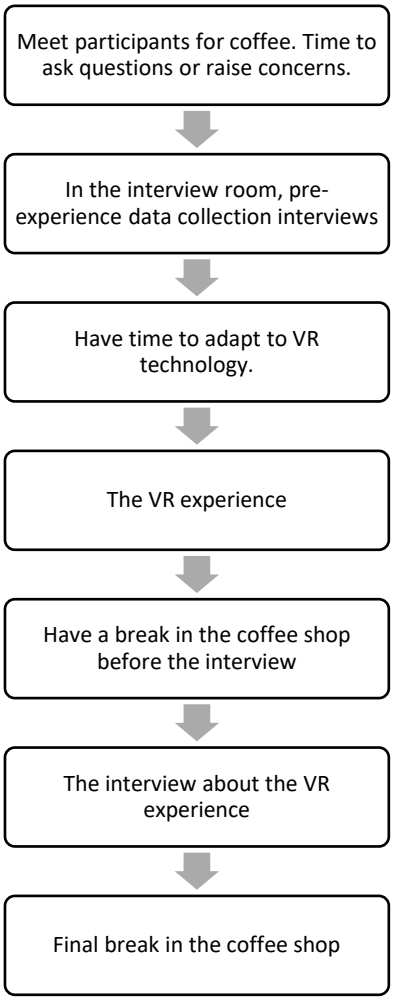
In summary, participants were recruited through clubs dedicated to disabled people like Ski4All Wales. I recruited two known to me purposively and multiple participants were recruited using snowball sampling. The IPA analytical process demands a small sample size so twelve participants who met the updated participant criteria were selected. Their characteristics, how they were recruited, and their chosen safe space were outlined in Table 10. The next section outlines how the data was collected from these participants.

4.4.3.2 Collecting Data

Data collection took place over a six-month period, between March and September 2022 in the locations of choice outlined in Table 10. These places were accessible, known to the participants, public for safety purposes and, crucially, attached to a coffee shop. This addition, although not something I initially thought about, turned into an integral part of the experience. Figure 12 outlines the interview experience for participants, including breaks.

Figure 12:

The interview experience.



The initial meeting before the experience took place in the coffee shops. This facilitated the building of rapport with the participants. This is an important element when using interviews to help provide a rich account of experience (McGrath et al., 2019). There were questions that participants hadn't wanted to or thought to send over in an email. Instead, they asked in person during this initial meeting. This ensured their comfort with the experience and with me as the facilitator of the experience. This initial meeting lasted between fifteen and forty-five minutes.

In the interview room, I would guide them through the pre-interview questions, shown in Appendix B.4. These were questions about the nature of their disability, their viewpoints on adventure tourism and whether they had ever used virtual reality before. Then, time was offered to adapt to VR. During this time, I would help them learn to use it, acting as a technological guide. Occasionally, I was a social companion, involved in the virtual experience, someone who participants could talk to during and about the experience. Once they announced that they were comfortable to go on to the experience, well within that set half an hour, they loaded the Machu Picchu experience. This experience lasted anywhere between twenty minutes to an hour and a half.

The Machu Picchu virtual experience included a self-guided tour around Machu Picchu, exploring areas such as temples, homes, and the entrance to Machu Picchu, just past the Sun Gate, where the adventure starts (Figure 13).

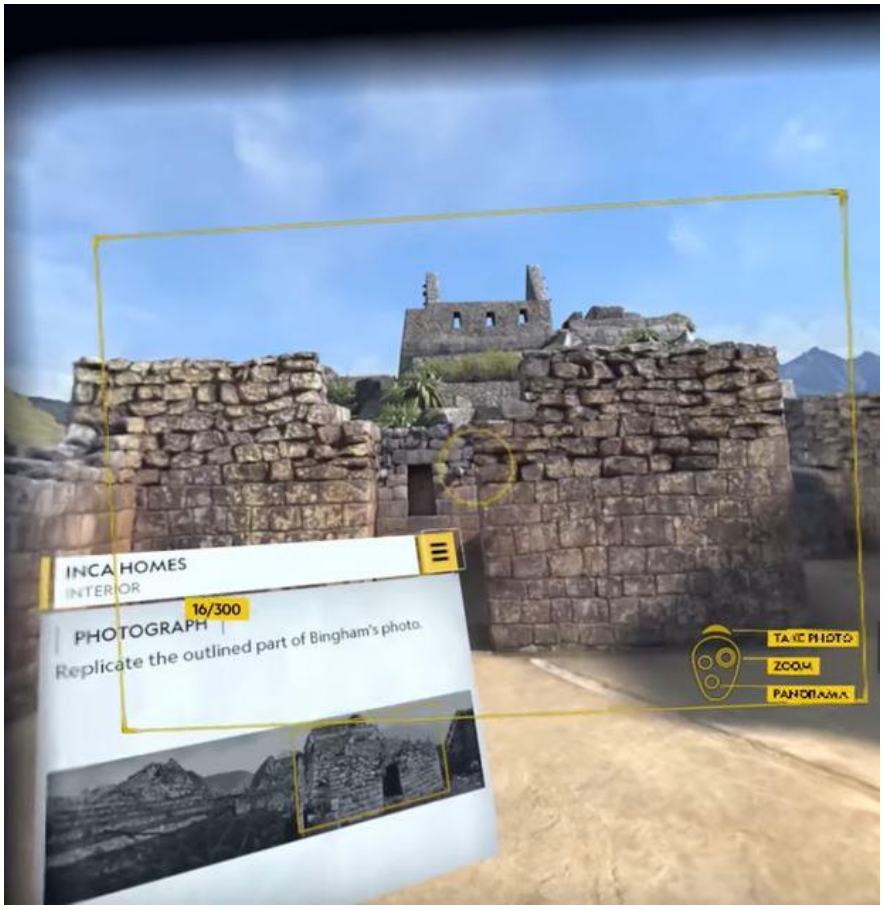
Figure 13

Screen capture of the Machu Picchu adventure in National Geographic Explore XR, view from on high (Vertigo Games, n.d)

There was also an optional photography exercise (Figure 14) that highlighted and discussed historical facts about Machu Picchu. Although optional, this was a popular activity that all but one of my participants chose to engage in.

Figure 14

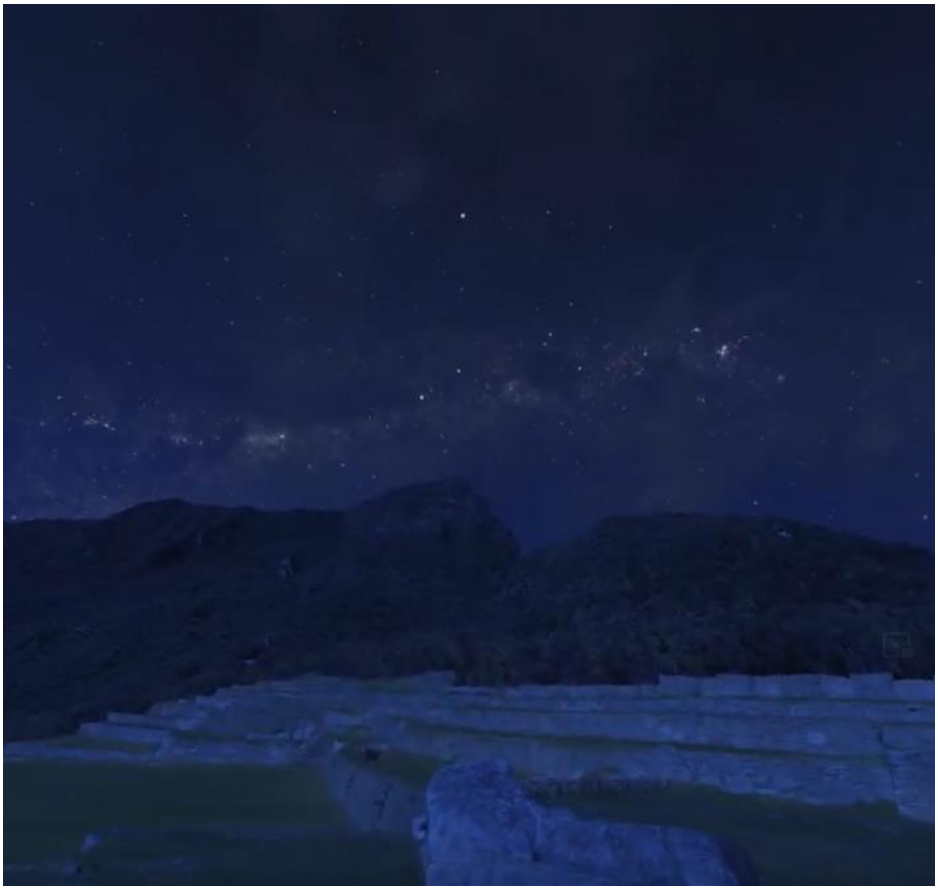
Screen capture of the photography exercise in Machu Picchu adventure in National Geographic Explore XR (Vertigo Games, n.d)



There was further optional stargazing task (Figure 15) that involved 'hiking' further up the mountain range to see Machu Picchu at night. This, however, was only available at the end of the adventure after interacting with all available interaction points in the VR experience. This point could take upward of an hour to reach and only one participant was able to reach this stage. Only one participant reached this stage, and it took an hour. Other participants ended the virtual experience anywhere between twenty minutes to half an hour.

Figure 15

Screen capture of stargazing in the Machu Picchu adventure in National Geographic Explore XR, view from on high (Vertigo Games, n.d)



After a break, the interview lasted between two to four hours on average, to adhere to IPA's need for holistic, in-depth and data rich interviews. The interview followed the interview protocol (Appendix B.4). When recording with the Dictaphone and my phone, I sought recorded verbal consent for the use of data. Occasionally, we would take a break during the interview. The interview sometimes became emotional, some participants visibly distressed, some felt panicked, or upset. Physical distance, as well as a warm drink, would help. Sometimes they would request time alone and the attached coffee shop by themselves. Alternatively, I would offer them some time alone in the interview space, if needed.

Our final break also became the space for an informal debrief of the experience and allowed participants time to decompress (Adeloye, 2020; Scott, 2022). If sensitive topics were explored, I would signpost to appropriate resources if I could. These were included in the main study debrief form (Appendix B.5). It was at this point the participants would create a pseudonym for the anonymisation process. They were asked to take a postcard write as if they were writing home to reflect on the experience some time after the interview. Only a few postcards were returned for the main study, too few to be considered a meaningful contribution to data analysis. Whilst these were removed from consideration, it is a practice that I maintained and will be discussed in Section 4.7.4.

After each final debrief, I remained in the coffee shop to write a reflexive journal entry on each interview experience. These journal entries are included in Section 4.8 *Meet the Participants*. Before

analysis could start, participant data was prepared for the IPA analytical process which I now turn to discuss in the following section.

4.4.3.3 Data Preparation

The raw interview data recorded on my phone and the Dictaphone needed preparation. They needed to be collected, stored, and anonymised. This was done so by following GDPR Data Protection Act 2018 and the ethical considerations outlined in Section 4.6. Anonymisation of the data began during the transcription process. The chosen pseudonyms were applied and all identifying features were removed.

The transcription process was performed by ear. I followed the ideals of IPA, which requires a verbatim and semantic record of the interview (Smith et al., 2022). Features of the conversation that are a break from the normal speech pattern of the participant were also recorded, such as laughter, pauses or actions to emphasise or illustrate what is being said. The exact length of these were not recorded. They were not going to be analysed and so recording them would be a pointless exercise (O'Connell & Kowal, 1995). Finally, the transcripts were checked after I had finished transcribing them to ensure accuracy. Management of this data is outlined in Section 4.6.

Figure 16

Example of transcription for Ron Swanson

RS: Yes, then I carried on. Because I started to pick up on the action then. Because that was another thing. The actions- doing them is very difficult when you're sitting down. I couldn't find the markers until you actually travel over to them and there's a marker on the floor. So, if I could stand up then fine, but because marker is not there, as in it's on the floor, so it didn't light up until I got actually near it. And then I did the marker and then, all right, now I've got something to do rather than I was lost for 20 minutes. And I think doing this was a lot of movement. Made me feel like- the turning and the rotating, and the not being able to rotate when you've got a camera. It's very difficult. You have to put the camera back and then you have to deal with it. Mm. And then you have to [mimes camera], does it do it if you're standing, does it pick up that you're rotating?

L: Oh, not rhetorical. Yes, the camera moves with you.

RS: Yeah, exactly. So, if you still have to move it when you're sitting down, I have to do this [tries to twist in chair]. Yeah. I'm trying to move the, the controller and it's not going, because I've got the camera in my hand and therefore, I'm shaking my head and therefore that's maybe one of the causes of why I was feeling queasy all the time. Maybe I'm doing it too quick. Yeah. The movement

In summary, the data was collected, stored, and transcribed according to GDPR regulations and following ethical considerations outlined in Section 4.6. Transcription was performed and accuracy checked by ear rather than by a machine and it was transcribed according to IPA guidelines. Using software programmes, such as NVivo, to organise or prepare data can be considered useful (Bazeley, 2013). However, regarding the in-depth requirements of IPA, NVivo is considered a difficult tool to use in the initial stages of analysis as it does not facilitate necessary analytic elements, such as multiple types of coding required for one sentence (Wagstaff et al., 2014). IPA guidelines, set out by Smith (1996) as the originator of IPA, recommends that the researcher immerses themselves totally within the data at these stages. Thus, in line with this guidance, I chose not to use software programmes throughout the data preparation and analysis process. However, understanding the

sociomateriality of using software like NVivo in research could be worth exploring, since sociomateriality emphasises the interconnectedness of social and material elements (Weidler-Lewis et al., 2020). The lack of use of software is further referenced in IPA's research quality framework (Nizza et al., 2021), which will be further discussed in Section 4.5 Research Quality. As I have followed these guidelines throughout, so too was the data analysed using them, which I detail in the next section.

4.4.3.4 Data Analysis

The way IPA analyses data is characterised by a set of common processes, in an inductive and iterative cycle (Smith, 2007). This has been developed over time and draws upon certain strategies:

1. Close line-by-line analysis and the identification of patterns or themes from this analysis, in singular cases and then in the multiple, emphasising both convergences, divergences, commonality and nuances (Larkin et al., 2006; Eatough & Smith, 2017).
2. A dialogue between researchers and their analysed data, about the meaning of the participants lived experiences, that develops into more of an interpretative account (Larkin et al., 2006).
3. Reflection on one's own perceptions, conceptions, and processes, as seen in the reflexive journaling (Smith, 2007)
4. The development of a findings structure which illustrates the relationships between experiential themes. The organisation of the themes should allow for analysed data to be tracked back through the entire process, back to the transcript and to the participants' lived experiences (Smith et al., 2022).

Adhering to these strategies, Smith et al., (2022) created a seven-step process that maintains IPA's idiographic, hermeneutic, and phenomenological commitments. These are useful to scholars who are using IPA for the first time, but they aren't prescriptive. I chose to use the steps outlined in Table 11, as I am using IPA for the first time.

Table 11

Table of IPA's analytic steps (Smith et al., 2022)

Steps	Process
1	A thorough reading and re-reading of the data, to immerse self in the data.
2	Exploratory notetaking
3	Developing experiential statements
4	Search for connections across experiential statements
5	Cluster and consolidating experiential statements into Personal Experiential Themes
6	Move on to the next case
7	Identify connections across all the cases and sample. Use the connected Personal Experiential Themes to develop Group Experiential Themes

These steps appear straightforward and linear, but the hermeneutic underpinnings of IPA must be clearly understood. The presence of linear routes through data analysis misses the hermeneutic phenomenological point of IPA, lacks rigour and credibility, and runs the risk of *appearing* as IPA rather than being IPA (Engward & Goldspink, 2020). Section 4.7 details how I am ensured reflexivity to maintain the hermeneutic underpinnings of IPA.

Analysis following these steps took around nine months, from the beginning of transcription for the first participant to the end of the process, identifying the connections across cases. I will now discuss the steps more in-depth and include figures for clarity.

Step One

This step began when I transcribed the first participant's interview. The thorough, by-ear reading of the data ensured I immersed myself in the data. When accuracy checking the transcription, I undertook the second reading of the data. Some interviews received a third reading if I was unsure of what was being said during the interview. To fully immerse myself in the lifeworld of the participant, I watched, read, or played any media that had been mentioned during the interviews (Edwards, 2016). I continued my reflexive journaling by writing possible biases of my own that may have arisen during this process. Video-gaming media was discussed, which will be explored in the Findings Chapter. I enjoy playing video games and so my initial thoughts and reactions had to be noted.

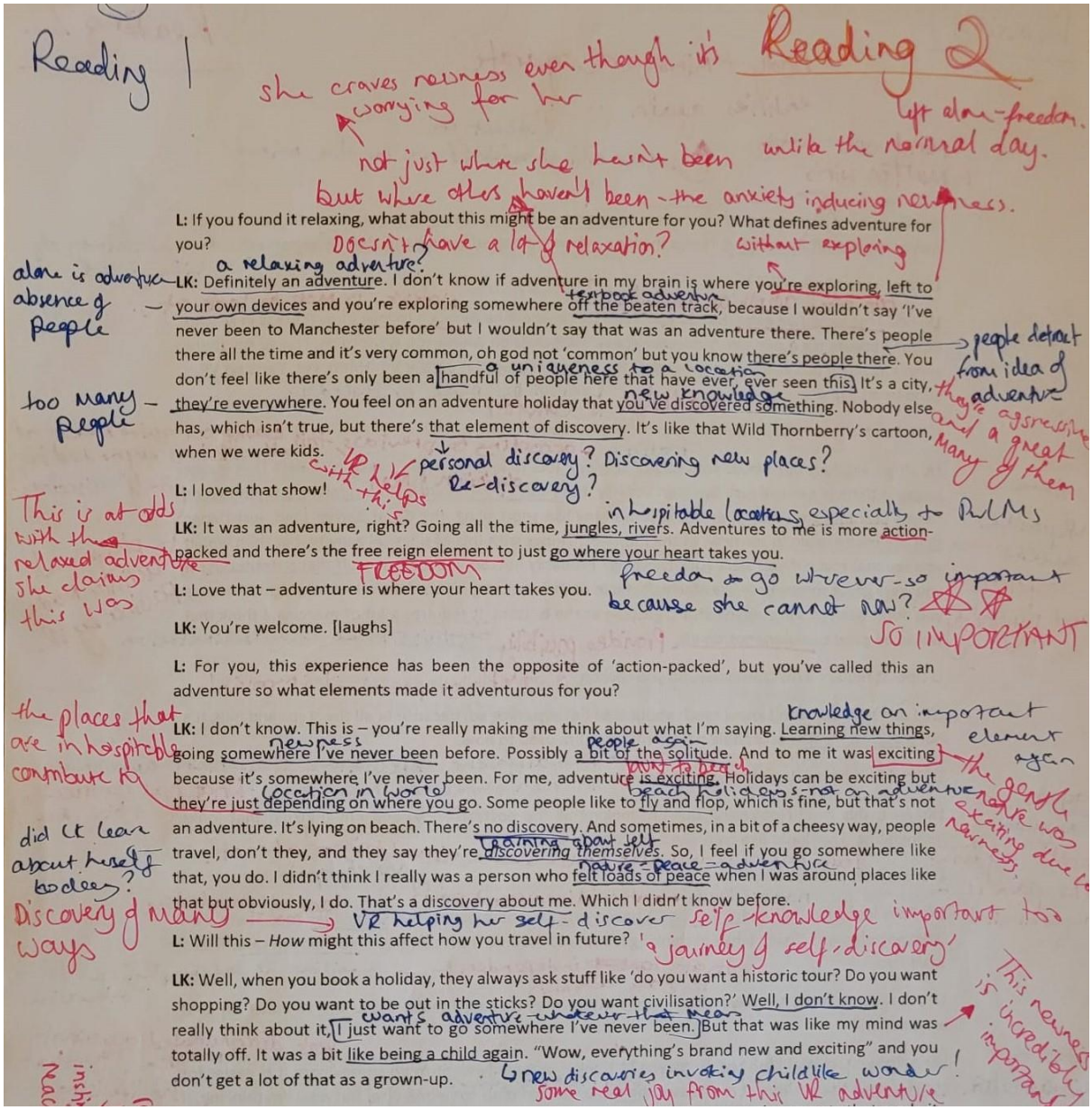
Step Two

This step involved an examination of semantic content and language use at an exploratory level. This is quite close to a free analysis. The aim is to produce a detailed set of notes and comments on the data through two readings. This offers a close analysis, rather than a superficial one that leads to commenting on expectations from the reading, rather than what is actually there (Smith et al., 2022).

Two readings provide this close analysis, with a break between readings. The first reading is the initial noting, a free exploration of the semantic content. I wrote this in one colour and made notes in the margins. The second reading, written in a separate colour for clarity, focuses more on the notes of the first reading. This adds depth to the analysis, diving deeper into the lifeworld of the participants (Charlick et al., 2019). Figure 14 provides an example of this stage of analysis.

Figure 17

Example of IPA Step two raw analysis of Leslie Knope

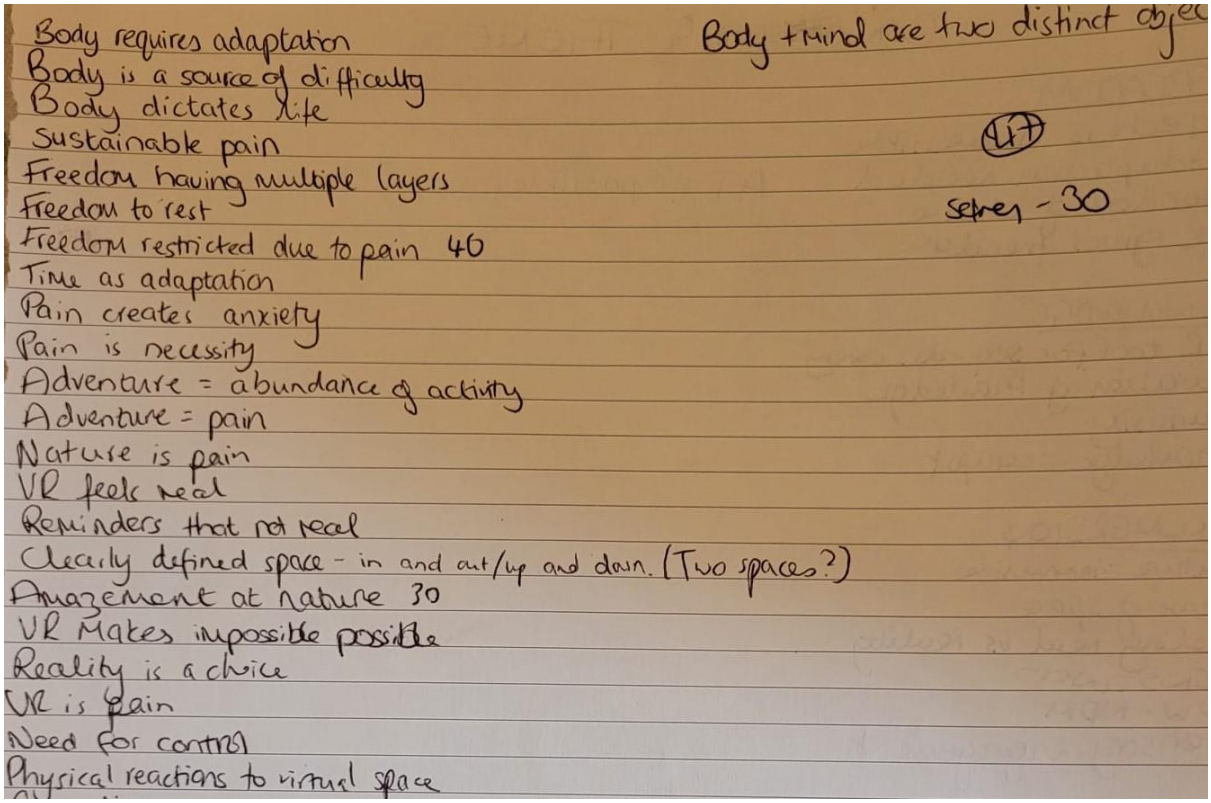


Step Three

Step Three focuses on the notes of the second reading of the transcript and identified emerging experiential statements (Smith & Nizza, 2022). It is a manifestation of the hermeneutic circle. The whole interview was broken down into parts and my interpretation of the data began. This became a collaborative effort between myself and the participants. Sometimes the experiential statements were full sentences to better understand the participants viewpoint. This way I could keep as close to participant voice as possible whilst more of myself became introduced to the analysis through interpretation. Figure 18 is a visual example of these experiential statements, from Leslie Knope again, whose third analytic stage ended with 47 experiential statements.

Figure 18

Example of raw analysis from IPA step three, for Leslie Knope



Step Four

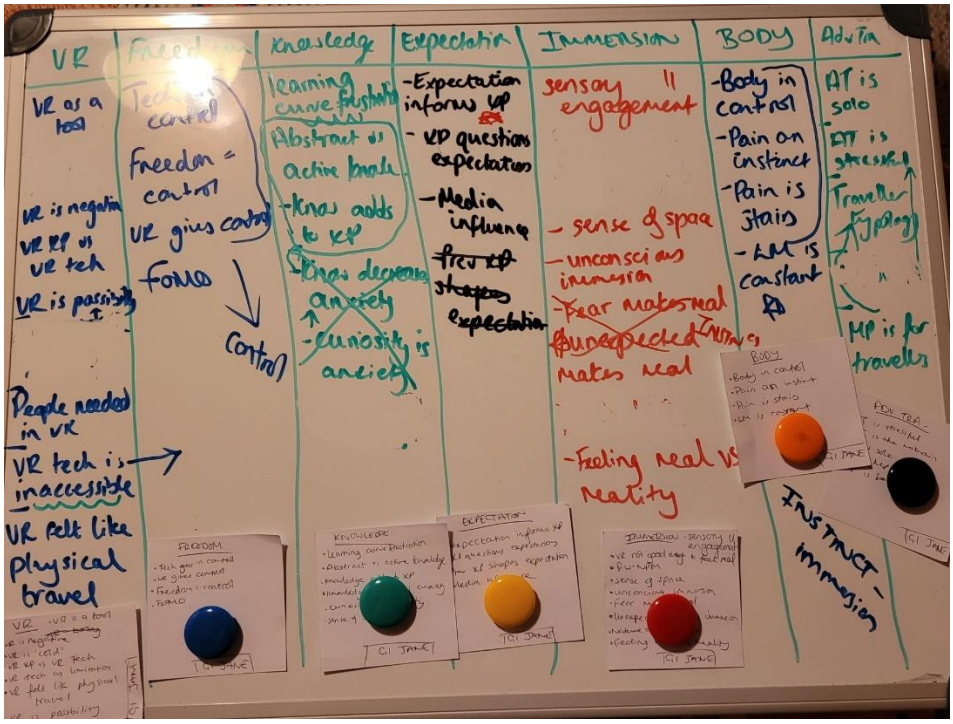
Step four is the stage where the experiential statements are mapped to see how they might fit together (Charlick et al., 2019). I looked for links between these statements, such as a similar words like ‘body’ or ‘pain’. Not all experiential statements were appropriate, as in they were only mentioned once or had no discernible links. However, I kept a note of them as I returned to some later, in light of further analytical stages. Moreover, every statement must be treated with equal importance. This was a stage that I did manually, using a white board and a lot of sticky notes.

Step Five

Step five requires the researcher to title the clusters of experiential statements to create Personal Experiential Themes (PETs). They become themes here because the titles are broader and no longer relate to specific instances as the statements do, but should encompass them (Smith et al., 2022). Some statements fit into more than one Personal Experiential Themes. To adhere to the phenomenological commitments of IPA, I returned to the transcription and the interview to ground myself in the participants’ lived experience to best understand where these statements fit or if they needed to be discarded (Smith & Nizza, 2022). Steps Three, Four and Five are iterative processes and may be returned to multiple times. Figure 19 is an example of how Steps Four and Five looked during the analytic process for GI Jane, using the whiteboard and sticky notes.

Figure 19

Example of raw analysis during IPA Steps Four and Five for GI Jane



Step Six and Seven

Steps One to Five fulfil the idiographic commitment of IPA, focusing on the individual participants. Steps Six and Seven move beyond this by making connections across the sample (Nizza et al., 2021). Step Six is to ensure that Steps One to Five are followed across all of the twelve cases. Step Seven is making connections to identify convergences and divergences across the sample. The more dominant convergences created the overarching, group themes. Connecting these themes is an iterative and dynamic process (Smith et al., 2022). Some dominant convergences in the first few cases became less dominant as more cases became connected. The results of this iterative process are displayed in Table 12.

Table 12

An overview of final Group Experiential Themes and their corresponding Personal Experiential Themes at the end of the seven stages of IPA analysis, across all twelve cases.

Group Experiential Themes	Personal Experiential Themes
Escapism	Feel like I'm somewhere else. In control for my body. Go where your heart takes you.
The Immersion Cycle	It was warm, you could see the breeze. Bigger on the inside… a whole new world. My belly went bleurgh.
In(accessibility)	I couldn't grab the camera; it wouldn't let me. Machu Picchu is for adventurers.

	It should give us the impossible.

To summarise, IPA analyses data using an inductive and iterative cycle, involving a close analysis of data and an identification of themes (Eatough & Smith, 2017). Smith et al, (2022) created a seven-step analysis process to ensure the data analysis adheres to the phenomenological commitments of IPA and it was these seven steps I followed. Steps One to Five adhere to the idiographic commitment of IPA by focusing data analysis on an individual case. Two readings of the data ensure close analysis in Steps One and Two (Charlick et al., 2019). Experiential statements are identified in Step Three and connections are made between them in Step Four. Step Five involves clustering consolidating experiential statements into Personal Experiential Themes. Steps Six and Seven move beyond the idiographic by ensuring Steps One to Five are done across the sample so that connections between all twelve cases can be identified (Smith & Nizza, 2022). This develops the Group Experiential Statements and converging Personal Experiential Statements shown in Table 12.

In the next section, I examine what defines good research quality in qualitative research and in IPA. I discuss the research quality frameworks used to guide research quality in this research project.

4.5 Research Quality

What defines good research quality and the criteria to reach this standard remains an evolving debate within qualitative research, including tourism research (Oviedo-Garcia, 2016; Liburd, 2012). In tourism research, there are few agreed upon characteristics for research quality. Liburd (2012) highlights metrics and peer-review as an indication of quality but critiques journal quality requirements as being inconsistent. Oviedo-Garcia (2013) attributes the interdisciplinary nature of tourism as to why there is no agreement for tourism research quality because a shared definition of rigour and quality is difficult to find. Outside of tourism, Creswell and Poth (2018) define characteristics of a more general, quality qualitative study that also highlight rigour, although they do not offer a definition. Rigour is a fluid concept that still being debated. Tracy (2010) suggests that rigour means the methods and the theoretical constructs used are appropriate to the overall goals of the study. Whereas Harley and Cornelissen (2022) align rigour with reflexivity and clear lines of reasoning.

The question of how to maintain research quality when there isn't a universally agreed upon standard is hard to answer. To try and respond to this, I have combined three research frameworks to ensure research quality. One has considerations and evaluation criteria for more general qualitative research (Tracy, 2010). One discusses phenomenological research quality more broadly (Cresswell & Poth, 2018). One focuses solely on research quality in IPA (Nizza et al., 2021). Although I have used this guidance holistically, the focus of research quality was on the four evaluation criteria of IPA by Nizza, Farr and Smith (2021). These criteria highlight data collection and analysis as the biggest consideration for research quality, due to the focus on the analytical process. The three research quality frameworks are outlined in Table 13.

Table 13

Research quality frameworks used to guide research quality in this research project.

Tracy, (2010) Eight "Big-Tent" evaluation criteria for qualitative research	**Cresswell & Poth (2018, p. 260) Five evaluation criteria for phenomenological research**	**Nizza, Farr & Smith (2021) Four evaluation criteria for achieving quality in IPA**
Rich rigour *Uses sufficient and appropriate theoretical constructs and methodologies*	Volume and depth of data *Uses procedures of data analysis that have a clear basis in phenomenology.*	Volume and depth of data *Close analytical reading of participants words and thorough analysis and interpretation of quote material.*
Credibility *Research is marked by member reflections, thick description, and concrete detail*	Credibility *Clear focus on participants experiences and communicates the essence of those experiences.*	Credibility *Clear focus on and communication of participants experiences.*
Sincerity *Research is reflexive and transparent about the methods and challenges*	Transparency *Conveys a clear understanding of and commitment to the philosophical tenets of phenomenology.*	Transparency *Constructs a narrative that is easy to follow back to the transcripts.*
Meaningful Coherence *Achieves what study aims, uses relevant and fitting methods, interconnects research questions and findings*	Coherence *Clear and concise articulation of phenomenon being studied.*	Coherence *Attends to convergences and divergences with idiographic depth and systematic comparison.*
Resonance *Research influences or affects readers*	Reflexivity *Embeds and highlights reflexivity across the study.*	
Worthy topic *Research is interesting, significant, or relevant*		
Significant Contribution *Methodologically, theoretically, or practically*		
Ethical *Demonstrates an ethical approach to research*		

Overall, research quality in qualitative research is hard to define, including in tourism research. To ensure research quality in this project, I have combined three research frameworks. There is one for general qualitative research (Tracy, 2010), one for phenomenological research quality (Cresswell & Poth, 2018), and one for IPA specifically (Nizza et al., 2021). Although all frameworks were used, the focus was on the evaluation criteria of IPA. Tracy (2010) highlights an ethical approach in their research quality framework and the next section discusses the ethical considerations taken in this research project.

4.6 Ethical Considerations

Ethics in research is a critical aspect to any research project (Saunders et al., 2019). It is not a passive endeavour and careful consideration is required. Universities provide ethical guidelines and good ethical practice requires commitment to these guidelines. Further commitment to continuous reflection on the researcher's own ethics and behaviour and to participants is required. There should be continuous and conscious thought about the impact of the researcher's actions upon the participants and how the research project itself might have an impact. There should be continuous research design adjustments (Bell et al., 2018). There are multiple ethical considerations to be thought through for ethical and responsible research, such as confidentiality, informed consent, avoidance of harm for both participants and researcher, and respect for others (Saunders et al., 2019). Discussing embodiment extends the considerations needed for ethical, responsible research further by including physicality, gender, and accessibility from the perspectives of both the researcher and the researched (Goodson & Phillimore, 2004).

Table 14 outlines the ethical considerations made for this research project, including any actions taken to ensure this research project continuously remained ethical and responsible.

Table 14

Ethical Considerations and actions taken.

Ethical Consideration	Actions Taken
Safety and Risk	For both mine and the participants safety, a risk assessment was conducted prior to both pilot and main study (Appendix A.5, B.6). Participants were allowed to choose their own safe and accessible space in which to have the experience and interview. For the safety of myself, these were public spaces with accessible meeting spaces, kept private in the interest of confidentiality. Understanding the chance of motion sickness, this was discussed in the Information Sheet (Appendix A.2, B.2) and participants understood that they could stop the virtual experience at any time. Creating this safe and accessible place means providing a safe, emotional space.
Informed Consent	Participants were provided with an Information Sheet, which fully explained the experience process and what will be involved if they agreed to take part (Appendix A.2, B.2). Prior to the experience, a consent form was provided for participants to read and sign (Appendix A.3, B.3) Ongoing verbal consent was sought throughout the experiences, especially during moments surrounding sensitive topics or when interviews were stopped for comfort breaks (Saunders et al., 2019). Final verbal consent was sought at the end of data collection, participants were fully debriefed and a debrief form was also provided (Appendix B.5).
Data Storage	All participants' data was stored and in accordance with the General Data Protection Regulations and the Data Protection Act of 2018. Data is stored on a private and encrypted external hard drive and kept away from cloud storage. Any postcards that were returned were stored on the same hard drive, unless returned in a physical form, where they are stored in a private and secure location with back-up pictures being kept on the external hard drive.

Confidentiality	Before the whole experience, participants were asked to think about and provide a pseudonym. Anonymisation of data took place during transcription, using these pseudonyms. Any identifiable features, such as children's names and locations, were removed or replaced. Any recordings of the virtual experience were muted at points to remove identifiable features.
Equality and Diversity	All participants were treated equitably and respected equally. There was no discrimination based on disability, gender, sexuality, race, culture, education, religion or religious background, or political background.

With these considerations in mind, I was granted approval by the Swansea University, School of Management Ethics Committee for the main study (Appendix B.1). I used the pilot study to make continuous adjustments and adhered to Swansea University's key ethical principles. These adjustments and ethical considerations were applied throughout the research project, from research design to the final submission, including for data preparation.

In summary, ethical, and responsible research requires careful consideration. It involves continuous commitment to ethical guidelines, to the researcher's own ethics and, to participants (Saunders et al., 2019). There are multiple ethical considerations and there should be continuous research design adjustments according to these (Bell et al., 2018). Discussing embodiment extends ethical considerations to include physicality, gender, and accessibility from the perspectives of both the researcher and the researched (Goodson & Phillimore, 2004). Furthermore, it requires constant reflection by a researcher. Reflexivity and my own reflections are discussed in the next section.

4.7 Reflexivity

Reflexivity is a crucial element to qualitative research but a constantly challenging one. It is about generating or contributing to knowledge whilst acknowledging our own subjectivity and the impact of that on our research (Berger, 2013). Reflexivity in qualitative research involves a set of practices that facilitates understandings and insights into the researcher's contexts, decisions, and interpretations and to what extent these may influence enquiry, by recognising that talk, action, self and others are interwoven (Gough, 2003; Cunliffe, 2021). Researchers are encouraged to explore their own biases, experiences, choices, and actions during the research process, and to make these and their impacts upon the research process explicit (Jacobson & Mustafa, 2019). By understanding and acknowledging the role and impact of the researcher reflexivity increases the credibility and trustworthiness of the findings by holding the researcher to account (Buckner, 2005). Finlay (2002) figuratively compares reflexivity both to a murky swamp, a confusing terrain of self-analysis, and to a cliff edge, where a researcher can fall into excessive self-analysis at the expense of participant voice. Therefore, reflexivity can result in confusion, finding clarity on these cliff edges or swamps requires a concerted effort to ensure that emphasis remains on the data.

For this section, I will highlight how I attempted to remain reflexive throughout this whole process, including the difficulties I encountered in the endeavour. I will reflect on how I maintained reflexivity

from the viewpoint of IPA, how this reflexivity interacts with my disabled positionality and my roles as a researcher.

4.7.1 Reflexivity in IPA

Reflexivity in IPA, as a hermeneutic methodology, is not a choice but an integrated feature of the research process (Engward & Goldspink, 2020). When Smith et al., (2022) assign the researcher as the central analytic instrument, they are tasking the researcher to uncover the dual meanings of phenomena from the participants and researchers' perspectives (Shaw, 2010). Therefore, the participants voices remain within the research because their experiences are resident in the researcher's interpretative work. In IPA, researchers interpret data through the lens of their own experience, but they do so in relation to the participants' lived experiences (Engward & Goldspink, 2020). The participants and the researchers are separate entities but share a space, which Engward and Goldspink (2020) liken to 'lodgers in the house'. Analysis is not a linear, transactional process, but is all encompassing and constant. 'Lodgers in the house' was coined to recognise this. One of the authors felt as if she was living with the world of her participants and that they were living with her, in this shared space of enquiry. She carried the words with her, meaningful in different ways, at different times, and usually when she wasn't engaged in a focused 'sitting down with the transcripts' type of analysis.

This reflects my own analytical process of IPA. I spent nine months (June 2022 – April 2023) living with the data, often drifting off to sleep before waking up to write down a sudden lightning bolt of analytic thought. Participants' words were carried with me in both a metaphorical and physical sense; I often carried my transcripts with me in a folder, engaging with the data at any moment I could, finding inspiration at odd moments. I found the hours and days of analysis needed to offer justice to the participants' data, although rewarding and insightful, frustrating, and exhausting, especially if I felt I had reached a hermeneutic dead-end. I would sometimes force myself to disengage with the data for a while in case I risked over-interpreting to battle this frustration. This frustration led to questions throughout the analytic process, including where my voice began and ended in the data, or why the data always being carried within me? To resolve these questions, I had to confront my own positionality as a disabled scholar.

Initially, I had sought to embrace the idea of bracketing, or phenomenological epoché. I feared the undue influence my disability experiences may have upon my research. However, Merleau-Ponty rejected the notion of bracketing (Smith et al., 2022). Our body-in-the-world is how we make sense of the world and our experiences therein. To separate this from research would be impossible, as my embodied experience is how I make sense of it. Understanding this led me to embrace my body and its influence instead. I began to understand that almost every choice I made through this research project, from the research proposal to the selection of embodied IPA, has been guided or impacted by my limited mobility. I understood that, although I can empathise with someone in a similar situation, their bodies will dictate their experience, and I will never share in their experience entirely (Smith et al., 2022).

Understanding this and reflexively living with data as 'lodgers in the house' was an often uncomfortable, constant, and time-consuming act. It was not confined to a single activity, or one time frame or part of the research process (Engward & Goldspink, 2020). The intensity of the required reflexivity also ebbed and flowed, with some reflections finding their way into the findings

whilst others were kept within the realms of the techniques being used to remain reflexive. One the recommendations for navigating this fraught constancy of reflexivity, is keeping a reflexive journal or diary (Engward & Goldspink, 2020; Malacrida, 2007; Smith, 1999). Throughout the processes of collecting data and analysing the data specifically, I kept and used a reflexive journal detailing my thought process throughout. This included reflections on these thoughts, reflections on the participants. This helped me work through ethical considerations and understand my own positionality (Meyer & Willis, 2019). Furthermore, I used the postcards seen throughout my thesis in Section 4.7.4. In the interest of research transparency and sincerity, I have included some of these journal reflections on the participants when I introduce them to you below, in Section 4.8. I found this to be useful reflexive tools, enabling me to keep my voice from entering too much into the analytic process and centring the participants voices within the data.

In the following section, I discuss my reflexivity regarding my disabled experiences, my researcher voice and positionality as a spectrum.

4.7.2 Reflexivity as a disabled scholar

My positionality as a disabled scholar cannot be ignored when trying to maintain reflexivity. Researcher stance is a constantly shifting spectrum, depending on where the researcher stands at a specific moment, time, or space (Bayeck, 2022). There are 'outside' stances, where someone is exploring an unknown environment to learn its characteristics. There are 'insider' stances, with similarities to participants or the area of research. These stances will affect studies in different ways (Finefter-Rosenbluh, 2017). Researchers can switch between stances throughout a research project, being an insider in relation to some participants and an outsider to others (Bayeck, 2022). As a disabled scholar, I could be considered within the 'insider' stance as this project discusses disabilities like my own. However, we have many personal identities and so I could be considered an outsider in relation to some of the participants (Lu & Hodge, 2019). Understanding our positionalities shape the entire research process (Berger, 2013). It begs the question; is reflexivity harder for me to maintain due to my disabled positionality?

To answer that question, the possible risks of having a similar disability to the participants need to be explored. The familiarity of my positionality, possibly reflected in the participants, runs a higher risk of blurring boundaries between researcher and researched. There is a possibility of imposing my own perceptions or assumptions on the research and ignoring participant voice (Drake, 2010). This is also true of the participants, who knew I was disabled. Those who were known to me already knew and those who didn't asked. I explained my disability and answered questions. However, they have had their own assumptions of my disabled experience, which meant they have withheld information they deemed obvious to me. They may have taken for granted certain aspects of the experience, thinking that I do the same (Daly, 1992). This led to reflection on how much of my own experience could or should be shared with participants. What could provide the space that would enable the participants to share all their experiences without the assumption that I would automatically know some of it. I found this judgement differed from participant to participant. A researcher researching disability from a similarly based disability perspective must have a very clear understanding of their own experiences and positionality. To not have that clarity may endanger the clarity of the participants voices, muted by the researcher's own self-involvement (Cloke et al., 2000).

Overall, reflexivity as an insider is something that required constant and deliberate effort throughout the entire research process. During the interviews this meant curbing the desire to compare experiences, to actively listen and hear what is said rather than ignoring content that might be potentially painful to myself (Berger, 2013). I continuously checked how I filtered what I heard through the lens of my own experiences through reflexive journalling to refrain from insinuation in interpretation. Most of all, reflexivity pushed me to confront my own experiences and my own feelings to gain that required clarity of self. This was a particularly bruising effort for someone still coming to terms with their own disability. Achieving reflexivity may be more difficult when taking the dynamic insider stance due to requiring a clear understanding of self, how to communicate this positionality to participants and how to avoid influencing them (Finefter-Rosenbluh, 2017).

However, this effort and understanding of what reflexivity as an insider means brought its own rewards. On a personal level, the clarity of self and personal identity brings a level of confidence to my research that affected my data collection and the whole doctoral journey. It also led me to view my subjectivity as a resource, despite the possible limitations.

4.7.3 Subjectivity as a resource

After rejecting bracketing as an untenable position, understanding my positionality and the influence of my body, I began to view my subjectivity as a resource. Identifying myself as a disabled person, through recruiting people in the pain clinics I attend or through email, greatly facilitated recruitment. Some participants stated they felt more comfortable with a disabled researcher, that I might be able to understand their experience. A few participants mentioned that previous research they had participated in, led by non-disabled researchers, felt exploitative. I got the sense that they were glad to be interviewed by someone in a similar situation. Going through a similar journey to the participants enabled me to build the initial rapport when meeting in the coffee shop (Ahmed et al., 2011). Sharing aspects of my own disabled experiences resonated with participants as it built trust and helped them to share parts of their journey I might not have otherwise heard.

I was able to approach the study with some insight, which allowed me to address certain topics more easily (Berger, 2013). I asked questions that I might not have if approaching this as a stranger to the experience, such as an exploration of the violence participants have encountered in tourism spaces. Participants made comments about feelings of being pushed along in queues and one participant had even been urinated on in a bathroom queue in a tourist space. These were often shared with me because they understood that I could and would share experiences of my own if asked. My insight also allowed me to listen to their stories with empathy and use my experiences to guide my judgement when responding to participants and their distress, which is discussed further in Section 4.7.6. These benefits to using my subjectivity as a resource outweighed the possible limitations of my role as an insider, although it did make maintaining reflexivity more difficult. I now turn discussion to the postcards I've written to help maintain reflexivity.

4.7.4 Postcards from the Edge

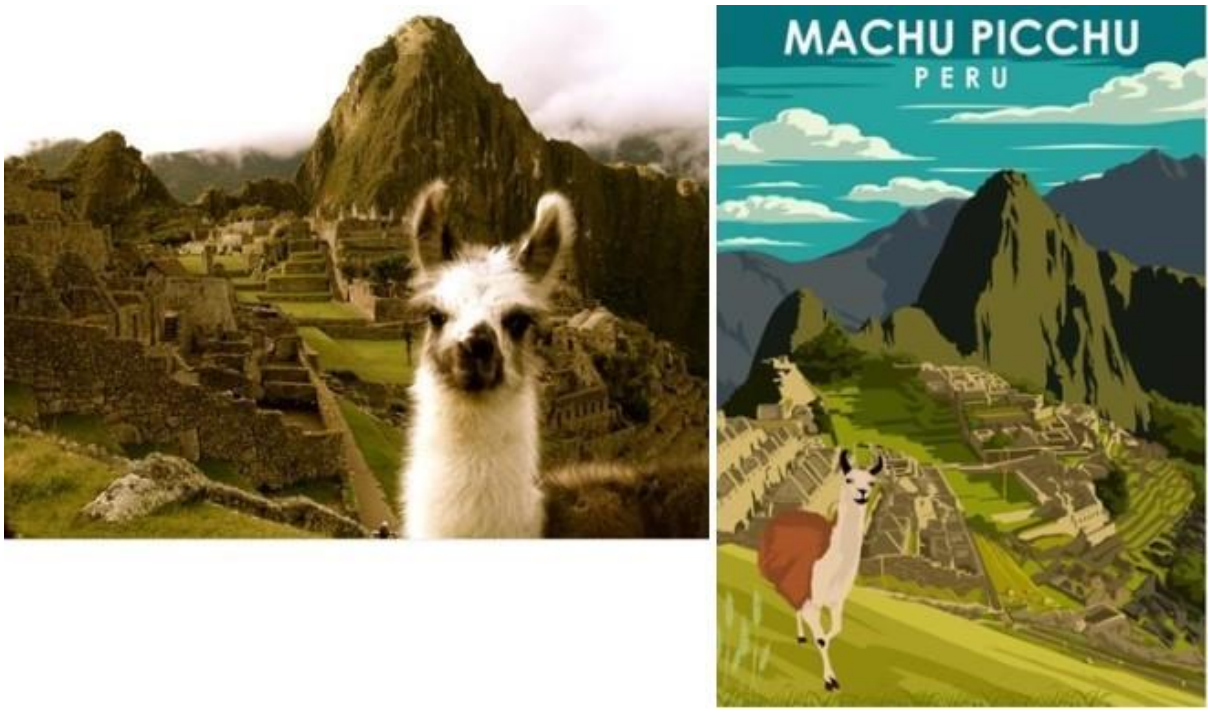
Although initially successful in the pilot study, very few postcards reflecting on the virtual experience were returned to me for the main study. The few that were returned were removed from

the analysis phase due to a lack of data. However, inspired by one of my supervisors, I maintained the practice of writing them and have done so throughout much of this doctoral journey. Throughout this document you will have read some of my postcard reflections, written at different checkpoints of this journey. I identified these checkpoints as I went, writing at whatever moment felt as if I was starting something new and then whatever moment I felt as if I was finishing something. They are my passport stamps between checkpoints, my first steps and my final moments.

Using postcards reflexively is not a new element of research, used in tourism research, pedagogy, or even archaeology (Alberton Gunn & King, 2015; Hitchcock, 1999; Pritchard & Morgan, 2003). Like journaling, they are a useful tool for creating distance between the data collection and analysis. Writing them enabled me to keep my voice from overtly mixing with the participants during these processes. Unlike the journal, the limited size of the postcards forced me to take a step back from the whole doctoral journey, or whatever stage I had identified at the time, and spend some time reflecting in a way that I could condense to the size of the postcard. The act of writing as if I was writing to someone else, as if there was a physical space between myself and my doctorate, created a metaphorical space as well. It allowed me to distance myself from the frustrations of analysis or to celebrate the ends of these self-identified stages as a completed step of a journey, a stamp in a passport. They were also an enjoyable element for me, as they were for my pilot study participants, and I will keep them as a permanent reminder of this doctoral journey. Figure 20 shows the postcards used for the participants and myself.

Figure 20

Postcards used by participants and me.



4.7.5 Researcher Roles

Finally, to ensure reflexivity is central in my research, the multiple roles of the researcher must be reflected upon. There are distinct complexities in the roles of the researcher, outside of

positionality. The set titles of researcher and researched is more complex than the binary suggests (Collins & Stockton, 2022). Throughout the process of data collection and analysis, I have performed many different roles, other than an insider role.

Overall, I have taken on the lone researcher role (Gregory, 2019). Although my supervisors acted as guides and formed an integral support system, roles such as data collection organiser, interviewer, analyst, or interpreter were undertaken solely by me. My research is dictated by my singular perspective, which made the monitoring of subjectivity more important. This singular perspective and interpreting from it impacts a research project at all stages of the doctoral journey and research process (Dowling, 2007), including the other roles undertaken.

During the experience, I took on the role of observer-as-participant. I was observing the experience and participating or collaborating with the participants (Saunders et al., 2019). Most participants required a technical guide to enable them to have the fullest experience that they could, as most had never used virtual reality before or only once. My impact on their experience, whether they found me a good technical guide or not, had to be considered. I was occasionally involved in the virtual experience as a social companion, someone who the participants could talk to during and about the virtual experience. Although this role happened rarely, trying to balance between offering them the socialness they sought and trying not to influence their experience, was difficult. It required extra care and reflexivity when I was transcribing and analysing those particular interviews. I undertook the role of an interviewer and gatherer of data, which was influenced by my role as an 'insider'.

Finally, there was a role that was unexpected to me, which was the role as a provider of comfort during moments of strong, negative emotion, such as distress or panic, with the participants. This led me to reflect on my own emotions, and the emotional fallout that occurred, alongside the reflections on my insider role.

4.7.6 Dealing with Emotional Fallout

Topics of a highly sensitive nature were uncovered and discussed during the interviews. This often created an emotional response in the participants and then to an emotional fallout that followed through the whole process. Emotional fallout meaning the consequences of the strong emotional responses, enduring or otherwise (Malacrida, 2007).

Some participants felt distressed using the VR, often relating to their disability. One participant experienced an acute phobia. Evoking such emotions is not necessarily a negative aspect in an interview (Rogers-Shaw, 2021). It provides a way to move beyond what could simply be a call-and-response interview, by alerting us to possible meanings and providing a more nuanced interpretative insight about what is meant by the participants (Holland, 2007). However, evoking emotions raises the importance of reflecting on the impact of doing so, both for the participants and for the researcher.

Participants reaction to their own emotions placed me in different roles regarding them. Some participants sought an offer of comfort from me, a warm drink whilst wanting to discuss their emotions with me without being recorded. Some simply wanted my silence as they vented. Some would seek my own experiences, bringing me into their experience, seeking a camaraderie or an understanding that they weren't alone in their experiences. I sometimes found it difficult to know which hat they wanted me to wear at the time. I occasionally wished I'd chosen a different one after

reflecting on the experience. This reflection helped with other participants at similar times. Ultimately, focusing on the emotion, allowing space to present it as the participants would like, enables the participant to feel appreciated, as if their emotions have value (deMarrais & Tisdale, 2002). This feeling of value encourages participants to share more, creates a bond and a sense of relief at being able to show these emotions. I was often thanked by participants for allowing them this space in the coffee shop to discuss these sensitive topics and express these feelings freely.

Alongside the participants' distress, came my own. The emotions of the participants affected me and stayed with me long after the fieldwork was complete, especially cases that featured trauma. Immediately after the end of a few interview experiences, I often felt emotionally exhausted. I used the reflexive journaling as a way of channelling or alleviating that exhaustion. Sometimes this would not be enough, and so I turned to my therapist, who I cannot thank or apologise to enough, to whom I passed on the emotional fallout. As an 'insider', aspects of participants' experiences resonated with me, both the negative and the positive. As I carried the traumatic events the participants shared with me, I found it cathartic to process these events and the associated emotions with my therapist.

Emotions are an integral part of experience. Researchers must understand the likelihood of strong emotions when traumatic subjects are being discussed and plan strategies that deal with this in an ethical way (deMarrais & Tisadale, 2002). The understanding of emotional fallout must be taken into consideration, during the ethical considerations as well.

4.8 Meet the Participants

This section introduces the participants and presents their disabilities in their own words. I included their self-descriptions of how they view themselves in relation to their disability and their descriptions of their disabilities.

I provide some of my own journal entries of the initial reflections from after the interviews. This research is positioned as ontologically relativist and epistemologically subjectivist. By allowing the participants to introduce themselves, I am reinforcing and acknowledging the multiple realities presented by them and what they deem important to those realities (Baghramian & Coliva, 2019).

Abigail Fifi

'Person with limited mobilities'

> I have chronic pain in my lower back! We're not sure where it's come from or how to deal with it but there it is. I can walk, I just choose not to a lot of the time because it's so damn painful. Oh God, I need a break. Oh, I can't wait until my mother moves back, it'll be a big help. I'm limited by what I can do now, in so many ways. Kids, pain… kids' pain, kids in pain. Those are the two things my life revolves around. My life's so stressful. I just want something out of the ordinary. I need a break, my ordinary's pretty grim. A life break. Feel like I'm somewhere else for a while. (Abigail Fifi).

Initial Reflections

Abigail FiFi was probably one of the most aggravating interviews I have ever done. It was not the woman, who was engaged and happy to talk. It was the child she had brought with her. Her son's childcare had fallen through, and she'd declined to rearrange, promising he wouldn't interfere. I went ahead with it because she said she wouldn't interview again, other than in this time window. Her son

interfered. Constantly. It was a huge source of frustration for me and, even though she disciplined him, he was very cheeky, upset at his mother's diverted attention. In the end, however, I was grateful for his presence. The frustration all around was an eye-opener for me. Abigail often expressed the idea of her son as a limitation. She loved him dearly, but he did restrict her as much as her LM did. Having him in the interview, I really understood what she meant.

Arya

'Depressed'.

> I have severe depression, which limits my ability to go out at all. I have severe anxiety and social anxiety. So, I don't leave the house much. Okay, I don't have a foot. But it's more mental that's actually stopping me from going out. (Arya)

Initial Reflections

Arya does not seem to find her lack of foot a problem. Due to complications with diabetes, Arya had, unfortunately, had to have her foot amputated but she doesn't count this as a limited mobility. It is merely an afterthought when discussing her real limited mobility, severe depression, and anxiety. This threw me, as this is something I would deem a disability or a limited mobility. It made me reflect on the personal nature of disability, the different ideas, and realities of it, and how it appears to others. It had never occurred to me that agoraphobia, which she has associated with her anxiety, would be considered a disability, rather than a fear. When asked why she left the house for the interview, it was the lure of Machu Pichu that had brought her here today. Machu Pichu has been a goal for as long as she's known about it, which is most of her life and she had been eager to experience it, even virtually. I'm not sure it gave her whatever she had been looking for.

Bilbo

'Disabled person'

> Ah, the difficulties of daily living. Got caught in a mortar attack in Bosnia a couple of years ago, still got metal in my knees, too embedded to remove without completely cutting the kneecap and muscle up. Can still occasionally use it in the summer. My other thigh is shredded. Couple of years- how long has it been? Thirty? Jesus, thirty years. (Bilbo)

Initial Reflections

Bilbo did not shy away from the details of the event that gave him his limited mobility. He spoke about it in a very matter-of-fact way, but I think my face gave something away, because he just shrugged, smiled, and carried on. This seemed to be Bilbo's way. He enjoyed the interview; he told me afterwards. He said it was nice to talk about things with someone other than his therapist about how his injuries had impacted him. After the stories he'd told me, I had to book an appointment with my own therapist. What stood out the most was his wheelchair. As someone incredibly technical, Bilbo had been frustrated by the lack of mobility aids doing exactly what he'd wanted, so he'd invented his own. His wheelchair wasn't electric, but he'd added hydraulics so that his chair could lift above the wheels and spin around. I had never seen anything like that, and he found my amazement rather amusing.

Cherry Blossoms

'Person with limited mobility'

> Well, okay, I fell, and I did something funny to my spine. I couldn't bend over at all. I couldn't stand up really. I was in limbo, couldn't do anything. Now, I can sit but I can't stand up straight. I eat my food kneeling on the floor sometimes because of the height of my sofas. I've had to move my bedroom downstairs because I can't really get up stairs anymore, well, it can take me about 20 minutes. It might heal, I have to move every day to improve my chances. I do think it's getting better. It's giving me sciatica on top of it. It goes all the way down to my heel, not just my back. Would this class as limited mobility? (Cherry Blossoms)

Initial Reflections

Cherry Blossoms was very excited about the whole process although it did have to be cut short due to her back problems. She was my last interview, which felt bittersweet. Relief that I had done them all but sad that a part of the journey I'd come to enjoy was over. I'm glad my last interview was with someone so engaged though. I found her to be an adventurous spirit, ready to go as far as she could before her body stopped her. Her excitement for the experience didn't come from the actual Machu Picchu experience, which I found interesting. Cherry's excitement for virtual reality as a concept stemmed from where VR could go, rather than where it was now. No doubt she was impressed by VR, having gone in with very low expectations as she told me, but she really was more concerned with the future of virtual reality. What could it give her in the future? What wasn't it giving now?

Duncan Biscuits

'The once and future disabled'

> I suffer from MS, or multiple sclerosis. Doesn't always happen but I'm sometimes too tired to walk, I carry crutches in case I need them although that's happening more often than not now, I'm a desk jockey. I used to be ground forces, Cavalry if you know what that means, but they made me desk logistics now. Not bitter or anything. (Duncan Biscuits)

Journal Afterward

Duncan Biscuits had been a rather sudden participant. He had heard about it from one of the other participants and wanted to know if I had was free two days from his email, because he was going back onto deployment soon. He was the only one of the participants remaining in service. He was determined that his MS would not take away one of the biggest parts of his identity, his army career. There was a resentment at his body that he touched upon but hid under humour. In fact, he avoided talking about it at all costs, often going off on tangents, jumping between topics of his own design. Part of me worries about how much of this was my fault as we both got excited over a video game that had recently come out. This was an enjoyable interview for me and a steep learning curve about how to navigate an interview with someone you liked but was ultimately chaotic. However, I found it interesting that he rejected the notion of being disabled or having limited mobility, despite not being able to move on occasion. He claimed that that was his future, and he didn't need to rush there yet.

GI Jane

'Disabled person'

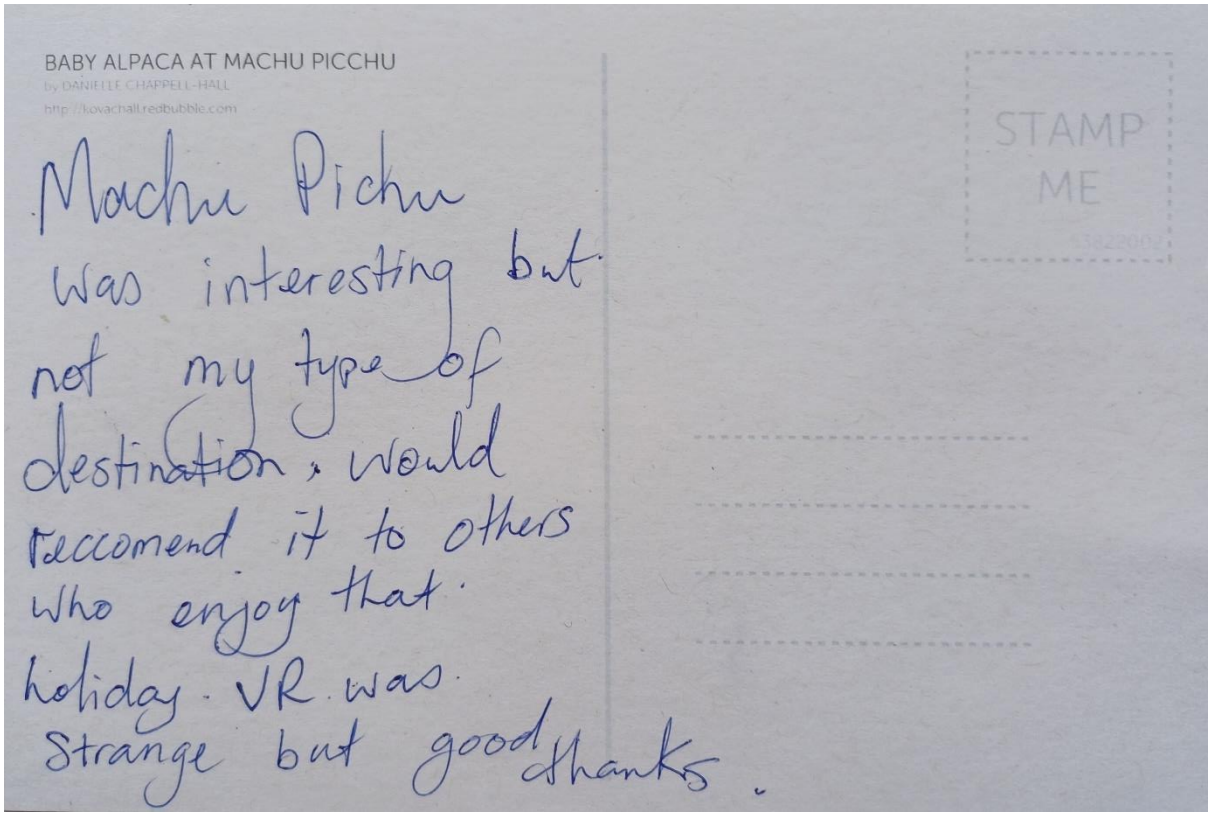
> The menopause got to me. It's given me pain in the knees, just all the time. You wait, being a woman is just the gift that keeps on giving. Do you want my other disabilities? I'm blind in one eye and deaf in one ear. (GI Jane)

Initial Reflections

GI Jane did not like the experience one bit. She'd signed up due to excitement over knowing studies like this would benefit her, or others like her, in the future and she was excited to be part of something. I actually found GI Jane quite combative and tried not to let it get to me. I couldn't understand it and struggled with controlling my own temper in response. Looking back, although I still get annoyed thinking about it, I feel better knowing that I can negotiate this in future. Occasionally she asked if I had to ask these questions, as if I was invading her privacy. I explained she didn't have to answer if she felt they were an invasion, but she answered after rolling her eyes. I'm still not sure what I'd done to offend her after her initial excitement or if her disappointment at the experience had tempered everything else.

Figure 21

GI Jane's postcard



Hicks

'Person with limited mobility'

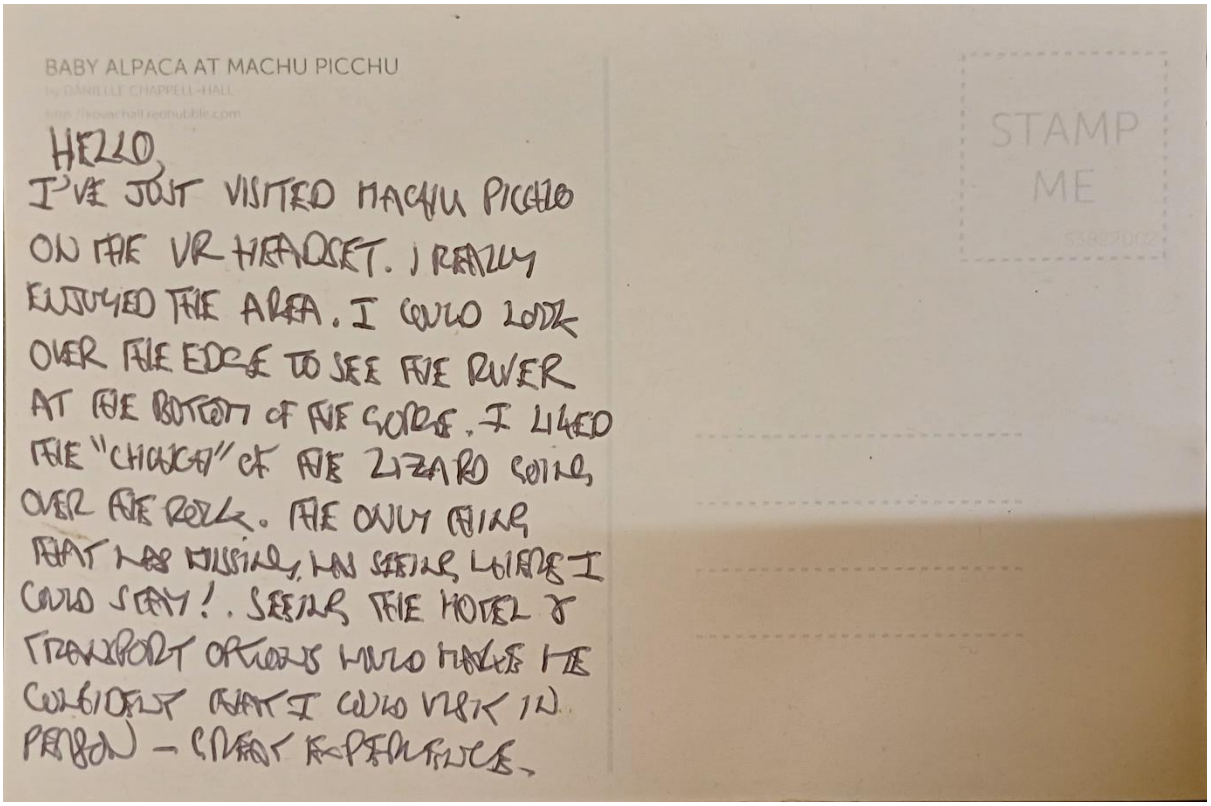
> Uh, having played rugby for many years as a youngster and then done a lot of flooring work, my knees are in a pretty poor state and I find walking up steep hills, lots of steps or for longer periods of time very difficult to cope with. (Hicks)

Initial Reflections

Hicks was quite eager to help and be interviewed. I'm not entirely sure it was to do with the VR or the experience at all. Hicks is retired, an ex-lecturer, an ex-plumber/builder/general handyman who lives in a smallholding which he maintains despite his knees. Hicks wears constant knee braces and must take regular breaks throughout his day to remain upright without pain, something that had been with him for a long time. I wondered if his eagerness to help might be the novelty factor of VR, something to do as someone bored with retirement where he could be sitting down. As I was grateful for his eagerness to talk, as he was my first interview, and I was scared I wouldn't be able to interview as long or as in-depth as needed. I did not have to worry. In the end, I left with the feeling that we'd both gotten something out of it, him something new and enjoyable, me with newfound confidence to interview.

Figure 22

Hicks' postcard



Jack

'Person with limited mobilities'

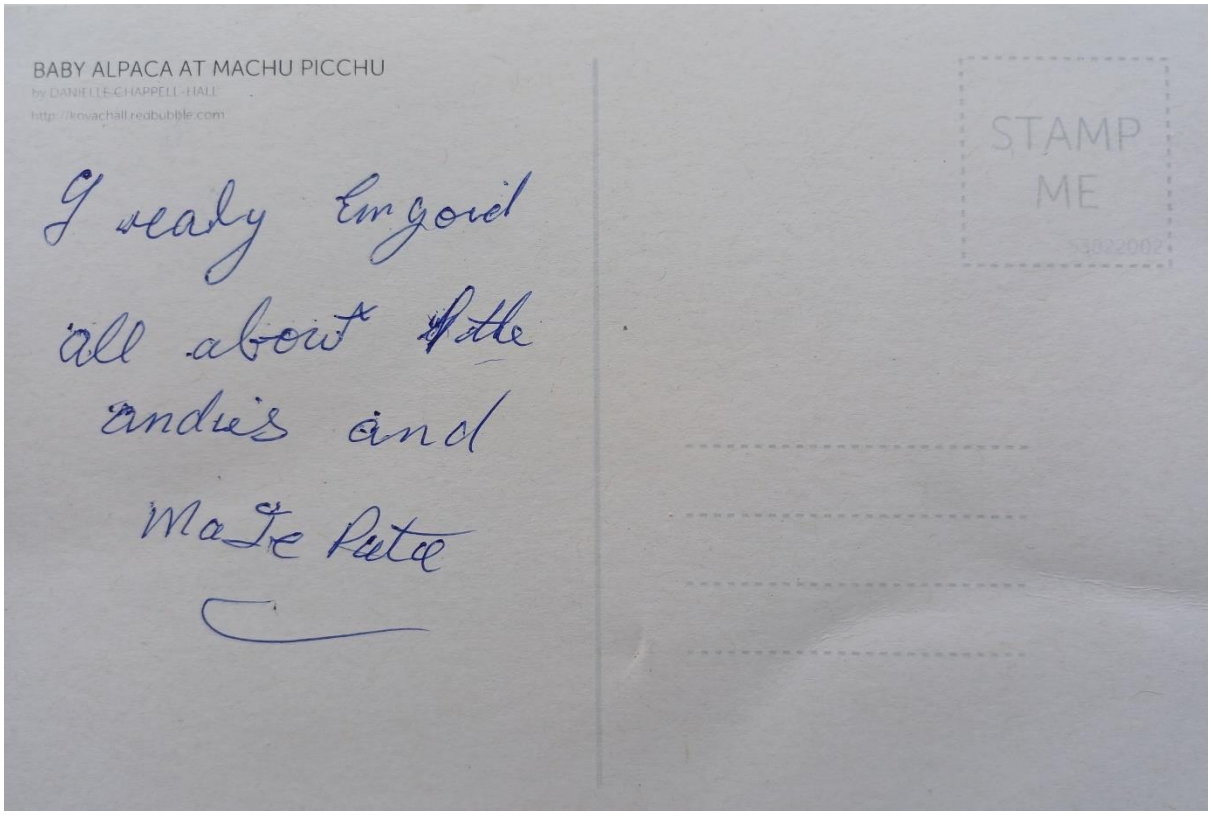
> Age mainly. As I'm getting older, I'm not moving like I used to. My bones are fragile, doctor calls it oesteo something. Osteonecrosis – the one where your bone dies off. That's it, that's it. Just hurts to move, my girl. (Jack)

Initial Reflections

There was something about Jack that made me emotional. I was shocked at the idea of getting emotional over someone I knew for so little a time. He was a small, old man, dwarfed by the armchair he'd picked for his experience. Standing too long on his 'fragile' bones was too much. But he was an impish man, young in many ways. He had this optimism about everything, especially VR. He said, "the world leaves me behind". The world has to go forward without him, and VR made this an exciting possibility rather than a depressing one. For me, it just made me cry. I only knew him for a few hours and the idea of the world moving forward without him was sobering. This interview gave me a fresh burst of love for this project, moving forward with him in some small way.

Figure 23

Jack's postcard



Jill

'Disabled person'

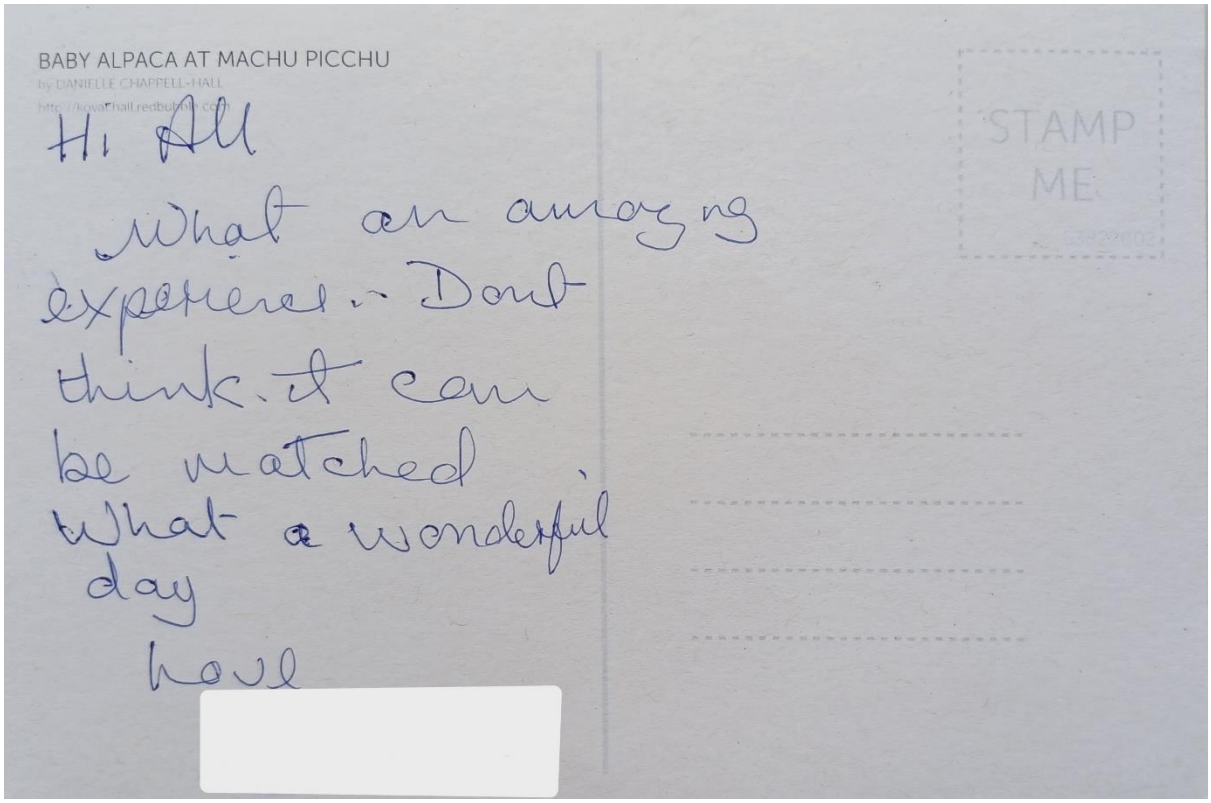
> The inconvenience of it is the worst to be honest with you. And the thing is, you don't know what it affects. You don't know whether you're going to have it in your knees or in your back or in your hands or your shoulders and it sort of travels all around. It's such an inconvenience, especially when it gets to your knees or your back because you can only do a certain amount of steps, sit and then a little bit more. (Jill)

Initial Reflections

Jill has a fear of heights, which came to the fore when entering at the virtual cliff edge of Machu Picchu. She had the most visceral reaction I have ever witnessed. It took all my strength not to actually cry with laughter. After she had screamed and begged for me to remove the headset, all rational thought abandoning her as her fear of heights overtook her, we had a little break before trying again. I used this time to go to the bathroom to burst out laughing. I felt incredibly guilty. She eventually enjoyed the experience although the interview was interesting. She kept trying to interview me back. I don't think this was intentional, but she was quite concerned she wasn't doing it correctly somehow. She kept hoping I'd give her the answers. She relaxed after a time, happy to lose herself in some memories, which often acted as her explanation for what she was saying as she really was eager to explain herself. Jill was quite self-conscious and embarrassed for a long time after her reaction to the programme and I couldn't think of anything to say to ease it for her.

Figure 24

Jill's postcard – real name removed for anonymity



Leslie Knope

'Person with limited mobility'

> Soooo, I have a hip impingement and it's really difficult for me to walk. I have a lot of pain in my groin, in my hip and sometimes in my back because your posture sort of goes off when you're trying to compensate for how much pain you're in? Sometimes it's difficult just to sit. I've been this way for four years in July. What else can I say? No, that's it. From marathons to not being unable to move without wanting to drown yourself. Wait, I'm not really that depressed, just dramatic, don't take that weird. Oh dear. (Leslie Knope)

Initial Reflections

Leslie Knope was a very pre-possessed young woman. She was softly spoken, methodical and reflective in her thoughts. I kind of want to be her when I grow up. Her limited mobility had come as a shock, and she was still adjusting to life with a disability. Even though she said improvements were on the horizon, a source of the pain might be found, a lack of understanding was of great frustration to her. The disability, and adjustment to it, affect her strongly, making it difficult for her to discuss. We had to take a break during the interview. I couldn't help but feel affected too. I am constantly frustrated in similar ways for similar reasons. I did wonder during our break if I was being exploitative, interviewing her for her pain, but she thanked me at the end for letting her do this.

Ron Swanson

''Upper-body abled, hop-along, vertically challenged'.

> A hop-along. I have one leg. Lost it in an explosion in the Army. (Ron Swanson)

Initial Reflections

Ron Swanson was a taciturn man. Everything he said was done so with great consideration and at first, he seemed reluctant to share anything. There were great periods of silence, which I found difficult to navigate. This was the first time I had encountered this. First, I would wait for a few minutes and then reword the question, just in case. It seemed as if he got offended by this idea that I didn't think he'd understood the question. Then I started letting the silences grow and, if I waited long enough, he would speak. At first it was one sentence answers until, as if a dam had broken, he would speak in long, long speeches, almost dumping his opinion on me. It was like he'd needed permission, had to reach an internal understanding that I would hear whatever he had to say. His career in the Forces has stayed with him in more ways than one and I wondered if this was one of them.

Sasi

'Disabled person'

> I'm in so much pain I can't hold myself upright. I don't want to talk about it. (Sasi)

Initial Reflections

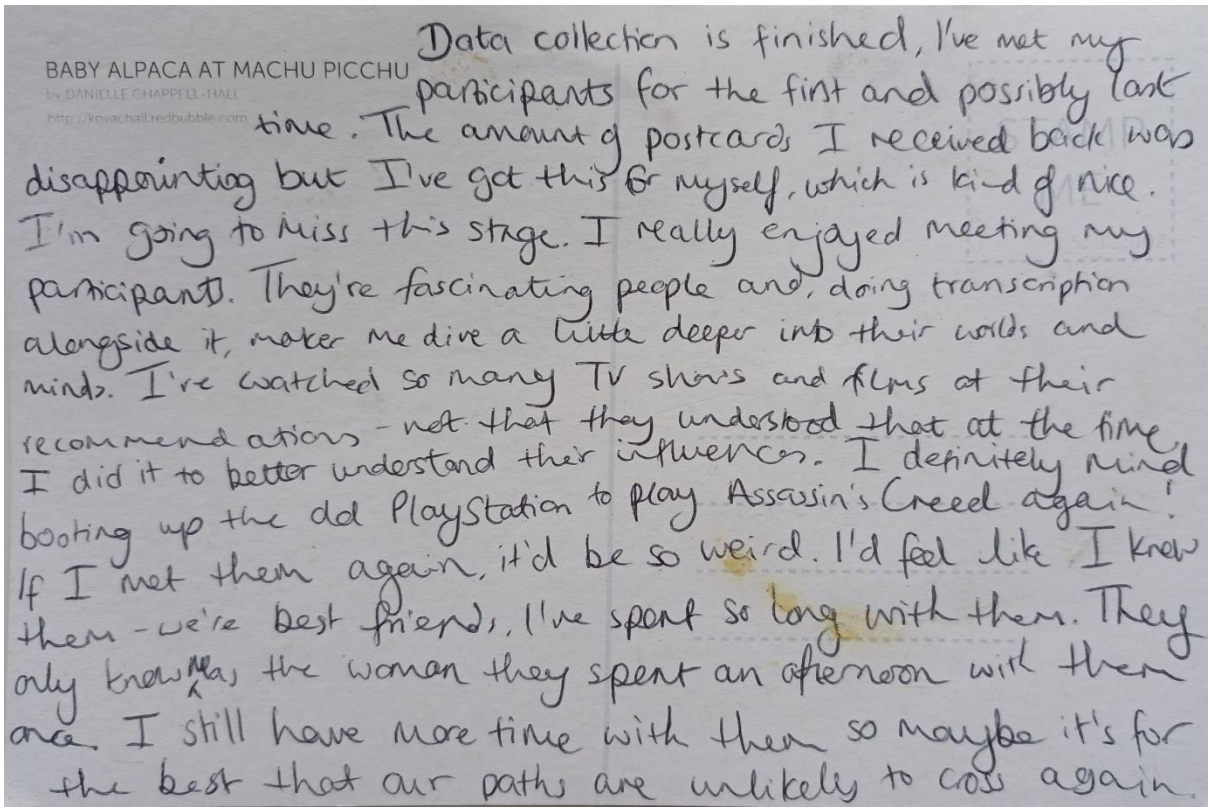
Sasi didn't talk much. I felt it was a struggle trying to get her engaged in the process. I wondered, almost aloud, why she had even agreed to the process. I think the idea of trying virtual reality without having to buy it lured her in. The interview was really trying, though. It was like trying to pull blood from a stone. However, what I did get, her reality and how she felt about it, was simultaneously interesting to me, but not something that she felt happy about, which then made me feel guilty. I left this interview feeling very frustrated in a bizarre mix of frustration for her, with her and about her. Because of this, I think Sasi might stay with me the longest but I'm looking forward to diving back into the data. Maybe there's something there I didn't see while I was in it.

4.9 Chapter Summary

The aim of this chapter was to present my choice of methodology and research methods. I answered the questions how to use VR methodologically whilst using IPA in Sections 4.2 to 4.3.1. I detailed the fieldwork stages of my research, including the pilot study and the main study. Then, I discussed the broader challenges of qualitative research, such as ethical considerations and research quality. Following this, I explored reflexivity and how I maintained it during my data collection and analysis, taking my positionality into account. I reflected on my researcher roles and managing emotional fallout. In the final section I introduced the twelve participants that took part in this study in Table 10 and Section 4.8. I included their disabilities in their own words and my reflexive journal entries from meeting them. The next chapter, Chapter Five: Findings, presents my research findings. These are presented as three overarching Group Experiential Themes, each comprising of three Personal Experiential Themes. The themes are summarised of in Table 12 in the following chapter before being discussed in detail.

Figure 25

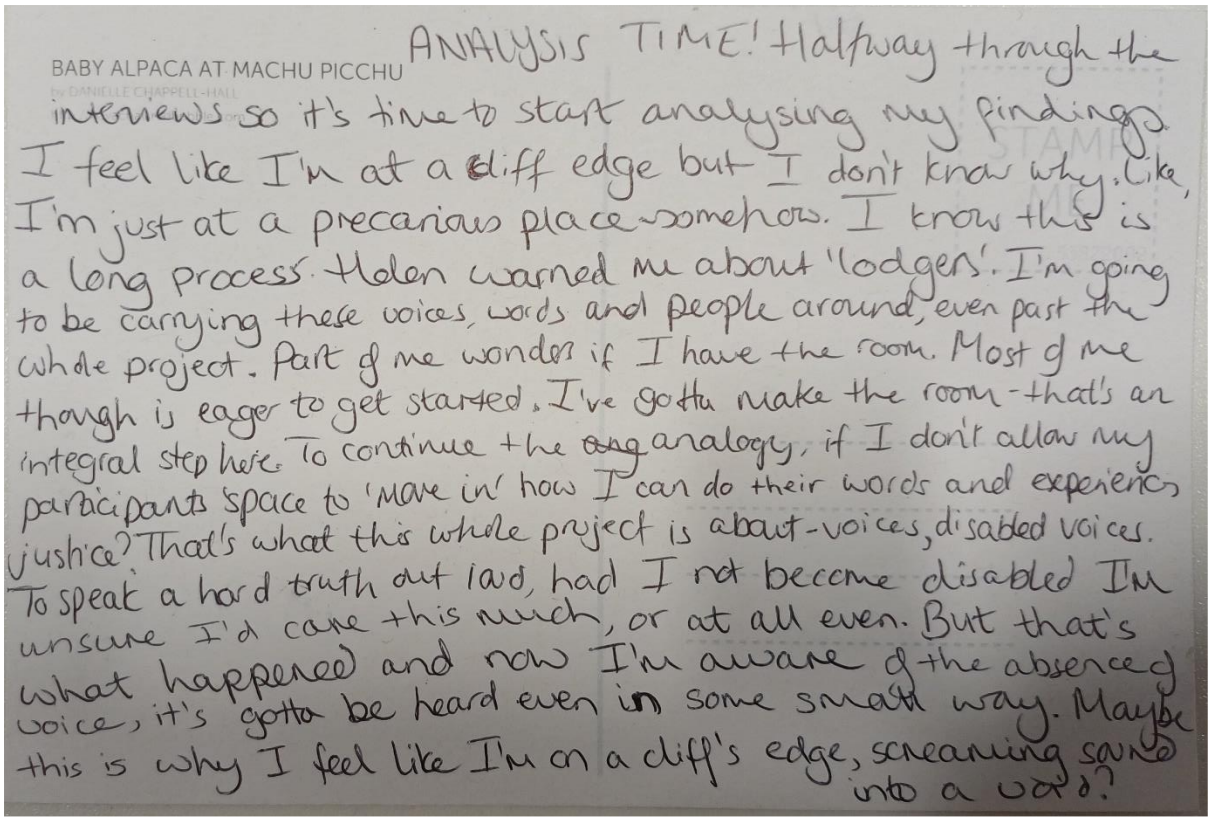
Personal postcard from the end of the Methodology journey



Chapter Five: Findings

Figure 26:

Personal postcard for the beginning of the Findings journey



5.1 Introduction

These findings are separated into three overarching group experiential themes that I believe capture the experiences of disabled people using VR to access a virtual Machu Picchu. In doing so, I explore my research questions:

1. How do people with limited mobilities experience adventure tourism in virtual reality?
    a) What contributes to the overall experience?
    b) What are the barriers to experiencing virtual reality adventure tourism?

Each theme consists of three personal experiential themes (PET), generated from the analysis of each individual transcript (Table 13). The first group experiential theme, *Escapism*, identifies motivations for using VR and how this was impacted by both internal and external factors. The need for escapism was identified as an integral part of the experience and I explore how the participants' views of their bodies influenced this need. I explore why VR was linked to this notion and how it enabled or inhibited this need.

With the second group experiential theme, *The Immersion Cycle,* I focus on the virtual experience itself and the PET explores the feelings of presence and immersion participants felt within that experience. Findings demonstrated how influential the body was on this feeling, including sensory engagement and bodily instincts, in a constantly interrupted and restarted cycle.

The final group experiential theme, *(In)accessibility,* closely examines the ways in which VR inhibited the need to escape or created barriers of use. Accessibility presented differently for all participants, but most found VR inaccessible. This section explores these different aspects of inaccessibility.

Table 13

Overview of the final group experiential themes and corresponding personal experiential themes

Group Experiential Themes	Personal Experiential Themes
Escapism	Feel like I'm somewhere else. In control for my body Go where your heart takes you
The Immersion Cycle	it was warm, you could see the breeze. bigger on the inside… a whole new world My belly went bluergh
Limitations	I couldn't grab the camera; it wouldn't let me. Machu Picchu is for adventurers. It should give us the impossible

5.2 Group Experiential Theme One: Escapism

A common thread that wound around the participants' narratives was escapism. There was a need to escape from their lives or their responsibilities like children. This did not mean total escape, but simply meant a brief break from their lives. For most, the need to escape stemmed from their bodies and the complexities their bodies create in their lives. Virtual reality was commonly seen as a tool that would allow them to fulfil this need.

The following PETs aim to explore this need to escape, where it might come from and how virtual reality can represent that need or fulfil it. The titles come from quotes by the participants, who are better placed to give voice to their own stories.

The first PET, *Feel like I'm somewhere else,* begins to explore the need to escape and the origins of this need. It discusses how VR relates to this need to escape, as the participants repeatedly paired the two together.

The body's role in the need to escape is examined in the second PET, *In control for my body.* A need for control over the body and other aspects of life was a converging thread. However, this was discussed in two ways; one where a loss of control meant escape or where total control meant escape.

The final PET of this section is *Go where your heart takes you*. This is a culmination of the two previous PETs, in that it shows how VR begins to enable this escape from their bodies and circumstances or how, in some cases, it does the opposite.

5.2.1 Personal Experiential Theme One: Feel like I'm somewhere else.

This PET begins to capture how participants felt a need to escape from their lives. Virtual reality was expected to be a tool that would fulfil this need. This idea was often supported or influenced by their visual media consumption, like films and video games. The film Ready, Player One (Spielberg, 2018) appeared, as well as Star Trek the TV series, and were discussed alongside this feeling of needing to escape. Although most of the participants felt some need to escape, it was seen most strongly in Abigail Fifi. Abigail is the author of this PET's heading. Abigail is a stay-at-home mother and university student who is unable to work due to her chronic pain. She finds that the everyday aspects of her life are grim, which she began to discuss in the pre-interview, before the virtual experience had begun:

> Oh God, I need a break. Oh, I can't wait until my mother moves back, it'll be a big help. I'm limited by what I can do now, in so many ways. Kids, pain… kids' pain, kids in pain. Those are the two things my life revolves around. My life's so stressful. I just want something out of the ordinary. I need a break, my ordinary's pretty grim. A life break. Feel like I'm somewhere else for a while. (Abigail Fifi)

Abigail feels as if she needs an escape from her every day. She repeatedly mentions that she needs a break from her life, as it only consists of two things: her pain and her child. The adjective '*grim*' highlights a strong, negative outlook that she has on her own life. It means 'unrelentingly harsh' or 'depressing' and there are no positive connotations. This could relate to her limited mobility. However, she frequently mentions her son as a limitation throughout. Ultimately, Abigail wants to *'feel like [she's] somewhere else'*, which implies Abigail wants to be in an entirely different non-virtual location. Her mundane, everyday responsibilities and circumstances, as well as her non-virtual surroundings, are what make her life harsh. This may be why she connects with the film, Ready, Player One (Spielberg, 2018):

> Have you seen Ready, Player One? It'll be like that. The world has gone to shit because everyone's lost in a different world. I think that might happen anyway, only like the other way round. Everyone's stuck in a different world because the world's gone to shit. Seems more likely. (Abigail Fifi)

Ready, Player One is set in a dystopian future in 2045 (Spielberg, 2018). VR has animated, immersive surroundings that have a strong relation to non-virtual surroundings. They are worlds within worlds, limitless in scope and versatile in look. There are limitless types of environments available. VR in this film is used primarily as a tool to escape the dystopian non-virtual life. As Abigail previously described her life as 'grim', she could connect with the film by feeling that her life has *'gone to shit*' in a similar way. Her current reality is the dystopian future of the film, so if virtual reality is used to escape this world, then using VR to escape *her* world should be a possibility. This emotional connection with the film creates an expectation on the types of surroundings she might experience within this VR. These are the types of surroundings that she wishes to escape into and *are* a possibility, which disappoint when this need to escape is not fulfilled this way:

> Love that movie and right, yeah, I kinda knew we weren't at the level of tech yet, but for people to kind of imagine it so really, I figured the tech was at least part of the way there. (Abigail Fifi)

The technology of Ready, Player One (Spielberg, 2018) is different from the Meta Quest 2 used for my project. The film's headset is lightweight and completely handsfree, needing only glove-like controllers, which ensure total freedom of movement. VR should be a tool by which Abigail can escape her everyday, in the same way that has been shown in the film. However, if the technology of the film does not match the technology outside of the film, then this need cannot be fulfilled in the way Abigail expects, despite understanding '*we weren't at the level of tech yet'*. Acknowledging the future technology's lack of existence did not negate the disappointment felt over its lack, due to this expectation that it was '*part of the way there*'. Her use of 'at least' here suggests that the technology isn't even part of the way there. 'Least' is the superlative of less, the very bottom amount. Abigail does not consider the technology any of the way there. If the destination, or 'the way there', is this type of technology, then the Meta Quest 2 hasn't even begun that journey. Discussing the technology includes the quality and immersive nature of the surroundings that Abigail would like to escape into. The Meta Quest 2 being different from the headset of the film means it cannot match the immersive surroundings that would enable Abigail to '*feel like [she's] somewhere else'*. The audio-visual setting is the way of creating and understanding the virtual world so if this is unfulfilled it leaves her unable to escape her non-virtual world.

The urge to escape her own ordinary appeared with Sasi as well, who also connected it with Ready, Player One (Spielberg, 2018). Sasi is a stay-at-home mother who would often return to the idea of escape throughout the interview. When discussing her life and routine with her family Sasi said, "I have the same worries. What do I feed my kids, my partner, when they come back? I clean the house. I go to school and home again. It's just so... small, I dunno". *'Small*' here could mean confining. By describing her routine as small, Sasi is highlighting how important space, like the beach or her limited routine, is to her. Indeed, when asked during the pre-interview what adventure meant to her, Sasi said it was a trip to the local beach or a beach holiday. This was due to the landscape's expansive nature, "The beach goes on forever; you can see for miles". The word '*forever*' here highlights what Sasi is most drawn to, a seemingly infinite horizon that allows her to see far away. It further highlights how important space is to Sasi, which implies it is not something she is able to access. It is an idea she repeatedly referred to, like describing her life and routine as '*small'*. For the local beach to be her idea of a holiday, means it is not her ordinary and it is an escape from her limited surroundings. Sasi connected the surroundings, or the environments seen in Ready, Player One (Spielberg, 2018) to being able to use VR to escape into them:

> I've seen Ready, Player One, I just thought it might have something to do with that type of surrounding, you know what I mean? Do they have those funny little suits in real life or those big virtual reality chairs? (Sasi)

By focusing on the limitless '*type of surrounding*' that is in the film, Sasi highlights this as an important aspect of VR. She could have recreated the feeling of escapism that she gets from being at the beach without having to go to the non-virtual beach. However, these types of surroundings did not appear for Sasi, who *'thought it might have something*' akin to the film. Using 'thought' in the past tense suggests that she no longer thinks that. This Machu Pichu experience was so different to what she thought she would see due to the film's influence that she has disconnected Ready, Player One (Spielberg, 2018) from her idea of VR. This means she no longer connects VR with a solution to her wish to escape. Her use of *'in real life'* shows that Sasi understands the surroundings that she is interested in do not yet exist outside of the film. However, that she is asking this, querying the film

technology's, the suits and chairs, existence, implies that she is hopeful that it does. They are another tool, addendum to virtual reality, that she can use to escape her 'real life'. However, their lack of existence disappoints Sasi as it bars her from being able to escape.

Virtual surroundings and the urge to escape into them appears for Arya within her account. Arya has lost a foot due to her diabetes but perceives her severe depression, social anxiety, and agoraphobia as her limited mobilities. This keeps her inside her home for much of the time. As with Abigail and Sasi, she views virtual reality as a tool to help her leave her home, something she finds difficult without assistance. However, she relates it more to the media of Star Trek: The Next Generation. Like Ready, Player One (Spielberg, 2018), Star Trek: The Next Generation (Roddenberry et al., 1987 – 1994) showcases a limitless and versatile idea of virtual reality:

> "Have you seen Star Trek? No, you're probably too young for that. They have this thing called a Holodeck. I knew it wouldn't be that, but I don't know, that's the future of it. That's the end game. TNG, my comfort show… It'll make it as real as possible. The visuals are almost there but you haven't got the sense of smell and everything like that. I don't know how we would do that in VR, I really don't." (Arya)

The Holodeck is a virtual reality room that engages every sense, including tactile interaction, and is incredibly immersive (Rumsey & Dantec, 2023). The Holodeck is used in the show as both entertainment and escape from stress for the characters. This is how Arya understands virtual reality and its uses, to fulfil her wish to escape. Arya has an almost emotional connection to the idea of a Holodeck, which she repeatedly returned to, and to the show itself, throughout the interview. It is a source of comfort to her; she describes it as a '*comfort show*', something she might require due to the depression and anxiety she often struggles with. She escapes into the show when she needs comfort, 'comfort' here meaning to be physically at ease and free from constraints and pain. When the Holodeck is used for similar reasons as Arya might watch the show, for entertainment and escapism, this idea then extends over to VR. It is a possibility for a more immersive escape, with Arya going on to include ideas on what would be required to make it more immersive. By highlighting these missing aspects, however, Arya shows how she is unable to fully escape into VR.

Duncan Biscuits is one of the only participants who engages with virtual reality on a regular basis. He appears to do so to fulfil a need to escape. For Duncan, it is a need to escape backwards, into his past, before his limited mobility of multiple sclerosis started to influence his life. Duncan had been a member of what he called the Cavalry in the army. Recently, however, he was forced to move to a less action-based role due to his limited mobility. There are aspects of the job that he misses and uses a VR headset to reclaim:

> Bit of an addict. Yeah, there's gotta be that adrenaline. I like the adrenaline of a firefight, in game or not. Used to get it, now I don't. Bullshit, right? But I did Resident Evil in PlayStationVR. I don't know which one, the one where your missus goes missing. Proper scary, truly terrifying. First time, I put it on in the house on my own. Lasted ten minutes. Needed to go to the pub afterwards. (Duncan Biscuits)

Duncan is a self-confessed adrenaline junkie. He calls himself an *'addict'*, suggesting that adrenaline is not so much a want, but a need. He links it to his previous job as a Cavalry member. This is something he often returned to throughout the interview after first mentioning it in the pre-interview. By using the word '*firefight*', he is showing the job to be high-octane, deadly, and violent. This is what gives him the adrenaline rush he craves as an addict. It is something that has been

forcibly taken away from him. His use of swearing implying there is resentment or a high level of frustration to this. Duncan uses other avenues to secure his adrenaline fix, as a way of escaping back to a time when he regularly received it from his job. Other avenues include his entertainment and his PlayStation VR. This is the context in which he places virtual reality. By discussing his previous experiences on the PlayStation VR straight after describing his need for adrenaline, Duncan links the two together. This type of entertainment is what gives him the adrenaline rush that allows him to recapture his past. He seems to do this by creating an extreme feeling of fear, highlighting how *'proper scary, truly terrifying'* it is. This is something Duncan enjoyed. He uses the term *'first time*', implying that he has done this repeatedly since. It is successful in allowing him to escape backwards.

Finally, Leslie Knope outright stated a need for escape. She extended it outwards from herself, into an idea applicable to everybody. Leslie suffers from chronic pain, which began four years ago. This is something she still says she is processing. This is what she wished to escape from, and she trusts virtual reality to help her. Leslie illustrated this idea by linking it with a television show, as Arya had done:

> Everyone needs that bit of escape from life. You need an escape, you need new, no matter what you're doing… Have you seen that show on Netflix? Kiss Me First? It's about a multiplayer game on VR, looks little bit like this – a murder mystery show, they use VR to kill people. Although, not on the inside. More realistic here. I can see what they mean. (Leslie Knope)

Even though there were beats of silence between '*no matter what you're doing*' and '*Have you seen that show…'* Leslie appears to be linking these two together. Kiss Me First (Eisley & Stokes, 2018) is a show on Netflix that, although dark in theme, emphasises the use of virtual reality as an escape. This could be why Leslie links them together. She highlights the Machu Picchu experience as being more '*realistic'*. The show's version of virtual reality is intentionally heavily animated and not so relational to the non-virtual environment to emphasise the darker, grimmer non-virtual surroundings. This contrast might be something Leslie is feeling in her everyday life. She admits to struggling in her everyday due to her limited mobility, which is something she is still processing. Thus, her non-virtual life may feel darker, where her own VR experience felt like a more '*realistic'* escape, reflecting the portrayal in Kiss Me First (Eisley & Stokes, 2018). By saying, *'I can see what they mean'*, Leslie is implying that she understands virtual reality as an overarching concept rather than something to be accurately portrayed in media. She is distancing virtual reality from what she's seen and turning it into something more conceptual. This concept matches her own Machu Picchu experience. This is something she confirmed when asked if it matched expectations, "*This was an escape, definitely an escape."*

To summarise, this Personal Experiential Theme examines how the participants often felt like they wanted to be somewhere else and how VR related to that feeling. The participants linked the idea of virtual reality being used as a tool to fulfil this need for escapism due to the media they consumed. All the media they related to virtual reality, Ready, Player One (Spielberg, 2018), Star Trek: The Next Generation (Roddenberry et al., 1987 – 1994), Kiss Me First (Eisley & Stokes, 2018) or PlayStation VR, displayed virtual reality as a tool for escapism, fostering this link. It is often why the need to escape was discussed using those medias to illustrate this need.

In the next PET, *in control for my body*, the possible reasons behind this need to escape is discussed, with bodily circumstances being the focus.

5.2.2 Personal Experiential Theme Two: In control for my body.

Multiple participants felt a need to escape their lives and from their disabilities. The need to be always in control of their bodies and lives because of their disabilities was frequently brought up in discussion. For some, being in total control of everything ensured a feeling of freedom; freedom from their bodies or freedom to leave it behind. For others, a loss of control over their bodies and surroundings offered this freedom. Leslie fell into this latter category, who felt that virtual reality was a way of escaping her own bodily circumstances. Although she stopped the Machu Pichu experience after twenty minutes due to chronic pain, Leslie still connected with the idea of virtual reality helping her to give up control:

> I need to have a lot of control over things because otherwise, like we said getting coffee before, unless I know how I'm getting somewhere, what we're going to do there, how it's going to impact me, there's a lot of anxiety around the unknown. In there, you don't have to think about any of the pain or the people, it's like 'yeah, I'll do whatever, I'll go with the flow' which I don't do very much of anymore. (Leslie Knope)

Leslie wished to disconnect or escape from her body due to the pain she experiences, which still feels new to her. She didn't have to '*think about any of the pain'*, until she was forced to. Her body, in this constancy of pain, requires a constancy of control. This constancy of control is required in her external environment, which is always on her mind. Leslie finds travelling difficult, highlighting here all the knowledge she must have prior to travel like transport and activities on arrival. For Leslie, '*there's a lot of anxiety around the unknown',* which implies that knowledge is what Leslie needs to feel in control. This is what she needs to be able to understand her limitations and negotiate her travel. This implies that there is now much more research required when travelling for her to manage this anxiety. Not needing to research how she is getting to a place, or its associated activities, equates to a sense of freedom. Having the freedom to '*do whatever*' or *'go with the flow'*, is what counts as the loss of control for Leslie. She is one of the few of the participants who seeks this loss and receives it. There's a degree of spontaneity she can achieve '*in there*', in the Machu Pichu experience, that she cannot achieve outside of the virtual setting.

Furthermore, Leslie appears to seek an almost separation from her body. To separate herself from her body, in her thoughts and mind, is to separate herself from her pain. Leslie highlights '*people'* as something she needs to escape from. This implies that people are part of the anxiety she feels around travelling. VR enables her to separate herself from her body and the 'people'. How she perceives people interact with her due to her constant need for crutches is something which contributes to her anxiety when travelling, especially as she cannot travel alone:

> It's just the expectation of you with a group, if you feel behind and people are pointing at their watches and you're going 'sorry, sorry, sorry' as if it's your fault for holding them back. Although… I haven't, I've not- No. Oh god, have I made that up? Thinking about it, I think it's just something I've created. 100%. Well, I think, if somebody was on crutches or in a wheelchair like me, you'd take the time to wait. They have just as much a right as you have. But when it's me, I'm holding everybody up, everybody's waiting for me, and it would just be better if I wasn't here. But why am I treating myself worse than how I would treat someone else? (Leslie Knope)

Leslie is in constant need of crutches due to her chronic pain. This affects how long it takes her to walk between places. This is a source of anxiety for her, which she reflects on. Travelling with others isa necessity but it makes Leslie feel self-conscious of her walking speeds, as if she's '*holding them back'*. Not only does her body stop her from walking but it may stop others, fostering feelings of guilt and frustration. Further on, she acknowledges that this is possibly something she has created by herself. This is an anxiety based on '*expectation of [her] with a group*' that only exists to her. It is a worry Leslie is now thinking about more in-depth and reflecting on. It highlights another way that using VR might be seen as more of an escape for her. Not only can Leslie disconnect from her body, but she can disconnect from how her body affects others. This VR Machu Pichu experience is a solo experience. This aspect helps her wish to '*go with the flow'* as she is free from the anxiety to not hold anyone back. By being alone, Leslie can see that anxiety in a clearer way. This helps her to self-reflect and begin to recognise and escape self-limitations.

Abigail feels similar worries and anxieties to Leslie, also projecting them outward. However, Abigail worries more about how her need for constant control and general inflexibility regarding her body affects her child:

> Maybe it's a control thing for me? I'm so, so like, in control all of the time. I've gotta be, between my body and my kid, there's so much to be stressed over. I don't have the same stresses as normal people. I worry about limiting him because of my stuff, oh my god, am I giving my kid my baggage? Things like that. So, when I get to kind of go into different worlds, or like lose myself, I love it. Just let someone else take control, like the TV. The TV is in control of the evening then. (Abigail Fifi)

There is a worry here that Abigail's limitations that are extending onto her child. There is a greater worry that she herself limits them, by passing down her '*baggage*' and *'stuff'.* Her anxieties about what might happen if she were to lose control over her body and her life, might become her child's anxieties. Abigail seeks ways to escape these anxieties created by the requirement for control over her body and surroundings. Media is the vehicle she uses to do so. She uses 'I'm', as in the present tense, suggesting this requirement for control is fulfilled by media. She is in control, using 'so' more than once to emphasis her level of control. This implies rigid, inflexible limitations that she must place around herself, her environment, and her life. It is an active control too, a considered approach to her life and something that must be constantly thought about. It is a way of giving up control. She hands control to her life to something else, which is why the idea of virtual reality excited her so much. It is another piece of media, used the same way she uses the television. This occurs in the evenings when her child is in bed. Once the necessity of being in control for her child has paused for the evening, Abigail can '*lose herself'*. This implies that Abigail likes to become distant from herself, to become so absorbed in something else, she forgets herself and disappears for a while, until the cycle begins again.

It is Cherry Blossoms who spoke the most concisely about this in the interview, albeit briefly. Cherry authored the title of this PET, "I have to be in control for my body, you know what I mean? So, it's nice not to be in control. It was nice. So, it was an enjoyable experience."

Cherry is someone who, in the pre-interview, asked me if I thought she might have limited mobilities. She kneels on the floor to eat food as she cannot sit in too high a position and she can no longer walk upstairs, due to nerve damage in the spine and legs. She seemed unsure if this counted, seeking confirmation of the label from me or possibly she sought a rejection of it. In a way, Cherry is distancing herself from her possible limited mobility. By querying it and by stating they must be in

control 'for' their body, not 'of' their body. There is this externalisation of body here. This is an exertion of control over the external factors of her life, which is a careful dance between adaptations and pain. This negotiation is a need, as evidenced by the 'have to be' imperative she uses for the idea of control. Cherry enjoyed a loss of control during the experience, as it was '*nice not to be in control'*. There were no considerations needed, no adaptation other than a requirement to stand and stretch. This virtual experience allowed her to escape these regulations that control her. It is that control that she wishes to relinquish.

This loss of control was not as welcome to some as it was for my previous participants. Ron Swanson, Bilbo, and Duncan felt a need to escape motivated by their bodies. However, instead of a loss of control as a requirement for escape, it was a need for total control. Ron, for example, linked a feeling of freedom with a feeling of total control quite strongly. He feels that his body has taken from him, mainly in his career:

> There's no freedom. A total lack of freedom. Lack of complete control and freedom in my own path. Couldn't make my own choices when I enlisted and look where that got me. So now, I must control my own path. I was still in the army after I got blown up. They made me move roles, didn't want my other leg gone, I guess. Couldn't just get rid, I was too high up for that. So, they made me do logistics. Raleigh let me do logistics in this, didn't care I was a hop-along. (Ron Swanson)

Ron used to be in the army. He worked in bomb disposal and lost his leg in an incident where he was 'blown up'. In the pre-interview he was reluctant to talk about his disability. He feels very negatively towards it, linking it with a removal of choice. He was forcibly moved from a role he enjoyed to one that he didn't. It was a freedom of choice taken from him and it is this he seems to link to virtual reality. Ron felt that this virtual experience also took from him. This felt like a loss of control, which he strongly denounces by saying '*no freedom. A total lack of freedom'.* The loss of control experienced by virtual reality was definitive. He very quickly shifts the conversation from the virtual reality, however, to his own life. He links the two, lack of freedom with the VR to a lack of freedom '*in [his] own path'*. It is as if this lack of control is an extension of the source of his limited mobility. It is perhaps a forceful reminder of the past, as he delves into his previous military history immediately afterwards.

Like my other participants, control over himself, his life and, by extension, his body, is a '*must*'. His modal verb usage emphasises how imperative it is for him to have control. For Ron though, this appears to stem from when his choices, control, and freedom, were taken from him in his career. When he rhetorically tells me to '*look where that got'* him, he is highlighting his disability. He links it directly with his time in the army, his time out of control, where they '*made [him] move roles'*. This implies Ron wished to stay in his role. Logistics as his new role felt like a punishment for his disability. This is in opposition of when another company '*let [him] do logistics'*, granting him permission to perform a role, rather than forcing him into it. The military made him feel disposable due to his disability, staying because they '*couldn't get rid',* as if his rank was more important. With the other company, his disability was secondary, and it was Ron, not the rank, that was important. For Ron freedom *is* control; they are not linked so much as one in the same. His virtual experience was not only a reminder of the disability he has no wish to speak of and wishes to escape, but also a loss of the freedom he prioritises so highly.

This relation of freedom and control, in that they are one in the same, was particularly strong in the participants with a military history. Duncan, in particular, shares a similar level of resentment towards the military regarding choice and freedom:

> I went from making the decisions to sitting behind a fucking desk. I used to be ground forces, Cavalry if you even know what that means, but they made me desk logistics now. Not bitter or anything. Stupid fucking MS. (Duncan Biscuits)

Using similar language to Ron, Duncan was '*made'* to move to desk logistics. He highlights his enduring '*bitterness'* towards the idea. This was not a move Duncan wished to make. It was forced on him, beyond his control and taking away his control. He resents the military for doing this to him, but he also shifts blame onto his limited mobility. His MS was only recently diagnosed, and he distances himself from it, referring to himself as '*the once and future disabled'*. He doesn't often refer to his limited mobility, but when he does, he is vitriolically insulting it, as something external of himself. Duncan appears to link an active life with being able to make decisions and a sedentary life as one of little choice. He *'[made] the decisions*' in his previous role, as an active member of the ground forces. This implies a high level of activity. Being forced into a desk job, a total change from his previous role, giving up that decision making ability, creates this link between sedentary and a loss of control. It fosters a resentment of his disability for forcing this change and creates an idea that freedom is control. Duncan was one of my only participants who did not think the VR was inaccessible, possibly due to his use of the PlayStation VR. However, he still related the technology and the experience itself a loss of control and therefore a loss of freedom: "Why would I care otherwise? If they make a game, man, it should be something I'm controlling". This history of using PlayStation VR demonstrates Duncan's need for control. He enjoys gaming and implies that his enjoyment stems from control. For something to feel enjoyable, it must be '*something he's controlling'.* There is a lack of interest in the experience if he is not the one in control. Not only is his idea of freedom, and his distancing from his MS, inextricably linked with control but so is his enjoyment.

In summary, the bodies of the participants require control of themselves and of their external environment. The need to escape their bodily circumstances was prominent due to this need for a constancy of control. The VR and its experience created a loss of control, pleasing those who felt a loss of control was how they could escape their bodies, and frustrating those who felt having control was the escape. In the next PET, *go where your heart takes you*, explores how the VR created this loss of control, how it enabled them to escape or how it limited their ability to do so.

5.2.3 Personal Experiential Theme Three: Go where your heart takes you.

In the final PET of this section, I explore how the Machu Pichu experience helped some participants to escape from their bodies. For most of the participants, the way they would escape was through having the freedom to explore and discover. These impediments could be from their body or from other people. This freedom was found in some, given to them by the VR, and it was denied to others. Leslie required an escape from the pain of her body, which she felt that she received. The virtual experience offered her something she felt she could not access now that she had limited mobility. This was previously defined as the ability to '*go with the flow'*. She further defined it, later in the interview, when asked what was enjoyable about the Machu Pichu experience:

> You feel on an adventure holiday that you've discovered something. Nobody else has, which isn't true, but there's that element of discovery. It's like that Wild Thornberry's cartoon, when we were kids… It was an adventure, right? Going all the time, jungles, rivers. Adventures to me are more action-packed and there's the free rein element to just go where your heart takes you. The element of

> discovery. I didn't think I could do everything. I mean, I couldn't actually, but I wanted to. (Leslie Knope)

For Leslie wanted to go '*where your heart takes you'*. This implies a desire to follow her impulses, without having to research where she's going like she must when travelling non-virtually. This suggests that VR offers her a way of escaping by allowing her a freedom to explore in a way that prioritises whatever her heart wants to prioritise, and not her body. This is also highlighted by the turn of phrase '*free rein*'. This phrase could be about not being held back, which Leslie feels that she often is by her body. With the Machu Picchu virtual experience Leslie can now roam, explore, or discover freely. This '*element of discovery'* is important to Leslie, as she repeats the idea a few times. She links it with the idea of adventure and further highlights it by offering an illustrative media comparison. Discovery implies new and unexpected so this could be what happens when you can go where your heart takes you, which is an enjoyable aspect for Leslie. She longed to explore the areas wanted to *'do everything*' but she felt she couldn't. This suggests that there wasn't time to do everything or that her body held her back from indulging in that time, as she had to finish the experience early due to her pain. There was more to do than what Leslie could manage, which was an idea that excited her as she wanted to do everything.

A freedom to explore, as a means to escape, appeared with Cherry. However, Cherry also added the freedom to be alone as another requirement, which the virtual experience enabled:

> But with that, now, I was there on my own. It was lovely. Do you know what I mean? And I could wander. And go to one place without having to be, you know, time watching, come on, stepped along, shoved along as you are when you go to these experiences. You know what I mean? I felt it was me alone there, it was lovely. Not like a tour, and I got to choose what to know. (Cherry Blossoms)

Here, there is a link to a tour group style of travel, which is a travel type that she associates with Machu Pichu. Cherry felt that a tour group has very little choice in activities. Knowledge is often given to you by a tour guide and, most importantly for Cherry, it is with a group of people. This is not something Cherry values in a travel experience, shown by stating how '*lovely*' it was to feel alone in Machu Pichu. Cherry equates travelling with people to aggression. She emphasises being '*stepped along, shoved along'*, which implies a forced movement. She is being forced to move in a physically aggressive way. If Cherry travels alone then she avoids these interactions. To be alone within the virtual experience is to escape violent behaviour. Cherry's freedom to explore and discover was fulfilled by the VR allowing her to '*choose what to know*'. Not only could she wander new places at will, but she could discover new knowledge. She was in control of her discovery, which is at odds with her previous admission of no longer being in control. For Cherry there is a difference between being in control and having choice. The VR is enabling her to give up control of her body, by being able to freely wander, but also offering her a freedom of choice in her mind.

The freedom to explore was a requirement for several of the participants to enable the level of escapism they sought from the VR. Whereas with Leslie and Cherry it was fulfilled, it was not for other participants. These participants had other needs to fulfil their desire before they could escape into the virtual experience. Ron Swanson also placed value on having the choice to decide what to know. Personal choice appears to be important to Ron, feeling like it has been taken away from him. For Ron to feel in control of the experience then, which is what he needed to escape, he needed to be able to pick and choose what he wanted to know. This need went unfulfilled:

> Whereas the yard. Yes. I knew they made a yard. I didn't need to see a yard and I don't need to see anything. Do you know what I mean? I could see it without anybody explaining it to me. Yeah. I didn't need the ins and out of a duck's fart on some yard. I obviously knew it's an ancient culture that weaves its own cloth, you know, makes its own bedding and its little clothing and all that. Rather than me picking them, it's them showing it to me. How can I explain that? I like to find out by myself rather than being given the information. (Ron Swanson)

The knowledge the Machu Pichu experience offered on the location felt like stating the obvious to Ron. The explanations provided in the areas like the yard are surplus to Ron's requirements as this was information that he *'obviously knew*'. By '*obvious*', Ron doesn't appear to mean simple, but logical. It is logical and, therefore, obvious, that an ancient civilisation would have an area like the one Ron saw. The information is self-evident and not requiring any explanation to him. Ron is almost offended by the information on offer, as if the experience is condescending to him. It is not the level of detail that offends Ron, *'ins and out of a duck's fart*' implies a great level of detail. It is more that the information Ron would choose is more multifaceted, a greater level of discovery than what he feels is on offer here. This relates to his previous statement of '*choosing my own path*', which is what he needs to be in control. An ability to choose exactly what to discover in the virtual experience, as well as to what depth, is how Ron wishes to escape from his disability. It is the yard and its information that creates these paths for him to choose from or find out by himself. By finding things out for himself, Ron values an independence of curiosity, without assistance from anyone else and without anyone choosing for him. What provides 'the paths' is information and wanting to *'pick them'* implies multiple paths within the experience. It is important to Ron to have all of them. To continue the metaphor, he wants to walk all the paths, switch or choose another when he deems fit. Instead, the VR does not allow him to gain control or offer his desired level of discovery and exploration. This removes the possibility of his control and does not enable the level of escape he is seeking from virtual reality. Instead, it is an unwelcome reminder of his limited mobility.

As well as a freedom of choice regarding knowledge, freedom to roam was a requirement for escapism. Bilbo was another participant who had been in the army and left when he was also moved to a desk role. He currently creates adaptive technology. His own wheelchair was adapted to lift and spin, which enabled him to experience some level of freedom to roam, but not as much as he had wanted:

> There wasn't that freedom – okay there was a freedom to move around, more than I have now. My chair helps, not like the standard, but I wanted to walk downstairs again, and I couldn't. Do you know what it's even like to walk down stairs without feeling pain? What am I talking about, you don't even know you're born. (Bilbo)

There was a freedom to move, in that he felt he could explore Machu Pichu and the areas that were there, with '*more than I have now'.* This suggests that he can explore more in VR than he would in non-virtual Machu Picchu. Bilbo believes this is due to his own adaptation of his chair as it is '*not like the standard*'. He assumes that he experiences this differently from people in standard wheelchairs. Bilbo has more freedom to roam than other people might. Despite this, this feeling is not enough as he denies this freedom in the beginning. This is because Bilbo wanted something very particular from the experience, something he missed from everyday life, which is being able '*to walk down the stairs again'*. Bilbo can walk down the stairs, but it is a painful experience for him. He believed that he would've been able to do this in VR and was disappointed when this expectation was unfulfilled. This implies that Bilbo wishes to escape from his body, from his pain. He feels virtual reality should've been able to offer him this ability of separating the idea of stairs from the idea of pain. Furthermore,

there appears to be resentment towards myself, as someone who wouldn't know what that felt like when he tells me '*[I] don't even know [I'm] born."* Bilbo resents his body and extends that resentment outwards, to someone who he believes wouldn't understand the pain he feels. This includes the VR, which did not enable him to distance himself from his pain and so did not understand his requirements. His ability to escape hinged on this event, and to have it denied means denying his escape.

The virtual stairs are ones leading down to areas of Machu Pichu that could be explored. They were a barrier to escapism for GI Jane as well. Jane has chronic pain, which she blames on the menopause. Moreover, she is blind in one eye and deaf in one ear, which influences how she experienced virtual Machu Pichu. Jane needs to escape, which manifests as a freedom to roam and explore, like it does for Bilbo, Cherry, and Leslie. However, the stairs stopped her from feeling this:

> Why couldn't I go down the steps? I wanted to go down there, but it wouldn't let me take photos down there. I want to choose; I'll take my own photo. Take the choice from them away. I give me back my choice. (GI Jane)

The rhetorical question '*why couldn't I go down the steps?*' is to emphasise the want that appears in the following sentences. Another person who engaged with the photography exercise, Jane wanted total access and the stairs had implication of the total freedom to roam she sought. If she can see *'down there*', then it follows that she can go down there. Being barred from this makes her feel excluded, unable to explore in the way she wants. By saying, *'it wouldn't let me*', Jane suggests that the virtual reality experience is excluding her specifically. She is implying that it might let other people somehow. There is a sense of unfairness present. This is something she is taking personally. Alongside the freedom to roam barring her from exploration, the freedom of choice is important, as present as it is with Ron. Jane attempts to reclaim her choice here, *'I'll take my own photo'* and *'I give me back my choice*'. She is creating options for herself, implying that there is a need for them, to facilitate her wish to escape. The option of going down the stairs, visible but unavailable, has been taken from her, as has the viewpoint. She is implying that she is forcibly taking back her options and emphasising her role in the experience, as an active participant fighting for her choices, and creating new areas to escape into.

For Duncan, whose need to escape backwards into his past manifests as being an adrenaline seeker and who uses PlayStation to do so, this Machu Pichu experience failed to fulfil this requirement. Part of this was the lack of exploration and discovery that many of my other participants craved:

> That's what VR was missing. That open world mobility type. The exploration, like that open world nature? You know, you've played games, right? I get to have at it, figure it out myself on the way. Not the tiny maze, people choose for me thing. (Duncan Biscuits)

The '*tiny'* size of the areas available within the experience felt like a barrier for Duncan, as they did Jane. Duncan favours the large open world playable areas of the video games. Freedom to roam a large area like Machu Pichu and the ability to curate his own experience in his own time is important to him. Having an ability to '*have at it'* and to *'figure it out myself'* are highlighted. Not being able to figure it out for himself means that this Machu Picchu experience has not enabled him to escape in the way his PlayStation VR does. There is an absence of choice and freedom to roam a space that Duncan finds constraining and tiny. He links this lack of size to his gaming and to *'open world mobility*'. He repeats open world, as if to highlight its importance to him. The use of the word '*world*' shows the type of size and spaces he is accustomed to in his gaming, as a whole world is incredibly

large. '*Open*' implies a total freedom to roam, with no barriers at all. Gaming was something Duncan constantly referred to, returning a few moments later, to edify more on why this experience failed to allow him his escape, "Okay, fine it was just a little jolly, but it was high-ground, defensible. Could get a decent survival base before the hoards came." Describing the experience as *'a little jolly',* shows that he understood it was not a game. However, his craving for the adrenaline was so high, that he tried to reframe it as such after the experience. *'Hoards'* is being used as a collective noun for zombies, which are the villains of the Resident Evil game he plays on PlayStation VR. These missing details are what he needs to fuel his adrenaline, fuel his escape.

To summarise, the freedom to roam, explore and discover, was what most of the participants defined as a way of escaping from their bodies. For Leslie and Cherry, the ability to be alone, without danger, and to go where your heart takes you was a fulfilled requirement of escape. For others, such as Ron, Jane, and Bilbo, the freedom to make choices was a requirement that went unfulfilled. VR helped and hindered the participants to achieve the level of escapism that they were seeking.

5.2.4 Escapism Summary

This group experiential theme of *Escapism* focused on how and why the participants felt the need to escape from their lives. The need for escapism and how media influenced the expectation of VR to fulfil this need was the focus of discussion for my subordinate theme, *feel like I'm somewhere else.* The virtual surroundings portrayed in the media Ready, Player One (Spielberg, 2018) and Star Trek: The Next Generation (Roddenberry et al., 1987 – 1994) were influential as it was these surroundings that the participants wished to escape into. VR was expected to be the way to access these places. The media was often used to illustrate, emphasis or discuss the need to escape.

'Control for my body' focuses on the links the participants their bodies and the need to escape discussed in the first PET. Their bodies required a constant need for control, control of themselves, and of their external environments. Many had difficulties reaching the surroundings they linked with virtual reality, outside of virtual reality. They often sought to distance themselves from their bodies and their limited mobilities.

If the 'what' is the need to escape, and the 'why' is the participants' bodily circumstances, then the 'how', is discussed in *go where your heart takes you*. To indulge in their need to escape, to begin to separate themselves from their bodies, most of the participants required a freedom to roam, explore and discover in a way they couldn't outside of virtual reality. This was successful for some who felt this was fulfilled, as if they had escaped. Most, however, felt they were unable to escape, unable to separate themselves from their body and pain.

I now turn to the next theme, *The Immersion Cycle,* which seeks to discuss the idea of immersion felt by the participants during their experiences, which was integral in the 'how' the participants managed to escape.

5.3 Group Experiential Theme Two: The Immersion Cycle

The feeling of immersion was an important part of the experience for the participants, with all of them feeling immersed at some point or another. Immersion means the feeling of being

completely surrounded by a virtual environment, in the moment (Lee et al., 2020). It was how the participants escaped. However, it was not a constant part of the experience. There were moments where the participants felt totally immersed before they would pull back from the feeling, sometimes instinctively and sometimes with conscious effort. Leslie Knope likened it to the ebbing and flowing of tide, creating the idea of a constant cycle. It was cyclical in nature and reoccurred several times throughout the whole experience. The cycle even extended outside the virtual experience, and into the subsequent interviews.

The Personal Experiential Themes here aim to elucidate on what contributes to the immersion cycle and what detracts from it, why the cycle begins and ends and what were the moments that impacted the participants the most. As before, the titles have been taken from the participants themselves, using their words to best highlight their own varying experiences.

The first PET, *It was warm, you could see the breeze,* explores the role sensory engagement had on the feeling of immersion. It examines senses the participants considered the most important and which aspects of these senses had the most impact on their experience.

The second PET, *Bigger on the inside… a whole new world*, examines the role a sense of space and scale has on the experience of the participants. Their eye-level and perspective of space within the virtual reality was a large contributor to the feeling of immersion.

The body's role within the experience and participants' bodily instincts are discussed in *My belly went bleurgh.* Whilst there were many different instincts residing in their bodies, the converging thread here is that every participant had an instinctive reaction. These displayed or contributed to a feeling of immersion.

5.3.1 Personal Experiential Theme One: It was warm, you could see the breeze.

Different senses had varying levels of importance and engagement for the participants, such as visual engagement or auditory engagement. For some, one sense engaging in the virtual environment was enough to trigger the feeling of immersion. Occasionally, one sense would trigger another to add to this feeling. Duncan Biscuits regularly uses VR to play video games and he finds that the visual sense was integral to both Duncan's sense of immersion and understanding of virtual reality on a whole:

> But the view was lovely... That's- it's- yeah – that's the whole part of it, isn't it? But yeah, the view there was quite peaceful. No one was trying to kill you, which is nice. Although, where were the sounds coming from? I didn't put any headphones in. Oh, would you look at that? Still, just a painted bubble in the end. (Duncan Biscuits)

He refers to the view of Machu Picchu as '*the whole part of it*'. For Duncan, this is what virtual reality is all about. It was not often Duncan felt immersed '*all the way*' but if he did, it was the visuals that contributed to this. Other senses were secondary. Duncan enjoyed the view, finding it '*peaceful*'. He often referred to the violence he finds in his life, from his job or the entertainment he chooses. There was no violence here, no one was trying to kill him, so he enjoyed the tranquil imagery and having the time to enjoy the experience. Although other senses were secondary, Duncan mentions the audio, asking about their source. He was more interested in the technology, rather than their contribution to immersion. After indulging his curiosity in the source, he switched back to the visual

sense of a *'painted bubble*'. A bubble touches upon the 360° surrounding, as if the VR headset is a bubble-like helmet. The visual engagement was enjoyable for him, which contributed to a passive immersion cycle. Ultimately though, Duncan seems to have distanced himself from the experience because of it. Virtual reality is a peaceful painting, something passive rather than immersive. Although impressive and 3D, it is still just a painting.

This 3D, complete surround of the visual was something that Leslie Knope also enjoyed and added to her immersion or her absorption as she describes it:

> It was everywhere. There was no escape, not in a bad way, but there was no escape from it. I thought that little lizard was great and there were flies flying around. That was really good. And the, even though I didn't have headphones in, the sounds were all there– I thought the headphones might have been something that sucked me out but no, I was absorbed. (Leslie Knope)

For Leslie, the experience felt '*everywhere*', it engulfed her completely. She credits this to the all-encompassing nature of the visual. Details like the lizard and flies are interesting to her but the emphasis is on the wider surroundings, further emphasised by the suggestion of '*no escape*'. Leslie is quick to confirm that she does not mean it in a bad way, as usually being unable to escape highlights a wish to. Instead, she is highlighting how nothing else was encroaching on this all-encompassing visual. It was a permanent feature. Audio was a less important part of sensory engagement for her. She does not list in the same way that she does for the visual. It is the technology, as with Duncan, that most impresses her here. She is hearing sounds without using in-ear headphones. When she says, '*sucked me out'* after this*,* she is referencing the '*ebbing and* flowing' of the immersion cycle. Her assumption was that the headphones would stop her feeling immersed, but they didn't. Instead, they kept her *'absorbed'*, in total engagement with the experience.

Audio sensory engagement was more important for Hicks. He felt that these sounds contributed more to his immersion cycle than any other senses. Sounds of nature and how it matched with the visual were the most important. Hicks found the more background sounds of nature the most immersive element of the Machu Picchu experience:

> The sound of the place were much better, made it feel real, I could hear the wind blowing. Which, of course, it would be at that height. The llamas or the alpacas, I liked them, if the lizard, you could hear him go 'cch' across the rocks. That river at the bottom of it, I think it felt like it was moving. (Hicks)

The sounds contributed more to the immersion, or *'feeling real*', than the visuals did, but only if they worked in tandem. Hicks focused on the wind, linking it to a sense of height he felt at the visuals. The small details, the level of layering and detail, were integral to Hicks' enjoyment of the experience. He *'liked them*', the llamas and the lizard. By recreating the sound, Hicks emphasises his enjoyment of it. Being able to recreate it after the experience shows how memorable it was to him. Hicks also referenced '*clicking memories'* prior to this*,* referencing the photography exercise he did in the experience. Hicks was perhaps using these sounds to create memories of his experience. Despite the visual element to picture-taking, Hicks references the audio even here, through the clicking of the camera. Although impressed by how the sounds worked in tandem the visual environment, it was the sounds specifically that allowed him to create an enjoyment of the experience, a feeling of immersion and new memories.

The idea of audio-visual sensory engagement creating something appeared with Sasi, Jack, Cherry Blossoms, and Jill. Instead of memories however, it created the want to touch. For Sasi, this idea of

tactility contributed to immersion by the VR seeming to have the potential of touch, but it also took it away when this potential went unfulfilled:

> You want to physically reach and grab something; you want to touch. But you can't. It's annoying, you know what I mean? And it kept happening. I'd want to touch, I couldn't, like over and over. So annoying. The llama fur – is it fur or? (Sasi)

Sasi appreciated the audio-visual as enough that it triggered a *'want to physically reach out and grab something*'. Specifically, Sasi wanted to touch nature-based textures like '*llama fur*'. Tactile interactivity felt as if it was a possibility when the audio-visual triggered the immersion cycle. However, when it was not a possibility, it fostered annoyance towards the experience, which broke the immersion cycle. The short sentence structure of '*but you can't*' highlights the abruptness of the disruption Sasi felt to this immersion. She goes on to mention the immersion cycle itself by highlighting its repetitive nature. The potential for tactile interactivity happened *'over and over*'. This sense of tactility would arise, it would be broken and would begin anew, as would her annoyance, shown here by her repeating how annoying the experience felt.

The idea of touch manifested in a different way for Cherry Blossoms and Jill. It wasn't so much the urge to touch a physical object, but how Machu Picchu's environment would possibly feel. For Cherry the visual triggered an idea of how air should feel like, building on the sensory experience:

> You had the feeling of the, you know, the air there, you know it was going to be pure. You could see it. It's gonna be pure when you're up there. Pretty interesting, I mean, look at- Looking at the stone, those big rock things, you could tell that it's gonna be fresh and hot, like Chichen Itza. Do you know what I mean? You could see it. (Cherry Blossoms)

The adjective *'pure'* denotes clear views and clean air. The mountain vistas are the visuals contributing to this idea. Being high '*up there'* in the mountains creates a feeling of purity to the air. It is far away from populated, from people areas, and among nature. By seeing this, Cherry can 'see' the feeling of pure air. The visual more than the audio triggered this feeling, which contributed to Cherry's enjoyment of the experience, shown by her using *'interesting'* as an adjective. This interest in the visuals and the ideas they produced added to the immersion cycle by creating a focus. Cherry focuses on the rocks within Machu Picchu to further illustrate her idea by *'looking at the stone'*. The blue skies and the sun of Machu Picchu on the stones is what fosters this idea of fresh air and heat. Previously in the interview, Cherry referenced Chichen Itza as a place she had been. She appears to translate this memory into this experience here by referencing it again. She relates the visual reaction of the stones to the sun within the experience to a previous memory, which adds to the immersion. It brings a relatability to the experience. Where Hicks is creating memories with sounds, Cherry seems to be *using* memories to recreate a sense of tactility to understand how Machu Pichu might feel to her.

Whilst she only touches upon the idea of heat, Jill felt that the tactile nature of heat was strongly triggered for her:

> It was warm there, but you could see the breeze as well... I feel it, this one felt more like the wet heat we get in the summers here. Cause you've got the breeze coming through the mountains. Cause you can see the mountains and the greens. Weird, isn't it? The rocks baked and the wavy, you can see those shimmery wave things. (Jill)

Whereas the possibility of tactility was as a contributing factor to the immersion cycle for other participants, Jill was the only one where tactility was actively triggered. Jill felt warmth, shown by using *'it was warm*'. There is no use of hypothetical words in this sentence, nothing to indicate the possibility of warmth. Jill uses '*was*'. This was definite. It was as if the sun was on her skin, warming her. This highlights the level of immersion that Jill felt during the experience. Like Cherry, Jill uses previous memories to understand what she is feeling. She further defines the heat as *'wet heat'* like ones she experiences where she lives. Jill attributes the trigger of this tactility entirely to her visual sensory engagement. She can see *'the breeze coming through the mountains*'. How the breeze visually interacts with the surrounding environment of Machu Pichu, moving the plants, is what generates this tactility. She does not mention the sound of the breeze. There is a focus on the rocks that further contributes to the feeling of immersion. The visual of heat rising from the stone in *'shimmery waves'* is vivid in its relatability and familiarity. It is relatable to her summer memories. Paired with the visuals of the breeze, these appear to be powerful contributors to feelings of immersion. Furthermore, Jill exhibits a sense of surprise in her rhetorical question *'Weird, isn't it?'*. The feeling of warmth was a surprise for Jill. It felt sensical in the moment, and it was not something she thought about until after the virtual experience. However, the discussion afterwards perhaps made it feel nonsensical, showing that the ebbing and flowing of the immersion cycle can continue after the whole experience.

Bilbo and GI Jane discussed another sense that my other participants had not yet mentioned, which was the sense of smell. The absence of this sense within the virtual experience detracted from the feeling of immersion, although for Bilbo this was not entirely essential for enjoyment and did not detract from the experience a lot:

> It's like being there. But only like. Because you don't get everything. If you were in Machu Pichu, when it was a cold day, you would have the wind, the cold, or you would have the smells of cold, damp stone and things like that as well? (Bilbo)

Throughout the interview Bilbo would mention that he enjoyed the experience before discussing a reason why he did not. The stated reason was a lack of *'everything*'. Everything might mean a total sensory engagement with an environment. For Bilbo, sensory engagement is so notable in its absence that he continuously highlights it himself. He misses tactility so he discusses *'the wind, the cold*', which in turn create their own ideas of smell, like the *'cold, damp stone*'. This detracts from the enjoyment that Bilbo stated he felt and had a profound effect on his feeling of immersion. This was a feeling he distanced himself from. Bilbo is concerned with having what he deems to be the whole sensory experience, which is what ensures things feel immersive to him. In this experience Bilbo did not have full engagement. The lack of smells denoted an almost half-experience. It is only a facsimile, a likeness. This meant that Bilbo did not experience immersion at all due to this lack of smell, very similar to GI Jane:

> The one thing I missed more than anything was the smell of the place. You can't smell it in the VCR and then that is – it's an important sense for me. I have lots of memories from smells... it should've smelled like heat on stone. Johnson's Baby Oil is for Majorca, New York is for, uh, hot dog smells. And coffee. Machu Pichu should be heat on stone, flowers and burning wood. (GI Jane)

Jane places a heavy emphasis on sense of smell as something missing from her experience. As well as her limited mobility, Jane is affected by a loss of senses by being blind in one eye and deaf in one ear. Smell is how she makes sense of the world, shown when she claims smell as, '*an important sense for*

me'. This is how she creates memories and understands new places. The visuals of Machu Picchu created an expectation of sensory engagement that did not exist for her in the experience. Thus, Jane invents them. She applies smells that *'should be*' there. There should have been a specific smell emanating from the rocks. By virtual reality being audio-visual in nature, it is almost exclusionary to Jane who seems to struggle with connecting to the experience. Like Bilbo, Jane cannot have what she considers the whole experience and so she never engages in the immersion cycle. She never experienced the feeling being completely surrounded by a virtual environment.

To summarise, this PET highlights how sensory engagement contributes to the ebb and flow of the so-called immersion cycle. The audio-visual sense was hugely influential to the participants who felt that this would often trigger other senses, such as touch to feel heat. Others felt the lack of an engaged sense, such as smell. The lack of smell would break the immersion cycle, which would disengage the participants from the Machu Picchu experience.

My next Personal Experiential Theme, *bigger on the inside… a whole new world*, explores the idea of spatiality and senses of scale within the virtual environment of Machu Picchu.

5.3.2 Personal Experiential Theme Two: Bigger on the inside… a whole new world

This PET revolves entirely around the visual engagement of the participants, the importance of which being discussed in the previous PET. This is not just how the space looks but how the scale, the perspective of a space and how objects are placed or interact in that space. Often, this sense of space was divided into two set spaces.

The idea of spatiality within the virtual reality experience was present for Sasi, Jill, Ron Swanson, and Arya. The notion of two defined spaces, virtual Machu Picchu and non-virtual interview room was present as well. Sasi focused on how animals were positioned inside the virtual space: "I actually thought there was a llama behind me at the time, even though like I knew I had something on my head. Inside there so was intense with the birds in the sky and the llamas." The positioning of the llama as '*behind*' her contributes to an idea of a fully realised, 360° space. This contributes to the feeling of immersion. She appeared to believe this was a llama appearing behind her, in the non-virtual space as well. She impresses the reality of the feeling using the adverb '*actually'* for emphasis, almost imploring me to believe her. This implies that Sasi feels disbelief at the immersive feeling, compounded by the adjective *'intense'* to highlight how keenly she was feeling it. How the animals are positioned in this virtual space is further highlighted when Sasi discusses the birds as *'in the sky'*. Being able to contextualise the animals in a space adds to this strong feeling of immersion.

Moreover, Sasi begins to touch upon the idea, when asked to expand on the idea of virtual layout and space, of two distinct spaces here by saying *'inside there*'. The word '*inside'* perhaps meaning the virtual Machu Picchu: *"*Coming back to the outside was weird too. You take off the helmet and it's so, you're blinking and you're back." She defines the interview room as *'outside*', an area to which she says she is *'coming back'*. This suggests that she is actively travelling between these spaces, using the act of removing the technology as the mode of transport. By referencing the headset, as '*the helmet*', Sasi implies that the headset creates a tangible border between the inside virtual space and the non-virtual outside. Furthermore, by using the term '*helmet'*, Sasi suggests that this is the location of the 'inside'. The technology is both a hard border and mode of transport.

Jill creates two clearly defined spaces using the technology, and begins to add a sense of scale to the space:

> It was so big in there I think the Outback would be good on it. That's huge, I have a sister who used to live there before she burnt to death, so I'd like to see what she saw before she died. There're some nice animals in Australia too, I think the Outback would be nice, huge, kangaroos in the background. Can't get that out here. (Jill)

A sense of scale was important to Jill, who relates it to a memory, as she did in the previous PET. It was such a well-defined sense of scale, it was *'so big in there*', that Jill felt it would be feasible or '*good'* to emulate the non-virtual space of the Outback. This appears to be a space that Jill has an emotional connection to, due to the memory of the death of her sister. Jill feels that the sense of scale in the VR could strengthen that emotional connection. By relating a memory to the virtual space, Jill indicates a level of immersion felt due to the sense of scale. She touches upon perspective, by imagining a background with kangaroos, thus implying a foreground without. By doing so, Jill implies that the sense of scale and space is not only large but nuanced and multi-layered. Furthermore, the words '*in there*' looks to the idea of a space within, the virtual space, and a space without, the interview room. The 'inside' of the VR provides possibilities, like the Outback. The outside space of the interview room is too small for that kind of possibility.

Ron Swanson experienced the idea of two separate, defined spaces but he did not define it as 'inside' and 'out'. This notion was discussed when he spoke about the motion sickness he felt and when it began:

> I didn't trigger for a while. It wasn't immediate. Wasn't immediate. It was after I'd been down there a while. You come up too easy, to just stop. What am I trying to say? I don't know, it feels too easy to leave. (Ron Swanson)

Ron uses '*down*' and '*up'* as a way of defining the two spaces that he feels exist. He was the only one of the participants to reference the space this way. Rather than two rooms or an inside and an outside, Ron uses directions. This implies that Ron is identifying the virtual space as a space existing to him in the same way the interview room does, but only accessible by going in a certain direction. Moreover, like Sasi, Ron refers to an idea of active travel, by using verbs that express an act of movement like *'come up'* and *'to leave'*. Once again, the headset influences the perception of two defined spaces. The headset is a mode of transport between the virtual Machu Pichu and the interview room. Further along in the interview, Ron mentions that there was some realism to the *'sun travelling across the sky*'. The movement of the sun within the space perhaps created an extra dimension of fluid time that Ron appreciated. The space was well-defined, and it wasn't a still image that he was exploring. It felt a more well-rounded experience.

The well-defined space, with a nuanced sense of scale was something Abigail Fifi appreciated:

> Do you watch Dr Who? That whole blue box thing being bigger on the inside? It felt like that, a hundred percent. Um, it does. Well, it puts you into a whole new world, isn't it? So, you do feel like you're in, inside the place. (Abigail Fifi)

Abigail discusses the virtual Machu Pichu as a *'whole new world'.* This is the quote that forms the title of this PET. Using this turn of phrase suggests a huge level of complexity to Machu Pichu. The complexity was created by the sense of scale and space she feels during the experience. Abigail experiences virtual reality as a multi-layered, complex experience, on a large scale, linking back to

the full and well-rounded experience Ron Swanson discusses. By connecting this scale with media, something that has a large influence over Abigail, she is suggesting this sense of scale is something sci-fi and fantastical. This contributes to her enjoyment as a relatable experience, as seen on TV. Somewhat contrarily, the otherworldly nature of the feeling is helping this experience to feel more relatable to Abigail's lifeworld. Abigail further defines this space as '*inside*', implying that the interview room or anything outside of the virtual whole new world is 'outside'.

Later, she extends this implication by describing how these inside/outside spaces interact with each other: "The two worlds, like moons colliding.". Her sense of scale is so large that she compares it to moons, highlighting the enormity and power she grants these two spaces. The moon is an observable, non-virtual object for many, which means that Abigail is defining both these spaces, not only as observable experiences, but as powerful, grandiose experiences. The use of the world *'colliding*' here has a suddenness to it. This suggests that this is a collision of spaces, which is another implication of the hard border influenced by the technology. The difference between having the headset on and taking it off is stark and jarring, like a collision. It is a severe end to the immersion cycle for Abigail.

Turning now to something Jill touched upon in her discussion of the Outback, perspective. Perspective is a strong influence in Arya, Leslie Knope, and Hicks. Arya points it out clearly, pinpointing it as something integral to her enjoyment of the experience and, therefore important to her sense of immersion:

> It gives you perspective, so you can sense how far things are away from you and how big Machu Pichu is. Amazing place. There's a sense of the area, of the space, that kind of thing and everything, yeah. I can understand it better. (Arya)

As seen in the extract above, Arya uses the word perspective specifically, which follows on from the idea of a sense of scale and space. Suggesting a nuanced, multi-layered space, Arya discusses distance and *'how far things are away'*. As with Sasi, this encompasses the positioning of objects within the space as well. The use of 'far away' positions objects in the background and gives the idea of the foreground, as with Jill's kangaroos. Arya references the space in the same way Jill and Abigail do. It is a *'big'* space, which adds another layer to this complex idea of perspective that she has been given. She uses the word *'gives*' at the beginning, implying that she is a passive recipient of this new perspective, almost as if it has been gifted to her. This indicates a sense of joy. This perspective is enjoyable, as shown in the reinforcement of her love of Machu Picchu by calling it an '*amazing place*'. It seems to offer Arya another dimension to her knowledge of the area, which is something she values quite highly. When says she '*understands it better'*, she understands Machu Picchu better as a location. This virtual experience adds new knowledge, such as scale and distance. This new understanding appears to make Machu Pichu feel less abstract to her somehow, making it feel more immersive.

Duncan Biscuits references immersion himself, although his was not cyclical in nature. His feeling of immersion was more of a continuous feeling, which he attributes solely to this sense of scale and space. He accredits certain aspects to giving him this sense:

> My immersion level was a constant three, four, out of ten? It's that- It's that- When it's two-dimensional, it's like, oh yeah that's pretty. Whereas here you get, you get a sense of scale. Um, like you can stand on the terraces at the start near the hat and like you could look down on all the houses and all the living areas. There are

> those three spaces, right? On top of each other? That's pretty shit hot. (Duncan Biscuits)

Duncan explicitly states that the immersion level is constant, but it is fairly low at *'three, four out of ten*'. To use a measuring system this way Duncan shows an awareness of immersion that others did not. It implies that this is a measurement he takes for different media types. This Machu Picchu VR experiences appears to fall short of other media. It appears to be a disappointment to Duncan, which could both contribute to the low level of immersion and create it, in its own ouroboric way. Interestingly, Duncan uses the words *'stand on'* here, as if he himself is standing on the terraces. Duncan sat for the whole experience, but the sense of scale made him feel like this is what he was doing. He is showing his constant, low level of immersion. Furthermore, he highlights the multi-layering of the area, in a more literal sense than Jill, Abigail, Arya, and Leslie, as *'all on top of each other'*. The virtual space has more visual nuance than the other media types he looks to for immersion. This is something he enjoys compared to a two-dimensional, pretty image. There is an appreciation that contributes to the consistent immersion he showed by '*standing'*. Duncan would not go so far as to say he enjoyed the experience, but he certainly had an appreciation for it as shown in his adjective *'shit hot''*. He is impressed by what he's identifying as indicators of the sense of scale he is feeling and the immersion from that.

Interestingly, Bilbo and Hicks claim never to feel a sense of immersion. However, both reference this sense of scale as reasons the experience might feel immersive to other people. Bilbo especially separates the idea of feeling realistic and feeling immersive:

> The overall look of it did feel like you were there, the sense of height, of the, what's the word I'm looking for? What's it called? The sense of scale and you were there, and you know the, what's the word? Realistic, I suppose, put that down. Useful. (Bilbo)

Bilbo uses verbs that distance himself from the experience, *'it did feel like you were there*'. When he uses '*feels like*', it is alike to being present there, but it is not being there. There is a disparity between reality and virtual reality for him, which highlights his lack of immersion. This could be because of the lack of sensory engagement he mentioned previously. Using other distancing language, he does not use first-person pronouns, just the third of 'it' and the second person 'you'. It implies that he did not feel like he was there but that someone else might possibly feel that way. It is almost as if Bilbo does not want to feel this way, distancing himself on purpose. Like Duncan, Bilbo shows an appreciation for the experience, if not a total enjoyment, that stems from this sense of scale. The height was referenced in particular, the mountains or the steps. Referencing this shows he values this new dimension to Machu Pichu and his understanding of it as a space. Throughout the interview Bilbo mentions further using VR in his line of work. Bilbo adapts equipment and he would use VR as a sale too. He believes that the sense of scale would allow people more of an understanding as to how his adaptations work. This sense of scale, which grants the realism if not the immersion, is what's *'useful*' to him. However, he's not sure if it's realistic, only *'supposing*' it is, but it's an important enough idea to him that he wants it noted. There is a difference between immersion and realism to him, and it is important for me to understand that. However, if anything were to create an enduring idea of immersion for Bilbo, it would perhaps be this sense of scale, space, and the level of detail.

This rings true for Hicks, who distances himself in a similar way. Hicks, however, went so far as to suggest that this experience was better than the non-virtual Machu Pichu:

> You're as close as you can be to being there without actually being there. I said at the start, probably in some sense of it you've got an enhanced experience. It was interesting to be able to get a feel of what the place is like and get a feel for the magnitude, especially the mountains and the steps. It's just not the same in pictures, it's more real. (Hicks)

Hicks attributes his entire sense of enjoyment within the virtual experience to this nuanced sense of scale and size. Interestingly, this positive feeling does not create a feeling of immersion. He maintains a distance between seeing a virtual space and existing in a non-virtual space when he says, *'as close as you can be*'. Despite this distance he suggested it is 'more real', which, although impressive to him does not contribute to the immersion cycle. However, this lack of immersion is preferable to him over Machu Pichu as a non-virtual location by suggesting this is an *'enhanced experience*'. Accessing non-virtual Machu Pichu would be an experience but accessing it virtually is better. For Hicks, non-virtual access to a place is not a requirement for enjoyment. Hicks often referenced disliking people within his personal space throughout his interview. A virtual space could allow him to enjoy an area with no people in it. Hicks mentions appreciating the '*feel of'* and '*feel for'* the area of Machu Pichu. This idiomatic turn of phrase suggests that what he gains from the perspective, scale and mountains is a new understanding of the area. Hicks feels that virtual reality is '*more real*' than pictures. By more real, I believe he is referring to the idea of something more tangible, the 3D surround that is unavailable in pictures or on television screens. It does not mean immersion to him. It is better if he is not immersed.

In summary, most of the participants experienced a nuanced idea of space and scale, sometimes dividing them into two definite spaces. This sense of space and scale was the biggest contributor to the so-called immersion cycle, often being the trigger to begin the cycle. The next and final Personal Experiential Theme is the culmination of these two previous PETs, and it is the discussion of the body and its role inside the virtual space.

5.3.3 Personal Experiential Theme Three: My belly went bleurgh.

To conclude this section, this final PET examines how the body was an indicator of the sense of immersion. The body was a contributor, and a detractor from the immersion cycle. Sometimes it was an indication of the separation of the body and the mind. The urge to move within the space, or to speak as if they were performing the physical act of movement, occurred in Jack, Duncan Biscuits and Hicks. Jack showed a level of amazement at this idea of being able to move in virtual reality and how it contributed to the immersion:

> I wanted to see over the edge, so I just leaned over. Isn't that funny, my girl? I thought, I thought I could look down and see the whole thing. And I could! I didn't even – I just leaned and you could! Amazing (Jack)

Jack displays an awareness of the instincts that the virtual reality awakens in him. He actively reflects on this instinct to lean over, as if he were in a non-virtual environment. Jack is excited by this idea. He finds it '*funny'* and '*amazing*'. Jack seems happily surprised by what he feels throughout this virtual experience, such as an urge to lean. This is a positive feeling that contributes to his sense of immersion. Previously to this quote, Jack had referenced a memory of canyons in Libya that made him feel the same urge. Using a memory as a relational point, Jack shows a self-awareness of the instinct he felt within his body, creating this amazement. This is in two parts. Firstly, Jack is amazed at

the instinct to look over the edge, similar to the same one he had at a canyon in Libya. Secondly, he is amazed by the fact that he could. By giving in to his body's instincts to move around in the space and combined with the act of physical movement, this implies that Jack experiences an unexpected engagement with the virtual space. The positive feelings of surprise and amazement lead to a total level of immersion. The sensory engagement which triggered this instinct further contributed to.

Whilst Jack actually moved by leaning within the space, Duncan Biscuits spoke as if he had and did so throughout his interview, seemingly unaware of his speech:

> I walked back into the area, I was like 'oh I'm going to get him'. I watched him for ages, and he did fuck all. I turn away for a second! A second and he bloody moves. I was livid, this llama I will kill. I turned back and nothing! (Duncan Biscuits)

Touched upon in the previous section where he '*stood'*, Duncan uses similar language here, in another indication of the constant, low level immersion. Here he uses words in the active present tense, using verbs that denote physical activity, such as '*walked back*' and '*turn away*'. Duncan sat throughout this entire experience, for both the virtual Machu Pichu experience and his interview, so he never performed these actions. To use words like these, active words where no physical action had taken place, means that Duncan felt he had performed these movements. The virtual reality felt immersive enough for him to create this idea and instinctively use this language. Furthermore, Duncan wanted to interact with the llamas continuously throughout the experience and related them to his gaming, shown when he says, *'this llama I will kill'*. He wants a level of violence in his games, but, more importantly, he's showing a severe annoyance at the virtual llama. By having such a strong emotional reaction to the llamas' lack of action, this is implying his sense of immersion within the experience. This is shown by him continuing to talk in the active present tense. He used active verbs the most when discussing emotions, which implies that emotion contributes to Duncan's feeling of immersion.

The instinctive language that Duncan uses to describe his actions in the experience was common for most of the participants. This includes Hicks, who discussed this in link with leaning over the canyon, like Jack did: "It was interesting to see the shrines when I climbed down to them and then leaning over the edge to see the terraces". As with Duncan, Hicks uses active words like *'climbed down*' as if he had left his chair. He had not. This instinctive use of language was a continuing theme for him throughout the experience and the interview. Whilst Jack was amazed by his urge to lean over the edge, Hicks doesn't appear to think about it. The act of being able to lean over the edge was a natural instinct and being able to indulge that instinct is obvious and unremarkable as it's happening. It wasn't just when he was discussing Machu Pichu in its aftermath. Hicks commented during the experience: "Oh, look at those! I'll go over- Can you see what I'm seeing?" Hicks often spoke this way throughout the experience. His speech is an extension of the experience. It is reactionary and a display of a deep level of engagement within the environment in which he found himself. Using this language after the experience highlights that the immersion cycle extended past the virtual experience and into the interview.

Despite this instinctive use of active language and idea of immersion, Hicks did not acknowledge it. He distanced himself from the experience. Why he did this may be linked to instinct, more specifically to the instinctive reaction of his body:

> I wasn't sure at first, it made me feel all twisty when I leant over to look down the bottom to the river, though I don't know why, but now I can see it's quite an enjoyable, an enjoyable pastime. (Hicks)

When Hicks engaged his body to interact with the experience, his body reacted by *'feeling all twisty*'. This implies he experienced motion sickness sometimes associated with VR or a feeling of nervousness due to the perceived height. This was his body's instinctive reaction. A natural, instinctive reaction that implies Hicks' body's reaction as if he were at that height in non-virtual Machu Picchu. This reaction made him understand that he was not at non-virtual Machu Picchu. This instinct of his body contributes and detracts from the immersion, ending the immersion cycle. It did not stop him enjoying the experience, but it did stop him believing in it.

An instinctive bodily reaction was experienced by the participants Bilbo, Ron Swanson, Jill, GI Jane, and Arya. Although, there were divergences in how their bodies reacted. Bilbo had an instinctive reaction in that he experienced vertigo or motion sickness. This had a detrimental effect on how he experienced the feeling of immersion:

> Feeling sick was a- I'm sitting, right, even though my body is moving in the chair, or the chair is moving my body, whatever, so I thought it was that but then I thought I was reacting to the heights – like a vertigo? Can't be. Looking down was fine, looking up was fine because my body has that understanding of what that means in a space. (Bilbo)

Bilbo is discussing the motion sickness that he felt, which caused him to stop the experience altogether. It was a topic Bilbo would return to as he tried to make sense of why he felt that way. Bilbo clearly demonstrates his viewpoint of his body as a separate to his mind here. It is his body that *'is moving in the chair*'. It is his body that *'has that understanding of what that means in a space*'. Bilbo relies on his body to understand a space, rather than relying on his mind. He speaks of his body almost as if it has a working, mindlike intelligence to distinguish spaces, completely independent of his actual mind. This separation of body and mind could be why Bilbo returned to the vertigo so often. His body's instinct was to react in a way that is unusual to him, as his body understands what heights '*mean in a space*'. However, his mind does not appear to understand what is happening in the space the way his body does. This creates a feeling of confusion that affects the feeling of immersion. The confusion continues into the interview. This confusion might have caused him to intellectualise the experience and push away the immersion, in an effort to understand the experience with his mind, rather than body. He wanted to clear the negative feelings of confusion.

Turning to Ron Swanson, he discussed having what he considered a normal reaction to what was happening virtually. However, like Bilbo, this is an idea he rejected and tried to push away:

> I was stuck. I backed into a corner, and it went all black and I froze. I went 'oh I'm in a wall. Gotta move forward'. Tried to use my chair. Not going to work with those controllers. Which sucks. If I think about it. Cause I'm stuck here, and I'm stuck there too. Yeah. I'm in a wheelchair. I can't move. You know what I mean? In there I couldn't move. My reality of 'I'm stuck' was there too. I can't move around the bloody environment. Like I want to, but I couldn't and that's real. Not great. (Ron Swanson)

Ron uses active verbs and the first-person personal pronouns. He follows through on that bodily instinct to use his wheelchair to move as he would in a non-virtual environment. This highlights how immersive he almost unconsciously found it. This feeling of immersion may extend from the fear

reaction he experienced, shown when he '*froze*'. Freezing is a well-known fear or shock response (Bauer, 2023). His body instinctively reacted before his mind realised what was happening. The feeling of immersion is unconscious, fed by his body's instinctive reaction. Like Bilbo, there is a separation of body and mind. It was how he reacted to his body that paused the immersion cycle. He tried to use his wheelchair but was not able to because of the hardware parts of the VR. The controller technology did not allow him to move forward with his wheelchair the way he would in a similar situation. However, this renewed the immersion cycle, by connecting it to his current situation. This detracted from and adding to the feeling of immersion very quickly. Ron tries to distance himself from the immersion, however, by identifying it as something that *'sucks*' and is *'not great*'. He seems to remove himself from the immersion cycle and appears to do so because the feeling of immersion relates too strongly to his body's instincts. This is something he deems undesirable as he feels trapped or experiences fear.

Freezing from fear was also a reaction Jill had. However, Jill felt an extreme fear, due to her profound fear of heights. In the first seconds of the Machu Picchu experience, Jill began to scream and beg me to remove the VR headset. As I went to do it, however, she remembered that she was in control and removed it herself. The reaction to this fear followed her through the interview and was something she often returned to:

> My heart is still racing. I was just terrified. I got to tell you. I was, what I felt was I was sitting there, and one muscle move and I'm gone, boy, let me tell you. And then there was nowhere to turn, because the stone was there, the cliff face was there, and I was going boy, there was a yucca plant of some sort there. (Jill)

The physical effects of the fear continued throughout the interview, highlighted here by her heart '*still racing*'. It was something she repeated at the end of the interview too, almost two hours after the end of the experience. Jill's first, instant instinctive reaction fear. It had a profound and lasting effect on the whole experience as well, both virtual and the interview process. There is the sensation of feeling trapped, similar to what Ron Swanson identified. Jill was stuck, both frozen with fear and by her visual virtual surroundings like '*the stone,' 'the cliff face'* and *'a yucca plant*'. Being able to identify these objects afterwards highlights how vivid the visual sensory engagement and sense of scale was. Jill outright identified the fear as the biggest contributing factor of her immersion, and the accompanying emotions:

> I think it's helplessness or something that made it real, do you think? I don't know but it hit me then. And then I thought, 'oh yeah, take the blinking off, isn't it'. It was real, honest to God, I wasn't putting it on. (Jill)

Jill reacted by screaming and begging me for help, to remove her from the edge of the cliff. Paralysed by her fear, Jill recognised me outside of the virtual reality as a guide. She sought me to help her do something she felt unable to do herself. This suggests that, unlike other participants, I was an active part of her experience, despite me not appearing visually in the virtual reality. My presence did not seem to break Jill's sense of immersion. Furthermore, she alludes to an idea of time in her immersion cycle. There is an undefined length of time in which she is totally immersed, contributed to greatly by the feeling of extreme fear. However, for Jill that time was broken abruptly, the word '*hit*' implying a forceful break.

GI Jane experienced a forceful break of the immersion cycle with a different bodily instinct. GI Jane felt pain in her knees, triggered by the visual cue of steps. This is in relation to her chronic pain:

> My knees are bent funny – standing up there's too much weight, sitting down the bentness is too much. When I saw all the steps at the beginning, I swear they twinged or something... in anticipation of the stairs – I don't do steps. Took me a second to realise that I wasn't going to do them, but my knees were already crying. I think if I was standing my knees might've cried harder. It just looks painful. (GI Jane)

Jane's knees are a constant source of pain, no matter her body's posture or position. It appears that this was worsened by the VR Machu Picchu experience. The visual steps triggered an '*anticipation'* of movement, which highlights the immersion Jane felt. For a moment, she believed that she would walk down those steps. This then triggered a preparative pain in her knees. Her instinct, when faced with movement, is to feel pain. This was a long-lasting instinct in the same way as Jill's fear. Once the pain was triggered, it endured, and she referred to it throughout. The initial pain contributed to the feeling of immersion as a natural instinct, but the enduring pain detracted from the cycle once the anticipation of movement disappeared. Moreover, Jane speaks of her body as separate, as her '*knees were already crying'*. Her body parts have separate emotions, implying that she attributes a similar intelligence to her knees the same way Bilbo does to his whole body. The emotions vary according to body posture. Jane suggests that her body contributes more to the feeling of immersion than her mind does. Her body continues to react, even once her mind has realised that the steps were no danger to her. Once again, the temporal nature of the immersion cycle is acknowledged by Jane saying, '*took me a second to realise*'. Here the temporality is actively dismissed. It doesn't matter that the immersion cycle has broken, the damage has already been done. The pain has already been created.

Finally, an instinctive reaction to virtual Machu Picchu was tiredness by Arya. Arya stays in the house and admits that she is not active inside the house. However, her body felt tiredness, which confused Arya: "I felt tired somehow. I remember thinking that I'd like to sit down for ten minutes. I am sitting down, I felt daft, why would I think that? Anyway…" Arya's instinct was to feel as if she had been actively walking around Machu Pichu. This suggests a high level of immersion. By wanting to '*sit down for ten minutes*', and have sat throughout, implies she been able to distance herself from her body entirely. This fulfilled her wish for escapism discussed at the beginning. By separating her mind from her body in this way, it implies an almost total sense of immersion. However, this tired physical response was an instinct that both added to and detracted from the level of immersion. The sense of scale and sensory engagement creates this idea of physical movement around the space, which creates a natural feeling-tired response. However, this created a level of confusion. '*Why would I think that*?' is a rhetorical question emphasising how '*daft*' she felt, but Arya is also wondering how it is possible. She quickly turned the conversation after this, shown in '*anyway*', almost as if she didn't want to talk about it. The confusion and the negative feelings of daftness broke the immersion cycle, which is something Arya then continued to forcefully reject throughout the virtual experience and the interview. Perhaps by talking about them, Arya might feel them again, which was an undesirable response.

In this PET, the participants' bodies had parts to play in the immersion cycle by reacting to it, adding to it, or stopping it completely. Bodily instinct, such as movement like leaning, contributed to the cycle, but undesirable instincts such as sickness or tiredness would break it.

5.3.4 The Immersion Cycle Summary

This theme focused on the feeling of immersion as experienced by the participants. This cycle ebbed and flowed throughout the experience, occasionally extending after it and into the interviews. It was their bodies that dictated their experience the most, through their senses and their bodily instincts. Immersion allowed them to achieve the wish to escape discussed in the first theme.

Sensory engagement was examined in the first PET, *it was warm, you could see the breeze*. This quote was taken from Jill whose visual sensory engagement triggered the sense of touch and added to the immersion cycle. For most, the audiovisual sensory engagement was the most significant contributor and detractor from the immersion cycle. Other participants, however, found the audiovisual exclusionary as they did not make sense of the world with those particular senses. This mean there was no immersion cycle for them as they were never immersed.

In *bigger on the inside… a whole new world*, the complex and nuanced ideas of space, scale and perspective were explored. They were another significant contributor to the immersion cycle. The sense of space within virtual Machu Picchu usually triggered it to begin. The perspective of the mountains and the placement of the objects were influential to the experience.

Finally, the last PET was *My belly went bleurgh.* Participants' bodies reacted to the sense of immersion by creating a sense of sickness. How the body moved in the perceived virtual space was a way of measuring the immersion. It was an act of instinct, a body moved without thought or control, reacting to the perceived space.

We now move to the final theme of *(In)accessibility*. If the participants wished to escape, and immersion was how this was enabled, then these are the barriers, which stopped or hindered this.

5.4 Group Experiential Theme Three: (In)accessibility

This final GET seeks to understand the barriers that hinder the participants' fulfilment of their wish to escape that was established in my first PET. The VR experience enabled it, but it created or exacerbated accessibility issues.

The first subordinate PET '*I couldn't grab the camera; it wouldn't let me'* explores the parts of virtual reality software and technology that were deemed inaccessible. Inaccessibility occurs in many ways in the participants lives and was discussed in different ways. Oftentimes inaccessibility surrounding how VR interacted with their bodies.

Machu Picchu is for adventurers discusses the limitations that the participants placed around themselves to pre-conceptions of Machu Picchu. How the participants viewed themselves as tourists, how that linked to the non-virtual location, and how that affected this experience are examined.

The final PET, *it should give us the impossible*, is a PET that looks forward, to what VR might look like in the future. It demonstrates what the participants felt VR needs to offer, how it would benefit them and how it can be improved upon from its current state.

5.4.1 Personal Experiential Theme One: I couldn't grab the camera; it wouldn't let me.

The following PET discusses how the idea of inaccessibility was common, in that all of the participants felt that virtual reality was inaccessible for one reason or another. This stemmed from the interaction between virtual reality, both the software and the hardware, and the body. Despite the body not being mentioned within the questions seen in the interview guide (Appendix B4), it

featured prominently for all the participants, further emphasising its importance. Many of the participants experienced a notion of 'invisible bodies'. The virtual reality experience rendered bodily parts of the participants, such as hips or the overall senses, invisible or took them away. The photography activity within the Machu Picchu experience requires a camera that the user must pick up. This is placed on the assumed hip area of a standing person.

For Leslie, her hip disappeared. Leslie had to sit for her entire experience due to her chronic pain. She had to move and shift to reach part of the Machu Picchu experience. However, her seated position meant that she could not shift to reach her hip; the hip effectively ceased to exist as the software required it to exist. Despite her excitement over the whole virtual experience, there were parts of the VR that were inaccessible to her:

> Though I was getting the controllers, I was thinking about wanting to pick up the camera and the camera was, I couldn't grab it. Where they said it was on my body, I don't have that body part. No, I mean I do, but not in the way they think. I couldn't pick up the camera with the way I sit. (Leslie Knope)

Here, Leslie highlights how the experience expected her hip to exist in '*the way they think*'. The virtual reality experience assumes a viewpoint of the someone who can stand. This viewpoint does not adapt to a seated position. Leslie must sit down, with her legs elevated, to better alleviate pain. It is a negotiation with her body. Her seated position in exchange for a longer, less painful experience. However, the virtual experience or technology is willing to make the same deal. Saying '*I don't have that body part'* is definitive. There is no negotiation with her body, it is not part of the exchange. The hip does not exist in the way that the technology requires, and it will never exist in that way for this experience. Leslie does not blame herself or her body, and repeatedly uses the word '*they'* when discussing VR. She is giving a personhood to the VR and its experience, perhaps assigning blame. It is not because of her body that she cannot access the experience, but it is someone else who is barring her. This could refer to the characters within the Machu Picchu experience, the creators of the virtual software of experience, or the overarching VR hardware technology. Whoever she is blaming, it is '*they'* who are barring her from parts of the experience, by expecting her to be able to interact with her hip in a certain way.

Sasi highlighted this lack of ability to interact with the position on the hip. Unlike Leslie, however, she blames her own body, feeling alienated from it. Sasi previously discussed wanting to escape her body, which happens but in the '*wrong*' way:

> The camera was too low on the hip; I couldn't grab it. I felt like my hands were the wrong way around, my hands felt back to front. I have to sit in a weird way so that I'm not in pain if I'm there for long periods of time but that made it hard. (Sasi)

The phrase *'I couldn't grab it'* is stated as if Sasi was using her hands and not the controllers. It is definite too. The grabbing was an impossible feat. Sasi felt incapable of grabbing the camera because of how she must sit to make the pain bearable. Unlike Leslie, who extended the blame to the VR design, Sasi blames her body, as if it is *her* inability rather than an inaccessibility of the experience. Sasi mentions her *'hands feeling back to front'*. This suggests that the VR, be it technology or experience, changed how she understood parts of her body. Her hands feel the 'wrong way', as if it is other to or distanced from her from her. This alienation from her body is a source of frustration for her, rather than the distancing she wanted. It makes the experience harder for her to understand and enjoy. However, as frustrating as this experience was for her, Sasi was resigned, as if she's used to this happening due to her body. She previously mentioned feeling barred from other experiences, which

suggests that this is an extension of that. If she is barred from those, it makes sense that her body makes it difficult for her here too.

This feeling of being barred from an experience, or finding it too hard to enjoy, occasionally led to feelings of failure. Hicks has become gradually disabled over time due to previous sports injuries. He felt that being unable to use the controllers thanks to his limited mobility led to a feeling of failure:

> And I just thought 'oh I've failed at this then, haven't I?' because the controllers – I couldn't- You don't know if you've pressed anything, and I don't have the strength I used to. Just needs more positivity of action. Disappointing… When I couldn't get the camera round, and, as it turned out I didn't know that the button to use the camera existed at all. I was trying to move the camera with the hand so that was really just not knowing the button was there and it didn't actually tell you. It kept telling you 'Look at the screen to find out what you should be taking' but it didn't tell you what to do with the camera. And I didn't even know it was there until I happened to look down. (Hicks)

An unfortunate side-effect of Hicks' disability is an inability to exercise, which has left him without strength in his hands or feeling in his fingers. Hicks blames the inaccessibility of the controllers on both him and the controllers. He uses different pronouns to do so. He begins with the first person '*I couldn't'*, shifts to the second person and then back to the first person '*I don't have the strength*'. He is saying this would be a problem for anyone, but he is explaining his perceived failure to use the controllers, wanting to explain either to himself or to me. Hicks emphasises these feelings by using '*haven't I?* as a rhetorical tag question. He appears to be encouraging me to agree with his failure and to make it a more definitive idea. Hicks is certain that he has failed in some way, at the experience, at the VR, due to the inaccessibility of the controllers. He goes on to describe in detail exactly how the controllers are inaccessible, assigning blame to the controllers and the VR software, as '*it didn't tell you'*. He is distancing himself from his feeling of failure, negotiating with it. Repeating '*it didn't tell you'*, as if he had just realised, emphasises how his ideas have changed. He has firmly shifted blame to the controllers and the VR. Feelings of failure can be complicated, both in how it feels and where it stems from, which is something Hicks begins to make sense of here.

These complicated feelings were present in Abigail. She discusses her feelings of failure, how she has failed herself. However, she extends these feelings to me. Not only has Abigail failed, but she has failed me in some way:

> I felt quite limited actually. I have to sit down but you had to do something with the floor, yellow arrows? I couldn't see them because I was sitting down, and it wanted you to stand. I can't obviously, I'm sorry I couldn't do it for you. (Abigail Fifi)

Abigail remained seated for her experience as she cannot stand for long periods of time without pain. Like Hicks, she shifts through pronoun usage from first to second and third person. Instead of highlighting a shared problem, Abigail highlights it as her own problem. '*You'* is used to describe the nature of the difficulty she is having and Abigail switches to '*I couldn't'*. This difficulty in interacting with the experience is, according to Abigail, her own fault, which then fosters feelings of failure. When describing this inability, Abigail uses the adverb '*obviously*' to highlight that this is a problem entirely her own. Due to her disability, Abigail perceives it as almost natural that she would be unable to use the VR experience in the expected way. This suggests that the inaccessibility is not a surprise to her. By apologising to me she shows that her feeling of failure does not mean she has failed, but

rather she has failed me. This feeling of failure is caused by '*it'*, the experience that requires the participants to stand for a perceived full experience. Not standing took away Abigail's ability to see parts of the experience, which contributed to her feeling of failure. Furthermore, there is an idea of sensory deprivation in the '*I couldn't see'*. This is a further area of the body that the VR took away. The seated position Abigail needed to take for her own pain management meant that she couldn't see part of the experience. It was barred or inaccessible to her, which is something that GI Jane also highlighted:

> Why was it so hard? I'm not a gamer so maybe that was why? They made the controls too difficult – and it gave me a headache. It was so difficult, and you couldn't see what they wanted half the time… And I'm not good on the controls. So that's my problem. (GI Jane)

Jane is blind in one eye, which she said was not a problem during the experience. However, it does mean she has, in her own words, '*limited resources of the senses'*. By depriving Jane of the ability to see some of the experience through her seated position, the VR experience places an extra limitation on her sensory resources. Not only has part of the experience been taken away, but also her limited eyesight has been taken away. This made the experience '*difficult'* for Jane to do, which led to the feelings of frustration. Like Leslie, Jane uses the '*they'* pronoun, offering a personhood to either the VR headset, experience, or speaking directly to the designers. Something else has made this experience difficult by limiting her sensory resources and making the controllers too hard for her to use. However, Jane switches to the personal possessive of '*my'*. The frustration of the controllers being too difficult was from something else, but her lack of skill, from not being '*good on the controls'* is her own problem. This suggests she blames herself as much as others. It is her fault, her problem, for not being able to use them. This assumption of fault could be from Jane's idea that a gamer would not experience the controllers the same way as she would, '*I'm not a gamer'*. However, despite asking if this might be the case, she moves on to the '*they'* pronoun. This pronoun switching implies that, Jane is negotiating with these feelings of frustration, trying to understand where they may be coming from. Does the VR technology create barriers to the Machu Picchu experience, or does she create them?

Turning to Ron who felt that VR gave him more problems than he had previously, such as the motion sickness discussed in *my belly went bleurgh*. The motion sickness he felt is a rejection of the experience by his body. It was not something he felt control over, which is incredibly important to him. It was this that stopped him from finishing the experience. However, it wasn't just this motion sickness that made the VR feel inaccessible to him. Ron feels his height has had taken away from him due to his disability. He was wheelchair bound for the experience. It was something that affected the whole experience, due to where the standing viewpoint of the Machu Picchu experience was set:

> And they need - you definitely need to think about people who are vertically challenged. Who are people who are sitting. In a stationary thing, rather than that. I think that's all built for people who walk. Obviously. You can see that. Cause you sit there and in game there's this stand telling you about Machu Picchu. But the viewpoint is off, it's taller than me. I couldn't grab the hat. Aspects like that need to be all thought about beforehand. (Ron Swanson)

Like Leslie, Ron uses the '*they'* pronoun, speaking either to the VR headset, experience, or directly to its designers. Ron is vehement in his requests for a more considered approach to designing VR headsets and experiences. He discusses this approach as a '*need'*. It is essential. However, later on in the interview, Ron says he understands the difficulty of taking a less considered approach due to

business costs. It is an understanding stemming from by his current job in IT development. However, he is definite that more consideration is required during development regardless. His need for a more considered approach could stem from his height being taken away as the viewpoint is '*taller than [him*]'. He is able to stand for long periods of time, but he must use crutches. This meant he chose a wheelchair for this experience. When Ron stands, he is 6"4 but loses that height when he is in his wheelchair. The necessity of the wheelchair means that some of the experience was barred from him, like the interactivity of grabbing the hat. This need to have adjustments stems from a concern for other people, who may have more difficulties than he did. This implies that the viewpoint was the only inaccessible aspect for him: "If I'm an abled upper body person and I'm having difficulty? What would a person worse than me be able to do?". His emphasis here on being an '*abled upper body person'* implies that Ron believes this technology would be impossible for someone to use with a different type of disability. He cannot imagine that VR could be used by someone with additional limited mobility if he has trouble. VR would be completely inaccessible, which concerns him.

It is something that also concerns Bilbo. He discusses it in relation to his job, which is to adapt aids and areas such as wheelchairs and caravans. Although he now appreciates VR as useful for his business, he has concerns of its accessibility: "Yeah, but I'm really struggling to see how it could be adapted. It needs to be, no question. I had it easy. How would others do it? Worse than me?". Bilbo's motion sickness was the only thing that stopped him from finishing the experience, which is what he classes as '*having it easy'.* This implies that his disability did not affect his VR use and that others '*worse than [him]'* may be more affected. Like Ron, Bilbo feels there are people who cannot access VR at all. He struggles to see how he could adapt it for their possible needs. Not only is VR inaccessible but it is also unadaptable. Bilbo plans to use VR in his business but cannot see how without adaptations.

This PET discusses the limits of virtual reality, taking its PET name from a common turn of phrase used by almost all of the participants. This was usually in relation to the camera's position on a virtual hip within the experience. This was broadly divided into two categories: bodily limitations and technological limitations. The VR technology was incompatible for their bodies and their disabilities. The participants repeatedly found themselves barred from the virtual experience due to the technology, both in the hardware and the software.

Machu Picchu is for adventurers, the next PET, discusses how the participants viewed Machu Picchu as a location. How they viewed adventure tourism and the tourists who visit Machu Picchu are examined.

5.4.2 Personal Experiential Theme Two: Machu Picchu is for adventurers.

All of the participants had set parameters of the concept of adventure, the types of location connected to this concept and who could access adventure locations. These perceptions influenced each other and influenced whether the participants experienced the virtual Machu Picchu experience as adventure tourism. Moreover, these ideas created parameters around how the participants viewed themselves as adventurers, Machu Picchu as an adventure location. The participants commonly discussed physical engagement as a characteristic for adventure tourism. This led to the placement of Machu Picchu as an adventure tourism destination and set imagery of an adventure tourist that felt exclusionary to the participants.

Jill has a very set image of an adventure tourist in her head and what that means for Machu Picchu. This imagery came up when she began discussing the location: "It's too much as I am now but even when I did go... Mach Picchu was never for me. For the people who like walking up there, all those treks. Historians and Indiana Jones types." Jill no longer travels, thinking herself too old at 79 and too much in pain with her arthritis for it to be an enjoyable experience for her. However, Machu Picchu was never a desired location. The use of the word '*never*' is definite and emphasises how little interest she had in Machu Picchu. This is due to the fitness level and the type of people she associates with that, as those who *'like walking up there*'. Even before her arthritis began to affect her, Jill created her own set parameters around Machu Picchu as a location and the type of person who could access it. By creating these boundaries, she excluded herself from experiencing Machu Picchu non-virtually. Through this strong association of physical engagement with adventure tourism, Jill has created a visual example of an adventure tourist, influenced by media, '*Indiana Jones'*. This is an idealised version of an adventure tourist, a famous action hero and archaeologist. By connecting '*historians*' and '*Indiana Jones'* she adds a historical element to her idealisation of adventure tourists as young, fit action heroes. Jill does not feel she matches this heroic imagery of a historic adventurer. She discounts herself as an adventure tourist and has done so since before her disability began. Despite there being an absence of '*all those treks'* in the virtual Machu Picchu, Jill's definition seems too difficult for her to dismiss and were extended to virtual reality.

GI Jane was another participant who restricted herself from Machu Picchu due her idea of the level of physical activity required to engage in it. Jane added on an extra addendum; young:

> But that's just me. Machu Picchu is for the fit and young, those ones who like all that walking, travellers. Cities are better for me because they're flatter, and beaches, but in cities there's more of a buzz. I like the hustle and bustle of it. I'm more energised by a city. (GI Jane)

By highlighting set characteristics required to engage with Machu Picchu like '*fit and young'* she is identifying herself as other to this. Jane blames the menopause for her limited mobility and her general lack of fitness. She feels that both of these age her prematurely. Thus, her ideas of her body do not match up with her ideas of physical ability required for Machu Picchu. She does not identify with the word *'travellers'* that she connects with the people who would go to Machu Picchu. She pre-emptively distances herself from the virtual experience. Emphasising her reaction to a flat, bustling city as being *'more energised'* by them implies that she expected Machu Picchu to be the opposite. The mountainous landscape of the area is inaccessible to her due to its lack of flatness. Flatness is something she seeks due to her pain-related limited mobility. Despite understanding this was a virtual experience, this lack of flatness made Jane further pre-emptively distance herself from the experience. This was perhaps done instinctively, without thought, as she never reflected on this. Non-virtual Machu Picchu was not flat and painful and so virtual Machu Picchu would be the same. Her instinctive pain reaction cemented this. By distancing herself from the experience Jane applies the same principles of non-virtual Machu Picchu to virtual Machu Picchu. In doing so, Jane classes this as adventure tourism, which is not something she feels she can engage in.

The term '*travellers'* is one Ron Swanson uses for the type of tourists he expects to see in Machu Picchu. He associates physical activity with adventure tourism, and so has a clear image of a traveller, or an adventure tourist in his head:

> I'm a traveller, these are- who- they're people who evolve all around the world. It's how you do it. And Machu Picchu. That's a traveller destination... It's physically hard, so you get trekkers. People who aren't overly obese, shall we say? There's a

> trek into Machu, which takes five days and even if you go to the train at the bottom, you've still got a mile and a half hike straight up hill. That'll knock half the obese people of the planet. I think I'd love it. Once you set your mind to things, you're off and doing it, I'm not going to fuck about. (Ron Swanson)

Ron identifies himself as a traveller. However, Ron's heritage is Pavee, known in mainstream media as an Irish Traveller (Villani et al., 2021). Thus, he could have meant being a traveller in a cultural sense. Prior to this quote he attributed his love of travelling and his '*itchy feet'* to his genealogy. He appears to have created idea of a traveller from this. For him, being a traveller means using travel as a growing experience, *'evolving all over the world'*. To evolve is to change gradually, for the better, continuously adapting (Dominguez, 2015). As Ron goes on to connect '*evolving'* to physically difficult exercise, he could mean a physical evolution, an adaptation of body. Ron further connects the Machu Picchu trek to determination or '*setting your mind to something'.* This implies trekking to Machu Picchu involves an emotional evolution too. Either way, Ron believes there is a tangible connection between change, growth and travelling. This highlights an emotional connection to travel and for those who identify as a traveller. This connection is so strong it creates imagery surrounding what travellers look like, such as not being '*overly obese'*. He is once again connecting Machu Picchu with the body and setting limitations around a certain body type. He repeats the term '*obese*', which shows how strongly he believes that a body type he perceives as obese would be unable to engage with Machu Picchu. If he connects physical evolution with locations, then this suggests that Ron does not believe certain body types are capable of or will experience this evolution in Machu Picchu. Ron has created an exclusionary limitation on Machu Picchu regarding bodies that does not extend to his own body. Ron identifies as a traveller regardless of his body and so this limitation does not extend to him.

Travellers and their perceived characteristics appear with Arya. How she defines this term, and these characteristics diverges from Ron's definition, although she calls herself a traveller in the same way:

> Tour guides will know I'm not like other tourists. I'm a traveller, an explorer. A tourist is in and out in a day. And that's it. A traveller will spend weeks at a time in a place and they're the people that go to Machu Picchu. They know more than a tourist would, like I do. I'm a historian. (Arya)

In the pre-interview, Arya stated that she had never been on a trip or holiday she deemed adventurous. However, she self-identifies as a traveller who is obviously '*not like other tourists*. She separates tourists and travellers, and distances herself from the former. Identifying this way implies that being a traveller does not mean you have to have physically travelled. A wish to travel or merely not identifying as a tourist means you are a traveller in your mind. A traveller is also an '*explorer'*, which implies a traveller is someone with an urge to spend time in a certain location and learn more about it. Knowledge and curiosity are the most important characteristics of a traveller. This suggests that, for Arya, being a traveller means you must be curious about the world around you. This could be why Arya places such an emphasis on being a historian. Arya frequently returns to her time as a student studying history. She categorises herself as someone who wants to learn. To be an historian is to have a curiosity about the past world. She researches into the historical background of the places where she wishes to travel but cannot, due to her agoraphobia. Machu Picchu is atop that list. This research and curiosity is a way of surrounding herself in the area she wishes to visit. It is how she spends time with a place in a way other than physical travel.

Time in a certain location is a further important characteristic for travellers as they spend '*weeks at a time in a place'*. This contradicts her previous definition, where only a wish to travel or the self-

identification as a traveller makes you as such. However, it connects with her idea of a traveller being an explorer, exploring and learning about the world. For Arya, time in a location could apply to her time spent researching the area to '*know more than a tourist would*', as Arya who is a devoted historian of Machu Picchu already does. She has spent years researching this area, becoming an historian of the area. Time as a characteristic for a traveller does not need to be time *in* a place, but rather time *with* a place. Arya places fewer limits around the idea of Machu Picchu, and the traveller who engages with it, than my previous participants. However, she specifies certain characteristics that are connected to her and how she fulfils them through her self-identification as a traveller. A wish to learn, especially around the history of the place, to better understand a location, a wish to travel and time spent with a place are the general requirements that she identifies.

Time is an important aspect for Bilbo. However, Bilbo, unlike most of my other participants, does not identify Machu Picchu as a traveller destination because of his divergent definition of the length of time required:

> That's what adventurers- travellers do. It's what I did. I spent six months in Borneo, I've been to Crete, Tunisia, Italy, Cyprus, Morocco, load it up with gear, travelled for six months or a year. I'm just not the type to go to Machu Picchu, something so small, done in like a week? I'd be bored. (Bilbo)

For Bilbo, adventurer and traveller are synonyms. Bilbo's definition for both of them is temporal, *'six months or a year'*, which is a length of time VR cannot fulfil. Furthermore, listing the locations such as '*Borneo', 'Crete, Tunisia, Italy, Cyprus'* and *'Morocco',* implies these are the locations he deems adventurous or for travellers. His own time in these places has created his expectations for other locations, which Machu Picchu does not match. These are mostly hot, inhospitable environments such as the rainforest in Borneo or the deserts in Tunisia and Morocco. They also require '*gear*' to survive, endure and enjoy. Although Machu Picchu could be considered inhospitable due the high altitudes of the mountains and its heat (Magli, 2010), Bilbo does not consider it as such due to its size.

It is not just the Machu Picchu site itself that is small, but the associated trek seems to be too small. The trek spans 26 miles (Magli, 2010), which implies that Bilbo is used to travelling greater distances. He lists countries, suggesting that adventures span multiple locations within a country, not singular sites. Essentially, Bilbo is classifying himself as an adventurer when he says, *'what I did*'. His previous travel experiences have fulfilled both these time and location size and environment hostility requirements. Machu Picchu does not fulfil these requirements. This implies that Machu Picchu is not a location for adventurers. Like Ron and Arya, what defines an adventurer, or a traveller, is what Bilbo himself fulfils by self-identifying as such. Setting these characteristics for adventurers, such as time, location size and inhospitableness means Bilbo is excluding people who cannot meet these requirements. Moreover, he is excluding virtual reality from being identified as adventure tourism as it fulfils none of these.

Adventurer being defined by characteristics exhibited by the participants further appears with Duncan Biscuit. He classifies himself as an adventurer and does not extend that definition to Machu Picchu. His set parameters are not temporal, but connect back to physical activities:

> I might go to Machu Picchu... but it's not really my thing. Those solo, weird-ass hikers, 'adventurers' or whatever they call themselves. That's not adventuring… Sport – more sport than a wander up a mountain. Kayaking, ski-diving, rock-

> climbing, skiing dropped from a helicopter. Nah, Machu Picchu is for pus- oh, can't say that. Um, hippies. It's for hippies. (Duncan Biscuits)

Duncan is an adrenaline junkie, which influences his perception of adventuring as a concept. Adventure is the fulfilment of his quest for adrenaline, with extreme sports such as '*skiing dropped from a helicopter'*. Machu Picchu's 26-mile trek (Magli, 2010) to Duncan feels sedate compared to his version of adventure. It is merely a *'wander up*' the mountain. 'Wander' is a mild adjective, implying that he views the hike as more of a slow walk, with no difficulty and nothing extreme in nature. It is too easy to be considered adventuring. Thus, the people who engage in this wander are not adventurers. This is a specific definition of adventuring, one that pertains mainly to Duncan. It is exclusionary or limiting to others who define themselves as adventurers, such as my other participants, who did not mention these set parameters themselves. In a possible manifestation of that exclusion, Duncan is derogatory of the tourists who engage with Machu Picchu as a destination. He uses the term '*hippy'* as an insult. Furthermore, Duncan places '*adventurers'* in his own air finger quotation marks. This implies that this is not what he would call them. He is offended that he believes they've chosen to self-identify this way. The hippy archetypes are of an easy-going, laid-back culture that enjoys slow living (Rai, 2022). This is so opposite to how he identifies as an adventurer that the idea is offensive to him. Duncan is an adventurer, by his own definition. His definitions about what this mean revolve around his love for adrenaline and his quest to achieve it. Thus, his idea of adventure is exclusionary. Not only to those who do not define it as such, but to virtual reality Machu Picchu, which does not fulfil these criteria.

This PET identified participant understandings of what adventure, travellers and adventure tourism meant to them. A prominent characteristic was a need for physical engagement. The opinion about whether non-virtual Machu Picchu fulfilled this differed. For some, Machu Picchu was adventurer's destination because of the hike. For others there wasn't enough of a hike to be considered as such. Time was another requirement. Although, the ideal length of time diverged between participants as well as whether or not time in a place or time with a place fulfilled it. Finally, for some the virtual Machu Picchu was classified as adventure tourism because the non-virtual location fulfilled these complex criteria. For others this was not an adventure tourism experience as the virtual location did not fulfil these subjective conditions.

The final PET is *It should give us the impossible,* which explores how the limitations of virtual reality and what the participants felt virtual reality should be, rather than what it is now.

5.4.3 Personal Experiential Theme Three: It should give us the impossible.

Thoughts of what virtual reality should offer were prominent amongst the participants. Many felt that VR experiences should impossible or extraordinary. For some participants this connected to their wish to escape from their lives, escaping into impossible scenarios such as travelling in time or walking in space. All agreed that VR was limited in what it could do currently but in the future, it would have no such limitations.

Virtual reality should do the impossible, which is something Arya highlighted concisely. This is the quote I have used for this PET's title. Spacewalks or going into space was a reoccurring wish, as an example to highlight the type of impossibility they mean VR to make possible. Arya wanted the extraordinary:

> It should do spacewalks. If you're going to take me somewhere, take me somewhere extraordinary. It should give us the impossible. It should let me walk the history; I could learn so much more from walking the history. Not just Machu Picchu, I know too much, but the pyramids without having to deal with the heat or the regency without the diseases, I don't know. Give us the impossible. It will. One day. We'll get there. (Arya)

Arya related her wish to use VR as a tool for escapism, related to her love of Star Trek: The Next Generation's Holodeck (Roddenberry et al., 1987 – 1994). This influenced what she wanted VR to achieve in the future, a more exact location to escape into. It's a location rooted in space and reaching that final frontier. Arya will never get to space herself. Thus, she foresees VR as a way of getting there in the future, as a way of achieving *'the impossible*'. The impossible for Arya seems to revolve around indulging her curiosity or going where people cannot go. She feels that she cannot go outside due to her mental health. Thus, she s excluded from being able to indulge her curiosity in locations other than through research. She cannot go where other people can. Being able to go where others cannot means Arya is able to access places where *everyone* is excluded. Arya feels singled out or excluded by remaining indoors and VR is a way to negate that feeling.

An important part of Arya's identity is her role as an historian. Through VR Arya seeks a new way of interacting with what she loves, by '*walking the history'*. Here Arya suggests that she could understand history more by learning in a different way, indulging her curiosity in a way she currently cannot. She could engage in learning without having to experience the physical downsides such as '*heat'* or *'diseases*. Arya implies that there is an embodied and uncomfortable element to experiential learning that can be avoided using VR, which she might enjoy. There is another impossibility that Anya suggests, which is time travel. *'The regency without the diseases'* implies that she would like to go back in time, but she is somehow afraid of catching the diseases. VR would negate this. This is an extension of the desire to learn more experientially about her favourite topic and the worry of how that would affect her body outside of VR.

Time travel came to the forefront with Cherry Blossoms. Cherry enjoyed the idea of VR in its current state. However, she became more excited about the possibilities of the technology and what it could provide throughout the interview. For Arya, VR could be used to gain a more experiential understanding of history. Here, for Cherry it was more there for entertainment purposes:

> It could help me go back in time. Back to Elizabeth Bennett times, you know, to see Bridgerton. In a ball or something. I'd love to be able to watch that in VR – do you think I could dance with that guy? Be so much easier to understand it if you were there, do you know what I mean? And the Duke would be there. I'd dance with him any day, people all around. That would be interesting. (Cherry Blossoms)

Maintaining an influence from the media she engages with is possibly how Cherry connects VR to escapism. Using the modal verb *'could*' to indicate possibility means that VR would help her to escape backwards into time. This is not something that is happening right now, but something that will be possible in the future. Cherry seeks an immersion in the historical entertainment she has picked, Pride and Prejudice (Wright, 2005) and Bridgerton (Rhimes et al., 2020). This immersion could stem from a seemingly more embodied VR experience, as Cherry wishes to dance with someone inside an experience. This implies that VR could facilitate a personal, tactile interaction in the future. The focus is on entertainment, but Cherry considers experiential learning as a future possibility as well. History may be *'easier to understand*' when using VR, as *'if you were there*'. VR will foster a feeling of presence in the past, connected with total immersion in the historical virtual

environment. Of course, this may mean that the entertainment is easier to understand by having a more immersive experience. Either way, for Cherry, it seems that VR will take abstract knowledge and turn it into something tactile, like a historical, Ducal dance partner.

Being able to do the impossible was important for Sasi, who feels there is much in her life she cannot do, due to her anxiety. Outside of entertainment and travelling, Sasi feels there is a lot of activities that are inaccessible to her. Being able to experience them on VR will be a way of helping Sasi with her mental health:

> In real life, there are certain things I wouldn't do. My kids would, but I wouldn't. I'm afraid of heights and stuff so on VR I could go on like a roller, a really high rollercoaster or go for a spacewalk. Something that couldn't be done in real life. That's- I mean, it's pretty cool. Maybe I can go to Oakwood. The kids want to try it but [her daughter] won't go on without me. (Sasi)

In the same sentence, Sasi pairs *'a really high rollercoaster'* and doing *'a spacewalk'*. She lists them both as impossibilities. Sasi is afraid of heights. This renders both experiences inaccessible to her and she puts them on the same level. This implies that Sasi going on a spacewalk is equally as likely as her going on a rollercoaster. Whereas Arya thinks that impossible experiences are for the future, Sasi speaks in the present tense, using '*could*'. Both of these activities, the rollercoaster, and the spacewalk, are available to do in in the here and now. Sasi believes that they exist, and it is very possible that she would try to experience them on VR. The VR is imagined as a safety net. It is a way of negotiating with her own fears and the anxieties that stem from them. These anxieties might even be negotiated with, without the virtual safety net, as Sasi mentions her local theme park. She has never been due to her anxieties and, by extension, neither have her children. Sasi suggests that, by experiencing a roller coaster on VR, she may be able to try on non-virtually so that her children may also try it.

Using VR as a way of doing impossible things was discussed by Duncan. He suggested that VR should be used for activities that cannot be survived without specialist equipment:

> With VR, you've got to, like diving in the Great Barrier Reef. It'd be amazing to like, to throw yourself in the, in a completely alien environment, something that you can't survive without specialist equipment, and you look around you and there's these little bastards getting along fine. Take me somewhere we can't survive, somewhere I can't go, otherwise what's the point? Can't wait to see it. (Duncan Biscuits)

Duncan wishes to now use the VR for exploration. It is now a tool to discover new areas that he might be more interested in other than Machu Picchu, such as '*diving in the Great Barrier Reef*'. The type of environments Duncan wishes to explore are hostile, something that would otherwise kill him or have a finite time on exploration. This is an extension of his love of extreme sports. Duncan highlights the ability of the fish to survive in the sentence *'little bastards getting along fine'*. This suggests that he wishes to do something only '*completely alien'* animals can do, rather than what other humans can do. However, Duncan shifts the pronouns from 'somewhere *we* can't' to 'somewhere *I* can't'. He takes access to such an inhospitable environment from an unidentified collective to solely himself. He appears worried about what his multiple sclerosis will take from him, beyond the job that he loved. Being able to access places that no one else can access means that VR can give back what Duncan feels has been or will be taken from him. When he rhetorically asks, '*what's the point*?' he is expressing that he doesn't understand why VR should exist if it doesn't fulfil

a way of accessing something impossible. He places VR in the future when he says, '*can't wait to see it*', implying that he has not yet seen it, despite his current VR gaming uses. What he wants, ultimate accessibility, his perceived reason for VR to exist, doesn't exist yet but there is a certainty that it will. It is the future of VR that he is excited about.

Accessibility was a concern for GI Jane as well. Connecting back to Sasi's idea of using VR as a safety net for activities she perceives dangerous, Jane wishes to use it specifically for travel. VR could be, in the future, a way of travelling to dangerous locations:

> VCR can give you – I think it'll take you to the Amazon or something. You know, the danger zones no one can reach. Like in the Amazon, all the, all the bugs and all. You know, the spiders and the killers, yeah? The killer bugs. I'd go somewhere snowy, or I'd go somewhere, uh, boiling or I'd go somewhere rainy, yeah? Yeah, like the Amazon, that's right. (GI Jane)

Jane wants to explore inhospitable environments, like Duncan. Jane associates danger with nature, signalling the Amazon and its animals as what is dangerous, like *'spiders'* and *'killer bugs*'. Nature could possibly kill Jane and VR will keep her safe when exploring these dangerous terrains. It is a safety net that would allow her to do the impossible. These Amazonian terrains should also be inaccessible to everybody, not just herself, highlighted in *'zones no one can reach'*. Jane finds travelling inaccessible, being restricted to certain locations such as cities. Thus, by seeking experiences that everybody is barred from, Jane is attributing the Amazon an extreme level of impossibility that she feels VR should remove. Jane lists weather-related adjectives as places she could go, implying she does not go there currently, like *'snowy'* or *'boiling*'. Like Arya, Jane seems to associate travelling with possibly uncomfortable-feeling weather. From freezing, cold snow to boiling heat, these are undesirable weathers whose physical attributes can be negated by VR.

Travelling using VR as a way of dispelling discomfort comes through with Hicks, who considers himself an active holidaymaker. He frequently takes driving holidays or uses his caravan. His limited mobility has given him some anxiety around driving because he needs frequent breaks, given his lack of strength. Like Sasi, Hicks views VR as a way to combat this anxiety through virtual travel planning:

> If I wanted to go somewhere, and I wanted to know a bit more about where I was going, like if you're travelling to a campsite or something, you can use Google Maps first and drive the roads on google. It makes you feel more confident, and you get a better experience driving and getting there. You get a better experience the same way, having a virtual trip, actually knowing what you were going to look at. 'Ah right, yes, if I go along this passage, it will get me to that bit that I really want to see. (Hicks)

Hicks references 'Google Maps' as something he uses to travel plan. This is his relational point to VR and something he believes VR should improve upon. Hicks expects VR to offer him something more than his usual tools can currently provide. It should take an idea of theoretical knowledge such as directions, to something more relational. Hicks looks to VR to become a provider of local knowledge when it comes to travelling, as shown when he says, *'going along this passage, it will get me [there]*'. This could mean a shortcut that, as a tourist, he would be unlikely to know. However, by exploring an area on VR, this lends him more of a local knowledge. By offering him a knowledge impossible to otherwise receive, the VR will help him combat the anxiety that travelling gives him. It would give him the confidence he feels he needs to '*get a better experience'.* VR should be a safety net; it should be a tool for experiential learning, and it should turn him into a local.

Finally, I end these findings where I began, with Abigail Fifi wanting an escape from her circumstances. Abigail strongly believes that VR should be able to provide this craved escapism, promised to her by the film to which she closely associated VR:

> The world is going to live in VR one day, that film is going to become true. The world's going to shit and we're going to live in virtual lives because our real life sucks. I can see it happening. I knew it! I'll be interested to see if it gets there in my lifetime. (Abigail Fifi)

Abigail identifies strongly with the dystopian nature of Ready, Player One (Spielberg, 2018). It is something that profoundly shaped her experience of VR. When she says, *'our real-life sucks*', this is happening in the present day and to everybody, not just herself. Her need for escapism and the dystopian association of her life creates suspicions of a future where virtual reality is needed for escapism. This Machu Picchu experience has confirmed her suspicions. Repeating '*is going to'* highlights the certainty with which Abigail believes this as total fact. It is definitive, without room for negotiation. This whole experience has perhaps made the future of VR easier for her to imagine. Previously Abigail expressed an opinion that imagination has limitations, that there must be some perceived truth to the imaginings. Now, this VR experience has given her that perceived truth. Using it, she puts a timeline on VR development, to see it possibly happening in her lifetime. It is not so much that VR *should* give her the impossibility of living a permanent virtual life, but that it *will*.

In summary, the participants felt that virtual experiences should enable the impossible. What was deemed impossible differed, but most felt that VR should fulfil them, whatever they were. VR should be a safety net, a way to handle anxieties and a way to gain confidence when travelling. When travelling, VR should allow people to access the completely inaccessible, where nobody can go, such as on a spacewalk or underwater for long periods of time. All agreed, however, that VR could not fulfil these impossibilities currently, but they looked to the future with certainty that it would.

5.4.4 (In)accessibility Summary

The PET, *I couldn't grab the camera; it wouldn't let me,* discusses the limits of virtual reality. This was divided between two categories of limitations: bodily and technological. VR was oftentimes inaccessible for the participants' bodies and their limited mobilities due to the hardware technology. The software of the Machu Picchu experience itself barred them from the experience, with the virtual camera set on an invisible hip being the most common example.

The second PET, *Machu Picchu is for adventurers,* identified participant understandings of what adventure and travellers meant, and how this created limitations upon the virtual experience. Machu Picchu was considered an adventurer's destination for some, but not for others, due to diverging understandings of adventure. These set characteristics of adventure and the people or locations that meet them creates limitations upon themselves, which affected their VR experience.

It should give us the impossible, my final PET, explored what the participants felt that VR should provide in the future, but could not offer currently. Most participants felt that VR should make the completely inaccessible accessible to everyone. It was also a tool for handling anxieties, especially whilst travelling where it could help gain confidence. Despite not feeling VR could offer all of this currently, limited by its current technology, all participants felt it would do so in the future with certainty.

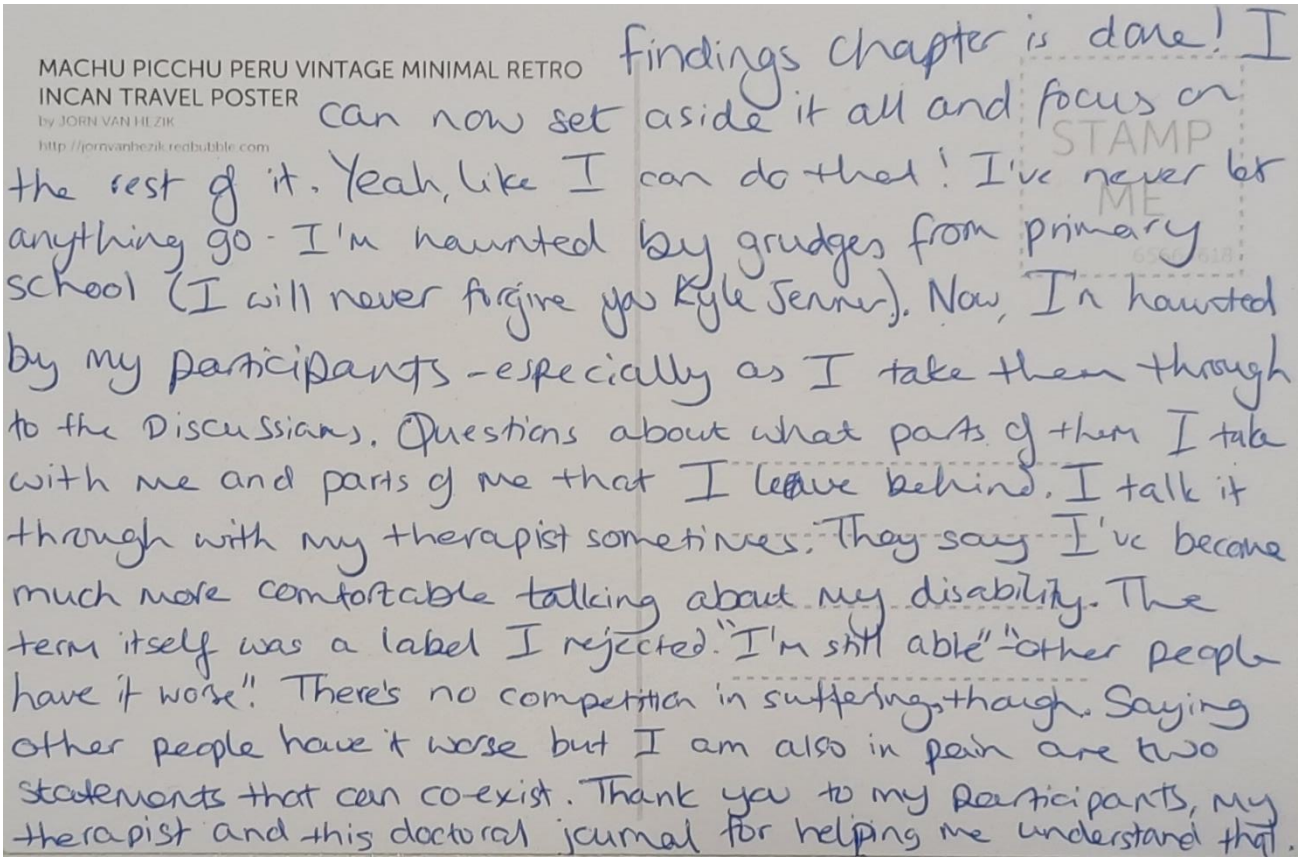
5.5. Chapter Summary

My findings have begun to detail the highly complex and nuanced experiences of participants using VR to access virtual Machu Picchu. What is most evident is the inaccessibility of the VR (*Section 5.4 (In)accessibility)*, which can be an inaccessibility of the technology. The headset and controllers must work in tandem with the Machu Picchu adventure to provide an accessible VR experience. This inaccessibility can also be self-created boundaries, influenced by ideals surrounding a place. Once an experience is inaccessible, immersion begins as an ebbing and flowing cycle (*Section 5.3 The Immersion Cycle)*, that is often created and broken by bodily instinct. This idea of immersion and presence is what creates the escapism that participants are often seeking, their contexts and motivations for using VR (*Section 5.2 Escapism).*

The next and final chapter of my thesis provides some insight into the experiences of the participants as outlined above through discussion. I will outline my contributions, empirical, theoretical, methodological, and practical. Furthermore, I will discuss the limitations of this research and areas of future research.

Figure 27:

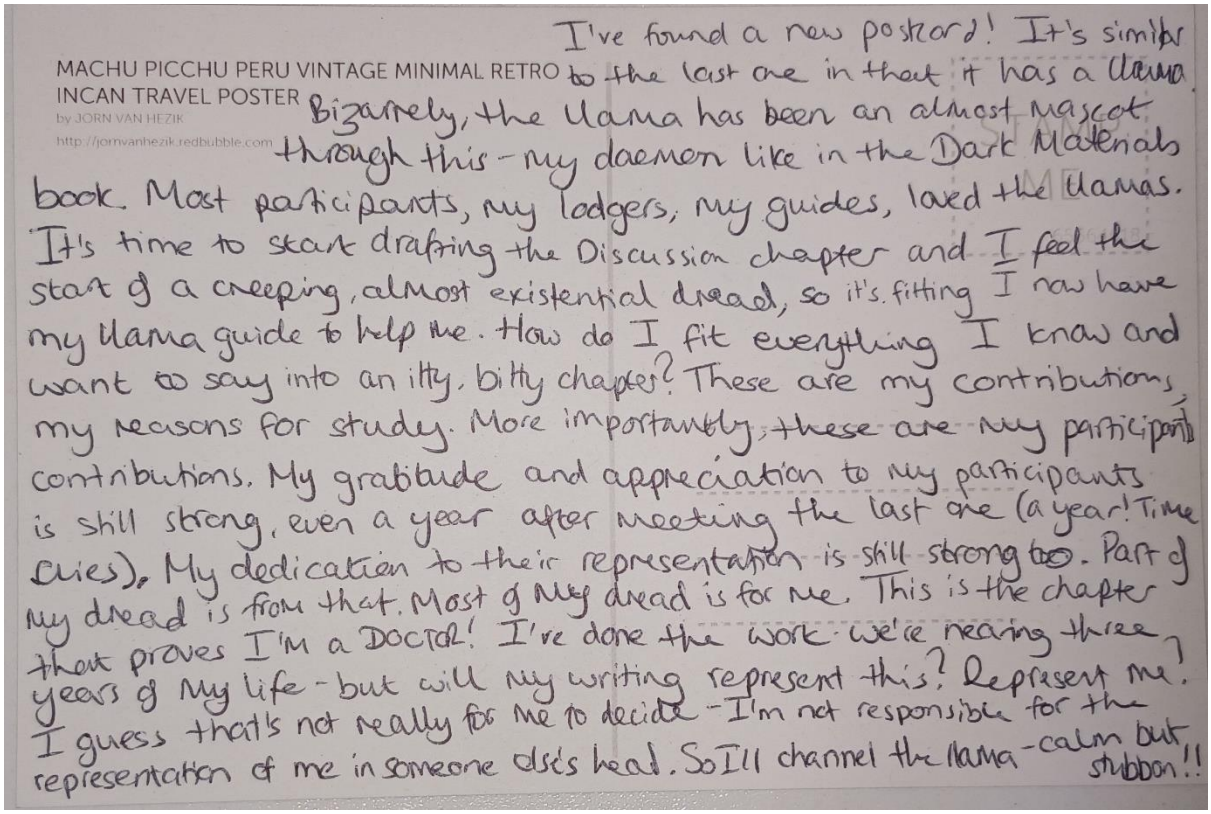
Personal postcard for the end of the Findings journey



Chapter Six: Discussions and Contributions

Figure 28

Personal Postcard from the beginning of the Discussions Journey



6.1 Introduction

The aim of this thesis is to better understand how disabled people experience adventure tourism in VR, particularly those with limited mobility. This concluding chapter demonstrates how that aim was fulfilled and outlines theoretical and empirical contributions. This chapter begins with an overview of how my findings answered research questions; I had three objectives that aligned with these questions.

- *How do people with limited mobilities experience adventure tourism in virtual reality?*
    - This objective was to gain an in-depth understanding of the nature of this specific phenomenon.
- *What contributes to the overall experience?*
    - This objective was to better understand the contexts in which the experience happened.
- *What are the barriers to experiencing virtual reality adventure tourism?*
    - This final objective was to identify what might inhibit access to a virtual experience.

Following this, the empirical contributions are presented and discussed. These contributions surround the barriers to experiencing VR. These barriers are rooted in technoableism and a paucity of consideration and representation of disabled bodies. A further empirical contribution is the identification of the ways that VR can allow participants to fulfil wishes of escapism.

In Section 6.4, my theoretical contributions are discussed. The first contribution responds to an identified lack of the disabled body in the theory of the tourist gaze. This includes an examination of the restrictive narratives. My second contribution addresses critiques of CDT, including a lack of focus on the individual and the limited presence of disabled scholars. My final theoretical contribution queries the positioning of VR as an assistive technology. I highlight the agency of VR and identify a tension between the theories of sociomateriality and embodied phenomenology.

Using a novel qualitative approach allowed me to identify and make methodological contributions. I provide a research design and methods using evidence-based research (Section 6.5). This has implications for practice (Section 6.6). Subsequently, I reflect on the limitations of this study (Section 6.7), followed by exploring key areas of future research (Section 6.8), before concluding my thesis (Section 6.9).

6.2 Discussion

The aim of this section is to answer my research questions using my findings. To answer these questions, I draw together evidence from my findings and relevant literatures. These findings highlighted many facets of experience and the contexts of experience. Most of all, in answering these questions, the body is shown as the centre of understanding in the participants' own lifeworlds and experiencing the worlds around them (Smith et al., 2022).

6.2.1 The VR Experience

In this section, I discuss how my findings answer the research question: *how do people with limited mobilities experience adventure tourism in virtual reality?* This is the experiential layer of the virtual experience and the lived experience of using the VR. According to Smith et al., (2022), within IPA the lived experience is a complex, multilayered concept, encompassing many dimensions. Through this phenomenological lens, my findings discuss the intricate and nuanced experience of the VR Machu Picchu experience. Bodily sensations are centred as the main layer of lived experiences, and how they presented in the concepts of immersion and presence.

My findings identified two main factors contributing to the VR experience: participants' bodies, and notions of space within virtual environments. Immersion and presence, which is the feeling of 'being there', are theorised in literature as integral and connected factors of a VR experience (Ceuterick & Ingraham, 2021; Lee et al 2020; Skarbez et al., 2017). Embodied responses are the most significant contribution to immersion, highlighted in the PETs 5.3.1 *It was warm, you could see the breeze* and *5.3.3 my belly went bleurgh.* These responses included cybersickness or instinctive pain. Furthermore, sensory engagement was a considerable contributor to immersion and to how participants experienced adventure tourism in VR. Audiovisual senses are signposted in the literature as the most significant contributors of immersion (Dincelli & Yayla, 2022). My findings support this but suggest that they are secondary to bodily responses. Of the senses, audio and visual were noted as the most influential. This was felt the most keenly when the two senses worked in tandem and matched expectations as to how they would exist in a non-virtual environment. However, my findings note that all senses held importance. The senses, especially the tactile, were shown to be interlinked as both contributors and inhibitors of immersion and presence. My findings expand on current

literature that focuses on the audiovisual rather than all of the senses (Ceuterick & Ingraham, 2021; Dincelli & Yayla, 2022).

This sensory engagement created constructions of space, which were considered another significant contributing factor to immersion, presence, and experiencing a virtual environment. Current research literature does not emphasise the notion of space, beyond matching expectations of space and using spatial audio techniques (Neo et al., 2021; Dincelli & Yayla, 2022). However, the findings in PET 5.3.2 *bigger on the inside… a whole new world* attributed space as the trigger for immersion. The virtual space is appreciated by the participants as a multi-layered, nuanced space with understandings of visual distance, perspective, and scale. The positionings of objects within this space, such as animals and mountains, are emphasised as important. A sense of scale and perspective fostered an emotional connection. Spatial audio techniques, such as hearing animals as if from varying distances were notable points of the immersion cycle.

In summary, how people with limited mobilities experience adventure tourism in virtual reality is through their bodies. Instinctive bodily reactions and ideas of space were integral to the virtual experience, creating feelings of immersion and presence. The body, the sense and multi-layered audio and visual space dictated the understanding of the experience. The next section discusses the contexts of the participants, in which the experience took place.

6.2.2 Contexts of Experience

In this section, I explore the research question: *what contributes to the overall experience*? To better understand the contexts of the virtual experience and what might have led the participants to be being part of this research project and using VR.

My findings identify the notion of escapism as a common motivation for the participation in this project, specifically escapism from their disabled bodies. The wish to escape is theorised as a common motivation to engage in adventure travel, which is a link to using VR to escape (Giddy & Webb, 2018; Richards & Morrill, 2020). Disabled people are noted for feeling the need to escape more strongly than non-disabled people due to the higher number of inequalities and dependencies that they face (Moura et al., 2023). The PETs 5.2.1 *Feel like I'm somewhere else* and 5.2.2 *In control for my body* examined how this need to escape centres around their disabilities, their bodies, and the impact their bodies have on their lives. Moreover, my findings showed how this wish to escape centred around control, linked to their bodies. This was a wish for the loss of control or for total control.

Abigail Fifi, Sasi and Leslie Knope viewed their bodies as something to be in control of at all times. This stemmed from anxieties relating to their chronic pain related disabilities. These anxieties extended onto their dependents or affected their support network. Children were shown to be a significant source of disability linked anxiety. For Sasi, her children dictated her routine and rendered her lifeworld (Smith et al., 2022) 'small' as she deemed it, including her physical surroundings. For Abigail, her anxieties were strongly rooted in her disability and something she feared would extend to her child. The disability might affect her ability to parent but possibly affect her child's mental health, by passing on these anxieties. Not only does her need to escape encompass her disability and escaping from her pain, as well as including escaping from her child. It is a combination of these social factors and the complex relationships created by the body, between the disability, the social and the individual (Vehmas & Riddle, 2019).

My findings identify further reasons for a wish to escape. Total control over the experience was desired and some participants' felt their bodies had robbed them of this ability. These were linked to economic factors of disability by participants. Economic factors of disability can include, loss of employment opportunities and financial resources, creating barriers for disabled people (Pinilla-Roncancio, 2018). Ron Swanson, Bilbo, and Duncan Biscuits had lost their desired military positions due to disabilities received in service. Feeling robbed of their positions, the control over their lives was robbed too, creating a link between disability, bodies, and control. To stay in total control is to negate the feelings of loss, enabling them to make any choices they wish to make.

Overall, the research question *what contributes to the overall experience* was answered in the simplest way: the wish to escape. My findings answer more in-depth by identifying multiple contexts of what escape might individually mean. Specifically, the loss of or the totality of control defines and contributes to the need to escape and the wish to have VR facilitate that escape. The following section discusses the barriers to this escape.

6.2.3 Barriers to Experience

In this final section, I turn to the final follow-on research question: *What are the barriers to experiencing virtual reality adventure tourism?* Accessibility is a dynamic situation that requires interdisciplinary commitment and collaboration (Natalia et al., 2019; Darcy, 2010). Accessibility is considered a necessity for all, not just those with extra access needs. In adventure tourism and technology, accessibility is not deemed a priority, which could partly be due to this need for constant commitment and collaboration (Johnstone et al., 2022; Wall-Reinius et al., 2023). The medical model of disability is a further reason for inaccessibility as it is seen across industries and in our power structures (Doonan, 2021; Macmillan, 2021). In technology-based industries, the medical model of a normative, ideal body standard persists, including for assistive technologies and entertainment-based technologies (Johnstone et al., 2022; Shew, 2020). This ableism is evident across my findings, with most participants finding VR difficult or impossible to use.

The barriers identified in my findings were technological and self-created. Both revolved around the body. Technologies are actively involved in shaping and co-constituting disabled experiences (Schultze, 2011). VR headsets and virtual environments involve complex relationships between users and technology (Lynch et al., 2022). My findings show how our bodies are constitutively entangled with VR. The participants highlighted aspects of their bodies and disabilities that dictated their use of technology and how the technology dictated that usage in return. A further form of inaccessibility were the limitations participants placed around themselves. These were centred around pre-conceptions of Machu Picchu as a place to visit. Machu Picchu has been viewed through a colonial tourist gaze, as created by the original narratives of Hiram Bingham. These narratives have framed Machu Picchu as an adventure tourism destination, conquering treks and 'discovering' mysteries, which is then what they become with the tourist gaze (Shullenberger, 2008). These perspectives of Machu Picchu as physical influenced the experience of the space as a virtual location. This can be attributed to the tourist gaze, credited as a creator of colonial, and possibly restrictive narratives (Cox Hall, 2022; Shullenberger, 2008), which will be discussed further in Section 6.4.1.

When answering the question of barriers to a virtual experience, there were many identified and will be discussed further in the section below (Section 6.3).

6.3 Empirical Contributions

In this section I outline my empirical contributions. Technological developments often ignore the needs of disabled people, leaving needs unfulfilled (Goodley et al., 2017; Shew, 2020). Technoableism presents in many ways, but it appears as a lack of consideration. There is a lack of representation of disabled people in adventure tourism generally and in VR, particularly in an entertainment context (Darcy et al., 2020; Fox, 2021). This limitation as ableism is reflected in the participants experiences of Machu Picchu VR. This research empirically contributes by identifying specific access problems to VR. However, the identified inaccessibility does not mean that the participants did not achieve their needs to escape. The multidimensionality of disability and the interconnectedness of disability and the world around it, provides contexts for escape. Section 6.3.2 demonstrates how my research contributes to further understanding of these dimensions. Their interconnectedness is highlighted, which contributes to a more in-depth and nuanced understanding of needs to escape being felt more keenly in disabled people (Moura et al., 2023). Furthermore, it shows how this expectation to escape using VR can be fulfilled.

6.3.1 Technoableism

Academic research posits VR as a technology that improves mental wellbeing, particularly during isolating events such as pandemic lockdowns (McMahon et al., 2020; Roche et al., 2019; Siani & Marley, 2021). My research diverges from this. My findings suggest that VR negatively affects wellbeing due to the inaccessibility and ableism of the technology. Multiple participants experienced feelings of failure due to an inability to use the controllers and technology, hardware, and software. Whilst some blamed the controllers, others blamed themselves and their bodies. This led to a lack of enjoyment of the experience and to a negative impact on how they viewed VR. Therefore, my research contributes to academic research surrounding the accessibility of VR and technoableism. My research offers more nuance and depth to how technoableism is presented in VR and how it can affect the wellbeing of the participants.

The technoableism was apparent across two parts of the technology: the software and the hardware. In the software, this appears as a lack of representation. Disabled people represent a large portion of gamers, at 30% across all gaming platforms, including VR (Thompson, 2019). The participants reflected this, with a significant portion of them being gamers and one being a frequent VR user. The representation of disability of any kind within any game type or virtual environment is lower than 1% (Fox, 2021). My findings evidence how the participants felt their bodies were not represented within the Machu Picchu virtual experience. The lack of representation is further extended to a full absence of themselves. The participants experienced a feeling of ‘invisible bodies’. Body parts of the participants felt as if they had disappeared. This was due to the software conforming to an ideal body standard (Gerling & Spiel, 2021). The software of the Machu Picchu experience assumes that the user can stand for long periods of time. In doing so, the experience excludes people who cannot stand. This adherence to the medical model of disability assumes able bodies as normality (Reynolds, 2017). This ensured the software was exclusionary to the participants, ignoring their bodies’ requirements as ‘not normal’ and therefore not applying to the experience.

The hardware technology of the Meta Quest 2 displayed technoableism by conforming to an ideal body standard and favouring the medical model of disability. Individual VR software apps or experience sometimes provide limited accessible feature, such as subtitles or colourblind settings (Dudley et al., 2023). This shows recognition for disabled people using VR hardware. However, there

are no options for hardware accessibility, such as assistive technologies. Despite this, the Meta Quest 2, positions itself as more accessible (Mott et al., 2019). However, academic research highlights that more adaptations, improvements, and assistive technologies are required for comfortable use of VR headsets (Gerling et al., 2020; Scope, n.d; Zhao et al., 2019). This is reflected in my findings. Most of the participants felt that the hardware of VR was inaccessible. The controllers were a source of concern, with most finding them too difficult to use for varying reasons. Multiple participants noted the lack of adaptations and labelled them a necessity for use. These required adaptations the participants mentioned were specific to their needs. They further suggested universal adaptations, including ones to ease any cybersickness all users may feel.

6.3.2 Achieving Escapism

As shown in Section 6.2.2, different dimensions of disability, such as social or economic, provide contexts for escapism. My research contributes to a more developed understanding of these dimensions, by highlighting their interconnectedness. Furthermore, I contribute an in-depth understanding of how the need to escape is felt more keenly by disabled people (Moura et al., 2023). The interconnectedness of disability is highlighted as a complex social phenomenon. My findings show how disability connects with the physical surroundings of the participants and their social circles. Moura et al., (2023) mentions the dependencies disabled people may have and my research contributes by expanding on those dependencies. The participants dependent on people and have people depending on them, which contributes to the need to escape. Consequently, I have demonstrated how an embodied phenomenological approach exposes the nuances and variability of disability and how it contributes to a need to escape.

Although barriers to a VR experience were identified, VR was considered a technology that could achieve the escapism that participants needed. Escapism is a well-documented motivation for engaging in tourism. My research shows that this is applicable to virtual tourism locations. The need to escape was universally present for participants, many of whom had previously begun to make links between VR and escapism. Mass media was the guideline, like Ready, Player One (Spielberg, 2018), which often presents VR as whole virtual worlds. This highlights the expectations of the VR technology. Participants wished to escape into virtual *worlds* rather than virtual environments, despite these worlds not being available on VR headsets and how it is shown in the mentioned media (van Brakel et al., 2023).

The escapism was achieved through immersion, created by sensory engagement and feelings of space. Entertainment can be seen as escapism, as it was during COVID-19 lockdown (Pallavinci et al., 2022). My research extends existing work (Ceuterick & Ingraham, 2021) by emphasising the importance of storytelling and narrative engagement in virtual experiences to provide escapism. My research identifies embodiment as a contribution to immersion through embodied emotions. Extreme emotions, such as fear, trigger physical reactions that participants highlighted when discussing immersion and feelings of presence. Rogers et al., (2020) highlight emotional connection as a tether to a virtual experience that contributes to total connectivity and immersion. My research corroborates this. Strong fear or joy fostered an emotional connection. The embodied fear created such a strong feeling of immersion that my presence, external to the virtual environment, did not break the immersion cycle. This represented an idea of total connectivity, a total connection to the virtual Machu Picchu. This diverges from current research, which currently deems it a total impossibility (Kara et al., 2023; Price et al., 2021). There is the implication that total connectivity is possible for a short while, by representing immersion as a cycle. There are moments of total

immersion and total connectivity, which ebbed and flowed, often centred around sensory engagement.

Overall, my research makes an empirical contribution by identifying aspects of VR that can be deemed inaccessible. These include the controllers, and the ways software was difficult or impossible to use. This is linked to an ideal body standard that ignores alternate needs and provides no representation of bodies outside of this ideal. My research demonstrated the negative impact this can have on well-being, such as feelings of failure. It showed the ways in which VR *can* fulfil the need to escape and why it might be considered an appropriate way of doing so.

6.4 Theoretical Contributions

In this section I identify and outline the theoretical contributions of my research. Contributions to theories of the tourist gaze, Critical Disability Theory (CDT), sociomateriality, and embodied phenomenology are discussed.

6.4.1 Limited Consideration in the Tourist Gaze

The first contribution this thesis offers is a response to the debate on how the disabled body is understood through the tourist gaze, which describes tourism as an embodied experience (Aitchinson, 2003; Rickly, 2021; Wassler & Kirillova, 2018). Adventure tourism is understood to require "intense bodily arousal, from bodies in motion" (Urry & Larsen, 2011, p. 22). The tourist gaze focuses on the physical engagement of adventure tourism. The struggle to reconcile what the tourist gazes means when using theories of embodiment when disabled bodies are not often considered has been acknowledged. However, these observations are rarely examined further (Rickly, 2021). Theories of embodiment are constructed around normative bodies, particularly in adventure tourism where hypermasculine, White, heterosexual, Western bodies are the focus (Palmer & Andrews, 2019; Williams et al., 2023). By using these theories of embodiment, scholars using the tourist gaze as a theory use an able-bodied centred lens (Rickly, 2021). My thesis challenges these able-bodied assumptions by highlighting how disabled bodies are not always present within the theory. My research provides insight into how disabled people experience the tourist gaze through their bodies. It does so by centring the disabled body and highlighting both the multidimensionality of disability and the tensions inherent within the tourist gaze. These include the influence of restrictive narratives created by and for the tourist gaze and the emphasis on the bodies senses whilst maintaining a significantly limited discussion on the body itself, specifically the disabled body.

When using the tourist gaze, tourism is conceptualised as a means through which tourists are involved in the world and interact with the physical landscapes around them (Canavan, 2020; Urry & Larsen, 2011). Within adventure tourism, the concept of risk is theorised as a sensory component, specifically the visual sense. It is a reaction to what tourists perceive as happening to them (Samarathunga & Cheng, 2021; Xie et al., 2023). Even within adventure tourism, the tourist gaze constructs the tourist as a spectator of experience, thereby positioning itself as a theory of reaction (Canavan, 2020; Korstanje, 2020; Layang, 2015). Tourists react or respond to visualisations of risk, to external stimuli. The tourist gaze is directed *at* rather than *with*, as a perception of a landscape, person, or object (Agapito et al., 2013; Wassler & Kirillova, 2018).

My research contributes by asserting that the tourist gaze is not simply a reaction to an experience, as theorised by Maoz (2006), Urry and Larsen (2011) and Xie et al., (2023). The body is central to an experience, as a point of perception (Merleau-Ponty, 1945/2014). The emotions surrounding the experience, how it is accessed and how the experience is seen as desirable is dictated by the body. Therefore, the experience is a reaction or creation of the disabled body.

In the following sections, I demonstrate the centrality of the body to an experience. I illustrate how focusing on able-bodied assumptions of embodiment may lead to aspects of embodiment being missed in the tourist gaze. I highlight how narratives influenced or created by the tourist gaze are restrictive and how they might affect those with excluded bodies, whilst drawing on relevant literature.

6.4.1.1 Invisible Bodies

When discussing embodiment within the tourist gaze, current literature theorises sensory participation as one dimensional, referencing soundscapes, touchscapes, and smellscapes (Canavan, 2020; Godfrey et al., 2020; Urry & Larsen, 2011). My thesis supports this by showing how integral sensory engagement is in virtual experiences. However, my research extends past simple, one-dimensional sensory participation and illustrates the complex ways that disabled bodies impact upon all parts of a tourist experience. The multidimensionality of disability displayed throughout my thesis demonstrates how the body dictates how a tourist space is gazed upon and how it might be viewed as accessible and desirable. My research highlights the able-bodied assumptions inherent within the theory, as well as a tension, by contributing to another aspect of embodiment.

Levels of pain and discomfort were spotlighted as central to how a tourist space was perceived and experienced. This identifies an aspect of embodiment not apparent in the tourist gaze, due to its focus on able-bodied assumptions (Small et al., 2012). Many participants felt pain or discomfort as an instinct. Their bodies identified aspects of the space, such as heights or stairs, before the participants became actively aware of them. More importantly, participants experienced pain and discomfort *before* looking for the reason or aspect and then related their feelings to it. Their bodies perceived these aspects first. Whilst there were different instincts identified by the participants, all participants understood the virtual space instinctively within and with their bodies. My thesis centralises the body as a point of perception, linking to Merleau-Ponty's embodied phenomenology (1945/2014). In doing so, the lack of the disabled body from consideration in the tourist gaze is showcased (Darcy et al., 2020; Rubio-Escuderos et al., 2021). This highlights the ableist nature of the concept of embodiment used within the tourist gaze (Palmer & Andrews, 2019). By centralising the disabled body within the concept of embodiment, this research begins to address that ableist viewpoint.

6.4.1.2 Restrictive Narratives

Through the centralising of the disabled body and challenging the abled-bodied assumptions, my research identifies and challenges deductive viewpoints. These include the creation and reinforcement of restrictive narratives, linked to the tourist gaze when it centres the able-bodied (Godfrey et al., 2020; Mattsson, 2021, Robinson, 2020). Narratives surrounding Machu Picchu specifically were identified as restrictive. This is due to the colonial nature of the narratives,

historically influenced and continuing into the current destination imagery (Cox Hall, 2022; Shullenberger, 2008). Colonial narratives of discovery and exploration create ideals of how bodies should look, act, or engage with landscapes or sensory scapes. This includes how a body should function within the sensory scapes (Prianti, 2019; Robinson, 2020). The body ideals represented in colonial narratives discuss weight, skin colour and are primarily masculinised, which creates an objectification of bodies (Chambers, 2023; Dillette et al., 2019). Bodies ignored in concepts of embodiment (Godfrey et al., 2020; Huang & Lee, 2010) are further excluded from these narratives: non-White, non-male, and, most relevant to my research, disabled bodies (Darcy et al., 2020). This objectification occurs from the tourist and the hosts, as the tourist gaze is multidirectional (Maoz, 2006).

The local gaze defines how tourists are viewed by indigenous populations, made up of tourist images and stereotypes. It is positioned as complementary to the tourist gaze (Maoz, 2006; Wassler & Kirillova, 2018). Bodies that are not considered in colonial narratives created by the tourist gaze are 'othered' by the local gaze, which can inhibit enjoyment of or access to a tourism experience (Dillette et al., 2019). Due to these objectifications, idealisations, and 'othering' the tourist gaze has been criticised as a predominantly a White, male, gaze (Godfrey et al., 2020; Huang & Lee, 2010; Bandyopadhyay & Ganguly, 2018). My research extends on this continuous critique by showing how the tourist gaze is a White, male, and *able-bodied* gaze. This is partly through objectification by the local gaze, and through the lack of consideration of bodies from these gazes and the tourism research surrounding them (Chambers, 2023; Darcy et al., 2020; Dillette et al., 2019; Robinson, 2020). Through this extension of the critique, my research demonstrates the relevance and the centrality of the disabled body. Although the participants were all White, and around half were male, their bodies still denied them full access to a tourist experience despite some of the more idealised aspects of their bodies. This mutual gaze, between the tourists and the indigenous population, co-creating narratives that are reinforced by media representations, exposes bodies to scrutiny for not fitting these set narratives, (Huang & Lee, 2010). This can be a source of discomfort. This discomfort turns these two gazes inwards and influences disabled people to exclude themselves from tourism experiences, virtual or otherwise.

Current research highlights the tourist gaze as a personal, individual construction with the tourist playing a dual role of gazer and the entity being gazed upon (Cruces Portales & Nogués-Pedregal, 2019; Urry & Larsen, 2011; Wassler & Kirillova, 2018) My research contributes by highlighting that there is never just *one* ubiquitous gaze when discussing '*the*' tourist gaze. There is the gaze outward, as in the tourists' gaze, how they perceive and experience locations and the indigenous populations (Urry & Larson, 2011). There is the gaze towards; this is the local gaze towards the tourists, which some of the participants perceived as violent due to previous experiences, who place bodies under scrutiny, and with whom these objectifications and idealisations are co-created (Moaz, 2006). My research identifies an inward gaze. This gaze focuses on how tourists perceive and understand themselves. My research shows how their understanding of self are created and mediated through their bodies. It shows how their bodies, opposite to ideal body types, are understood within certain spaces. Adventure tourism is deemed an embodied experience, with recognition of the body as a central figure (Aitchinson, 2003; Rickly, 2021; Wassler & Kirillova, 2018; Urry & Larsen, 2011). However, the body is rarely *centralised* as a site of knowledge construction (Matteucci, 2022; Pung et al., 2020). My research demonstrates that tourism experiences, understandings of the tourist self, and understandings of tourism spaces, are constructed through our bodies with disabled bodies forming the base of these understandings. These bodily understandings are influenced by the co-created by the colonial and restrictive narratives. My thesis illustrates that these gazes, including *the* tourist gaze, are highly influential on a virtual tourism experience, although not in currently theorised

ways. Thus, my research raises questions when discussing embodiment within the tourist gaze, particularly its relevance when applied to the experiences of disabled tourists (Rickly, 2021; Small et al., 2012).

Overall, my research contributes by illuminating this dearth of disabled bodies from current theorisations of the tourist gaze (Rickly, 2021). My research responds to debate on how disabled bodies can be understood within the theory by highlighting the complex multidimensionality of disability. My research illuminates nuances of the disabled body and how it relates to or dictates an experience. By centring the disabled body, the able-bodied assumptions inherent within the tourist gaze are both spotlighted and challenged (Palmer & Andrews, 2019; Small et al., 2012).

Linked to these able-bodied assumptions are the co-created narratives created by the tourist and the local gaze surrounding certain locations, like Machu Picchu (Cox Hall, 2022; Shullenberger, 2008). My research shows how bodies excluded from narratives is limiting. Although other bodies have been discussed, such as the exotified gaze, my research focuses on bodies that are significantly limited in these identified narratives, the tourist gaze, and from tourism research more broadly (Chambers, 2023; Dillette et al., 2019). This shows how multiple gazes affect those engaging in tourism spaces, as to how they view them as accessible, or how they view themselves (Moaz, 2006; Urry & Larsen, 2011). It does so by illuminating on how the idealisations and objectifications of bodies in colonial and restrictive narratives create limitations surrounding the tourists themselves.

6.4.2 Critical Disability Theory and the Individual Body

This thesis's second theoretical contribution responds to existing critiques of Critical Disability Theory, one of which surrounds the collective focus on disabled people as a singular, homogenous group (Small & Darcy, 2011). CDT's collective focus was a response to the medical model of disability's focus on disability as a 'curable problem'. Scholars aligning with CDT addressed disability as a grouped, social phenomenon (Withers, 2020; Vehmas & Watson, 2013). However, this approach has been criticised as limiting and detrimental to researching disability and disabled people (Goodley, 2019; Vehmas & Watson, 2013). A homogenous focus results in overlooking valuable insights from the individual disabled experience, which enrich understanding of collective experiences (Shildrick, 2019). Tourism research affiliated with CDT takes a group focus (Gillovic, & McIntosh, 2020; Goodley et al., 2019). However, my research returns to the individual focus that had first been intended when developing the social model of disability to which CDT aligns (Oliver, 2013). As my thesis evidences, focus on the individual does not limit the amount of the data that can be collected or mean that the unique circumstances of each participant do not apply to wider social groups. The opposite is achieved, with rich, in-depth, and holistic data being co-created and experiential commonalities made identifiable.

6.4.2.1 Individual Bodies

However, even in research that focuses on disabled people there are limitations that need to be addressed. The body within CDT is not often discussed(Cole, 2007; Goodley, 2017). The body is removed from discussion entirely by removing focus from the body and placing disability as a product of society. This has been acknowledged (Goodley, 2019) and my thesis contributes by

recentring the disabled body as the focal point of discussion. Through Merleau-Ponty's (1945/2014) embodied phenomenology and IPA, my research contributes to CDT by offering an understanding of how disabled bodies exist at an individual level. An in-depth understanding of how bodies impact the dimensions of disability discussed in CDT is provided. I further highlight specificities of the bodies and how this affects participants (Hall, 2019; Pinilla-Roncancio, 2018). Analysis revealed that disabled bodies impaired access to or affected multiple dimensions of disability. The social factors of disability, the focus of CDT, were affected by participants bodies. The intrapersonal relationships were highlighted, linked with how participants' bodies affect the social circles around them, especially parent and child relationships. However, my findings expose how the participants' bodies had a profound impact on the psychological dimensions of disability. The way their bodies were perceived or internalised affected their self-perceptions or mental well-being, creating feelings of needing to escape and control. This extended across various factors of their lives. My research shows the integral role the body plays as a base of understanding for all dimensions of disability and the profound interconnectedness of the individual body and experience. It does so by using IPA to examine the unique specificities of the body, which identifies commonalities that contribute to understandings of disabled people within the social group. These understandings can be applied within tourism research where disability is continuously underrepresented (Darcy et al., 2020). This is in part due to a lack of disabled academics within tourism research and in CDT, which is where I turn discussion (Brown & Leigh, 2018).

6.4.2.2 Disabled Scholar Paucity

A further critique of CDT that my thesis addresses is a lack of disabled voice from the side of the researcher. There are few studies that claim to be carried out by disabled scholars (Condie, 2023; De Picker, 2020). This raises questions of what disabled voice could mean within CDT and how to negate possible problems of over-interpretation of voice (Peruzzo, 2020). My research contributes by using subjectivity as a resource (Ahmed et al., 2011; Berger, 2013) and addressing this academic dearth. My positionality as a disabled scholar experiencing a similar disability to some participants has been signposted throughout my thesis. This provides a representation of disabled voice within academic research that is placed within CDT. By taking the role of the 'insider' in multiple ways (Finefter-Rosenbluh, 2017), information that may not have been accessible to a non-disabled scholar is made available to me as a disabled scholar.

Attending to this paucity does not completely negate the risk of over-interpretation. My research addresses these concerns by rooting the analysis and data collection in IPA. Whilst phenomenology is recognised as a common theoretical positioning of research aligned with CDT, IPA is rarely used, possibly due to the idiographic focus rather than the collective (Abrams, 2020). The risk of over-interpretation is combated by the reflexivity as an integrated feature of the IPA research process (Engward & Goldspink, 2020). My thesis extends on this common theoretical positioning by highlighting IPA as a complementary means of analysis and data collection. If CDT is to truly centre disability and shift from non-disabled perspectives (Goodley et al., 2018; Reaume, 2014), then my research contributes to this by showing that IPA can discuss nuanced disabled perspectives. It does so by highlighting the ableist social norms inherent within multiple dimensions of disability, that affect participants' lifeworlds (Smith et al., 2022).

In summary, my research contributes by responding to critiques of CDT, such as the focus on disabled people as a homogenous collective rather than as individuals. My thesis addresses this by focusing

on individuals and bringing the body into the centre of discussion. My research offers an understanding of how disabled bodies exist at an individual level and how it can affect all dimensions of disability. Furthermore, my research identified and addresses the paucity of disabled scholarly voice, within research is aligned with CDT. Although not necessarily an unethical issue (Tregaskis & Goodley, 2005), my thesis contributes by spotlighting disabled voice from both viewpoints and enabling in-depth co-creation of data that may not have been accessible through a non-disabled scholar.

6.4.3 Virtual Reality Technology Is Not an Assistive Technology

My final theoretical contribution refers to the implied accessibility of VR technology within tourism research literature (Maran et al., 2022; Sarkady et al., 2021). This is examined through a sociomaterialistic lens. The limited research surrounding ideas of accessibility and VR as a way of achieving often suggests a hypothetical potential for total tourism substitution (Guttentag, 2010; Iftikhar et al., 2022; Sarkady et al., 2021). By theorising VR this way, current research positions VR technologies as assistive technologies. VR is theoretically considered a technology that improves the functional capabilities of a disabled person or allows them access to otherwise inaccessible elements of society, like adventure tourism (Hamraie & Fritsch, 2019). By viewing this through a sociomaterialistic lens, my research discusses the relationship between body and technology, of which there is little discussion in current research (Matamala- Gomez et al., 2019). Sociomateriality is a theoretical perspective that challenges traditional dualisms of separation between the social and the material. The theory emphasises sociocultural aspects of life that intertwine with materials and form as a constitutive entanglement (Leonardi, 2013). Our bodies and our technologies, such as assistive technologies or VR, form an assemblage of continuous mutual links and engagement between the material, the social and the body (Müller, 2015). There is no clear boundary and separation between technology and the body (Bend & Priola, 2021; Kulkarni et al., 2023).

VR is a technology that is intimately linked with the body, as it is worn on the head and used with the hands. VR is not just a matter of people interacting with the headset but involves a complex relationship and negotiations between humans, virtual spaces, and technology (Schultze, 2011). These negotiations and relationships ensure that users interact with the technology and spaces in a way that can blur the lines between the virtual and non-virtual, contributing to immersion and presence (Stanko et al., 2022). Technology, such as VR and assistive technologies, have their own agency and are actively involved in shaping and co-constituting disabled experiences (Lynch et al 2021). My thesis supports this theory by highlighting the ways that VR can be considered agentic and how the assemblage of body and technology was integral to the experience. It does so by maintaining the disabled body as the central point of perception when using VR technology.

6.4.3.1 Tensions within theories

Through theoretically positioning my thesis using Merleau Ponty's (1945/2014) embodied phenomenology, and examining VR through a sociomaterialistic lens, my thesis identifies a tension between these two theoretical perspectives. Sociomateriality conceptualises that technology has an agency, but embodied phenomenology posits that technology becomes human (Orilowski, 2007; Weiss, 2015). Both theories agree that the material and the social are deeply and irrevocably

intertwined. However, sociomateriality maintains an agency of the technology, able to affect and be affected by the user of the technology, including assistive technologies. Merleau-Ponty (1945/2014) posits that any technology used continuously becomes human or part of the body, especially assistive technologies which are intimately connected to body parts. In embodied phenomenology, separation between mind/body/material does not exist (Merleau-Ponty, 1945/2014).

Currently beyond the scope of this research project, these theories offer different ways of looking at virtual reality as an assistive technology. When we engage with tensions between theories, a deeper insight into both theories is provided. This allows for more understanding about why and when we might choose to use certain types of theory or methods of analysis (Smith & Sparkes, 2005). By identifying this tension, my research has identified a possible gap in the literature that may be worth exploring in future and attempt to reconcile these two tensions (Vangen & Winchester, 2015). In turn, identifying this as an area of future research encourages opportunities for innovation within this field of research or collaboration (Walland & Shaw, 2022).

6.4.3.2 Sociomateriality of VR Research

Technologies are actively involved in shaping and co-constituting disabled experiences. VR headsets and virtual environments involve complex relationships between users and technology (Schultze, 2011). My research supports this, contributing understandings of how VR technology and the body are constitutively entangled. Analysis illuminated the adaptation to technology as a complex negotiation between the body and the technology. Bodies dictated how the VR was used and the technology dictated that usage, thereby displaying agency. Participants themselves would refer to VR as an agentic barrier to the experience. This highlights the dynamic and relational nature of the relationships between the technology, the disabled body and the social worlds surrounding them (Davies & Riach, 2018). This further highlighted how the physicality of the VR hardware played a crucial role in shaping the experience of the participants (Sagnier et al., 2020). Examining this assemblage, of the disabled body and VR as an autocratic barrier refusing to enter into these complex negotiations, illuminates the ableist nature of this agency. This assemblage is biased towards able-bodied users. By highlighting this, my thesis further examines how VR is intimately linked to the body. It is a technology that connects and communicates directly with the body and this body-technology interaction is central to understanding the sociomateriality of assistive technology (Kulkarni et al., 2023). If tourism researchers continue to theoretically position VR as assistive (Guttentag, 2010; Iftikhar et al., 2022; Sarkady et al., 2021), then my thesis contributes by demonstrating the value of viewing through VR through a sociomaterialistic lens. However, my research challenges whether this assumption of accessibility and VR as an assistive is a reasonable one or whether it is an able-bodied assumption.

To summarise, my research contributes by examining VR technology through a sociomaterialistic lens and highlighting VR as agentic. It shows the assemblage of body and technology as complex, dynamic and ableist. My research spotlights how integral this assemblage was to the experience. My thesis shows that theorising VR as an assistive technology is an able-bodied assumption and, with VR in its current iteration, an unreasonable assumption. Furthermore, a tension between the theories of sociomateriality and embodied phenomenology was identified in this research which could engender further discussion and nuances around this topic of research.

6.5 Methodological Contributions

In this section I outline the methodological contributions this research makes to the current body of research. Through evidence-based research, my thesis contributes a research design and methods for using VR in research. I further demonstrate the value of using IPA for understanding experiential context and for reflexivity, when examining disabled experiences as a disabled scholar.

6.5.1 Research Design in Novel Approaches

Within tourism research, technology and VR are often identified as key elements for future trends in tourism and driving forces for change (Yung & Khoo-Lattimore, 2019). However, these discussions are still limited in scope, despite growing interest in the topic since COVID-19 (Guttentag, 2010; Lu et al., 2022; Verma et al., 2022). These studies are often conceptual in nature, offering only *potential* benefits, often without evidence-based research (Tussyadiah et al., 2018).

In contrast, my research project uses the Meta Quest 2 headset in a practical way, as both an elicitation tool and as an experience of study. Whilst literature that uses VR headsets this way exists, there are limited studies. Fewer still focus on the tourism experiences of disabled VR users (Flavián et al., 2021). As such, there is little guidance on how to use VR in this way. Using VR headsets presents practical problems for research as they can be difficult to use, especially if a participant or a researcher has not previously used them (Garrett et al., 2018). I devised my own research design, beginning with a technically based pilot study to identify any possible barriers to the project. Therefore, my research contributes a methodological research design for using VR, particularly around time required for technological adjustment and identifying barriers to recording VR experiences. Although informed throughout by IPA, the research design of the data collection is transferrable to studies outside of this research project's focus, especially when representing disabled participants.

6.5.2 Using IPA for Context and Reflexivity

Using IPA contributes by committing to a phenomenological approach that remains very limited in scope, when conducting tourism research. Whilst a phenomenological approach is proving to be a valuable theoretical framework and methodology, there are limited phenomenological studies where phenomenology is applied cohesively. Descriptive phenomenology is used over interpretative or existential phenomenology (Rickly, 2022; Szarycz, 2009. Research studies using IPA that is situated within embodied phenomenology are fewer still and usually apply broader phenomenological tenets, rather than IPA's. I contribute to a small group of researchers that feel IPA is particularly suited for tourism research (Rickly, 2022; Sedgley et al., 2017; Singh & Srivastava, 2023). Use of both phenomenology and IPA-based methods within tourism research have been criticised as inadequately addressing the theoretical and philosophical assumptions that influence a researcher's interpretation (Pernecky & Jamal, 2010; Sedgley et al., 2017). Responding to this and a lack of literature surrounding the experience of disabled tourists, my research demonstrates the value of using IPA as an investigatory tool, a theoretical framework and as a methodology, whilst addressing previous criticism. IPA has enabled me to understand the individual and varying experiences of each participant, whilst simultaneously identifying the commonalities of their experiences at a phenomenological level. I have been able to show experience of a particular phenomenon for what it is; context-laden, multidimensional, and intricately layered.

Furthermore, my positionality as a disabled scholar provides a methodological contribution, specifically through using IPA as both a theoretical framework and as a methodology. The 'insider' role offered a different dimension to the co-creation and interpretation of data, with both interviewer and interview as active participants (Smith et al., 2022). However, this role placed me in an emotionally bruising position, with reflexivity requiring constant and deliberate effort throughout the research process. This proved difficult at times, especially during emotional moments in interviews that I would then revisit during the transcription and analysis stages. However, reflexivity is an integrated process in IPA (Engward & Goldspink, 2020). There are several ways to remain reflexive during research, to achieve a critical distance that prevents my voice from overtly mixing with participants. Journals are recommended, and I found this a useful tool (Engward & Goldspink, 2020; Malacrida, 2007; Smith, 1999). I extended this by using reflexive postcards. The act of writing as if there was physical space between myself and the doctorate journey created a metaphorical space that allowed me to achieve that critical distance. Therefore, my research demonstrates the value of using IPA when conducting research that requires high and constant levels of reflexivity, specifically when being a disabled scholar researching disabled people and their experiences.

6.6 Practical Contributions

The most significant practical contribution of my research project is the fact that VR has been identified as inaccessible. VR is advertised as accessible and inclusive, with accessible features on both the hardware and the software. However, these accessibility options only address sensory disabilities, such as colourblind setting or subtitles for those hard of hearing (Dudley et al., 2023; Mott et al., 2019; Zallio & Clarkson, 2022). Sony have recently announced a more accessible controller for their PlayStation console offering one of the first adaptable, assistive gaming hardware, showing that awareness of inclusivity and accessibility is growing. However, VR, specifically the Meta Quest 2 used for this project and its successor Meta Quest 3, has no assistive or accessible hardware at all (Aquino et al., 2023). My research highlights that VR, and the virtual experience, require adaptation. However, my research contributes to these considerations by illustrating the interconnectedness of inaccessibility. Both hardware and software must be accessible in tandem. Moreover, one aspect of inaccessibility may create or affect another aspect. It does so by maintaining an individual focus when examining access requirements, providing in-depth analysis of the complexities of accessibility. My findings revealed that inaccessibility presents as a complex negotiation between the limitations of participants' bodies and technology (Section 6.4.3.2). However, there were negotiations needed between different aspects of the technology, the hardware, and the software simultaneously. Oftentimes the inaccessibility stemmed from ableist assumptions within the software, where it was assumed that participants could stand for long periods of time. This influenced hardware inaccessibility, being unable to use the hardware as intended due to the assumptions of the software. My thesis reveals a limited consideration for disabled bodies in the virtual Machu Picchu experience, spotlighting the technoableism inherent in VR technology.

Furthermore, by only considering VR being used for accessibility in hypothetical terms, disabled people are not considered, and the disabled voice is ignored, despite being the topic of discussion. My research addresses this significant limitation in tourism research literature by focusing on disabled voice (Guttentag, 2010; Iftikhar et al., 2022; Maran et al., 2022; Sarkady et al., 2021). It turns the discussion from the speculative possibilities of VR by providing a more practical

understanding of how VR works, using disabled bodies as a base. Therefore, my research project raises questions as to how VR can be used in future if the technology does not become more accessible, either as an elicitation tool, focus of study or in the ways it is already used.

VR is already in use at tourist attractions such as museums or heritage tourism sites. VR is used to increase interactivity or, as with the Shakespeare's house in Stratford-Upon-Avon, to allow for accessibility and conservation (Gali, 2022; Racz & Zilizi, 2019). However, my practice-based research suggests that how these are understood as tools for accessibility, for interactivity purposes, or assistive technologies needs to be reassessed (Flavián et al., 2021). As adaptations have been highlighted as something that is required at a developmental level for the Meta Quest 2, which VR technology currently being used needs to be carefully considered. Adaptations have been identified through my research as complex negotiations between the body and the technology, often affecting people differently by different aspects of the technology. Despite these differences, solutions to the inaccessibility were identified. The best way forwards, at a practice level, is to recognise that disabled people are the experts of their own experiences. They are the key to developing accessible or assistive technologies and implementing ways of using those technologies (Shew, 2020). Disabled researchers may be the best to interpret the provided data as this may prevent problems of over-interpretation (Peruzzo, 2020). By using the disabled body as the focus for the development process for accessibility through VR, this allows for less ableism throughout the process and would be more inclusive for all.

6.7 Research Limitations

This study examines the experiences of people with limited mobilities accessing adventure tourism using virtual reality headsets. This, like every study, came with limitations. It is essential for any study to acknowledge weaknesses that may have influenced the outcomes of the research. They provide future opportunities for research (Ross & Zaidi, 2019). Therefore, the following section provides a critical reflection of these study limitations, including exploration of myself as a limitation. Using IPA as a both a framework and a method of analysis can have limitations (Section 4.3). This section will develop that discussion by outlining the potential limitations that are more relevant to this study.

Using VR both as an elicitation tool and as a focal point of study has rarely been done to date (Dozio et al., 2022). Consequently, there was little guidance on how to use VR in this way and in the way that my research questions demanded. Using a novel approach helped to provide a methodological contribution but it had disadvantages. The technology itself provided limitations. Both the participants and I had limited to no experience with VR headsets. The participants discussed favouring the idea of the technology over the Machu Picchu virtual experience itself. Accordingly, there is a 'novelty factor' to VR that may have had more of an impact than the experience itself (tom Dieck et al., 2018). Repeated use of VR headsets may have held further or differing insights, once the 'novelty factor' ceased to have an impact. Moreover, in choosing Machu Picchu as the virtual experience, I limited the study to a singular experience. This was due to time restraints and the difficulty disabled people had in accessing an interview room of their choice. However, repeated use or more than one adventure tourism experience may have offered a richer, more holistic data set. Furthermore, pairing IPA and VR is a relatively untested approach. My thesis has demonstrated the value in pairing them, but using a phenomenological interview for this does have its own limitations. Being novel experiences, and interviewing so soon after the VR experience, means the participants

were yet to fully process what they have experienced, especially for those who felt strong emotions. Feelings of vulnerability, addressed as best they could at the time, facilitated the co-creation of rich, holistic data. However, they may have created discomfort in the interview and bounded the knowledge that participants were willing to share. This may not have allowed for a fuller exploration of the lifeworld's of the participants that a phenomenological interview requires (Smith et al., 2022).

The participants frequently referred to specific media to help frame their expectations of VR and then how they made sense of their virtual experiences. It was part of how they assigned significance and meaning as part of their multidimensional experiences (Smith, 2019; Smith et al., 2022). The use of media was identified as a means for participants to make sense of their VR experiences and how they understood VR, rather than to highlight the media itself. However, there could be benefits from some alignment with media or VR studies as to how media influences expectations of VR experiences (e.g. Rodrigues & Loureiro, 2022). A possible alternate framing on how media produces narratives of adventure tourism and tourists that shapes how people understand it, and how this might intersect with narratives surrounding marginalised experiences might also have been beneficial.

Looking to IPA, the demands of the analysis, on the data itself and the analyst, generally dictates a smaller sample size (Noon, 2018; Smith et al., 2022). This enables the depth of analysis required for IPA that a larger sample size may not be able to offer. However, it has limitations. Smaller sample sizes and the idiographic commitment of IPA, raise questions of generalisability, reliability, and relatability to the general population (Harrison et al., 2020). However, this study focused on a homogenous sample of participants with received disabilities and was not intended to be fully representative of a social group. It is a study intended to provide insight into the experiences and contexts of these participants experiencing this particular phenomenon. Consequently, there may be concerns about the transferability of my study beyond its context, such as participants being born disabled rather than receiving them or neurodivergent participants. IPA, as with many analytical frameworks, does not take neurodivergent participants or researchers into account and is tailored to neurotypical ways of thinking (Bernard et al., 2023; Fletcher-Watson, 2021). This raises questions about how IPA, and other neurotypically aligned analytical frameworks, can be applied in research involving neurodiverse participants.

I am the main tool of analysis in my research. Interpretation of the data can only be done by myself. It is guided by my own lifeworld, worldview, and understandings, which can be as limiting as it is beneficial. By experiencing a similar disability to those of the participants, I was able to create a rapport with the participants and use my subjectivity as a resource. However, there is a risk of unknowingly extending or projecting my own lifeworld, centred around my own disability, into analysis. Over-interpretation of the data and moving away from the participants voices is a danger that stems from this. These reasons are why I took steps to remain as reflexive as I could be throughout the process to ensure IPA's commitment of sharing the realities of the participants as they wish their realities to be portrayed. Admittedly, remaining reflexive was not always easy to do. I explored in more detail the ways I tried to remain reflexive in my Research Methods chapter (Sections 4.7 to 4.7.6), by engaging in multiple reflexive tasks. Doing so helped to ground the participants voices and realities as the most important aspect of this study and ensure that they were represented as the participants wanted to be represented. These limitations, addressed as best I could at the time, impacted this research project in the ways described. However, they opened new avenues or areas of possible future research.

6.8 Areas of Future Research

My study has demonstrated the value of using IPA as a way of qualitatively discussing in-depth accounts of disabled people using virtual reality to experience adventure tourism. Opportunities for possible future research have been identified throughout and there are a few areas in which the knowledge presented here could be expanded.

The inaccessibility of the VR headsets has been evident through my research. Despite being advertised as accessible (Dudley et al., 2023; Mott et al., 2019), adaptations were identified as a requirement. Whilst this was discussed in the Empirical and the Practical Contributions (Section 6.3 and 6.6), the possibilities for future research warrant further discussion. I believe it would be beneficial for future research to focus on adaptations at a hardware level, like the accessible controller Sony PlayStation already available, but with a wearable, VR headset focus. Software, VR apps, games, and experiences, would be a further beneficial area of focus. Although sensory disabilities are already being discussed (Zallio & Clarkson, 2022), how software can affect or be affected by multiple types of disabilities should form part of the discussion. Addendum to this is the fact that all the participants fit into one generalised group of disability. Consequently, there is scope to extend this research further. My focus on people with limited mobilities and, as a participant described, 'upper-body abled', means there are other areas of focus that offer different dimensions of understandings to the research questions or on the experience. Other participants with differing disabilities may have differing requirements of the technology, hardware, and software. It would be beneficial to gain a better understanding of accessibility at an individual level for tourism and virtual experiences, with wider scope for a more practical development of adaptation. Practical developments of VR were identified by the participants, some aligning practical uses already identified in the literature. This includes how VR might aid in travel planning to ease anxieties. Future research into the possibilities identified by the participants would contribute to understanding how VR could be used in these areas and how this might impact the practical development of VR. This could benefit all VR users who might use them for these possible purposes, not specifically disabled people.

According to the guidelines of IPA, analysis is bound by only by what participants have said (Smith et al., 2022). Other marginalised identities, such as gender or racial identities, were not mentioned by the participants and so the intersectionality of these with disabilities has not been explored in this research project. However, this may be an interesting area of future research, especially when considering the military background of a significant number of male participants or the caring responsibilities of female participants. The possible intersection of gender, jobs, experiences, and full-time responsibilities could have impacted the experience without it being expressly stated. Further work could explore the roles that veteran's military experiences or parenthood experiences might play in these contexts, or the impacts of these roles on how adventure tourism is understood and consumed in a VR context. Furthermore, as the intersectionality of disability can have a differing and profound effect on experiences of disability (Shaw et al., 2011), it may impact these specific experiences.

From an experiential standpoint, this research was limited to one virtual adventure tourism experience, focusing on one activity and location. I believe there would be benefits to studying another or more than one adventure tourism activity, in other locations. The narratives built around Machu Picchu created contexts of inaccessibility for the participants. Future studies using other locations or activities may garner different viewpoints of experience, or different insights. This

research was further limited by only experiencing VR for one time. I believe there would be a benefit to conducting more longitudinal studies. The 'novelty factor' of VR may have had an impact, especially from those participants who had never used VR before (tom Dieck et al., 2018). Studies where participants experience VR over time, repeatedly, could negate the 'novelty factor'.

Finally, from a theoretical standpoint, the value of both embodied phenomenology and sociomateriality has been demonstrated by my thesis. A tension between the two has been identified. This tension when viewing technology, between the agency of sociomateriality and the become-human of embodied phenomenology, may offer areas of research worth exploring in the future. I believe that future research examining or reconciling this tension would be beneficial to build upon the findings of this research or offer new insights into them, as both were valuable to this research.

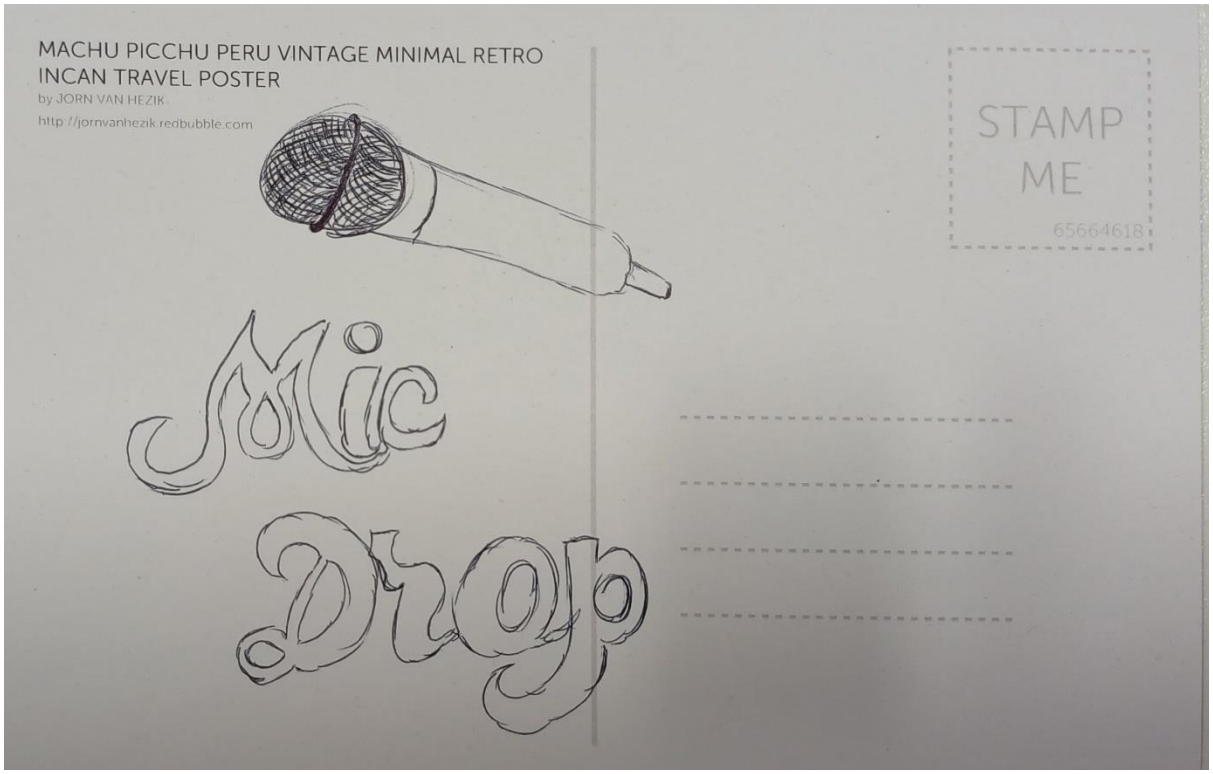
6.9 Final Conclusions

This final section brings my thesis to a close. My research has found that everything is centred around the body. Adventure tourism is physical, and the body is right at the core of this elusive concept (Doran, 2016). Virtual reality is physical, a sociomaterialistic complex assemblage of body and technology (Kulkarni et al., 2023). Life is an embodied experience, where bodies dictate what we can or can't do, can or can't access. Ultimately, neither adventure tourism nor virtual reality technology were aspects of life deemed accessible to disabled bodies. Adventure tourism, for all its fluidity, is generally agreed to centre around the body being out of place (Janowski et al., 2021). My research finds that the disabled body is always out of place.

Disabled people are adventurers wherever they go.

Figure 29

Personal Postcard for the End of the Doctoral Journey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Appendices

Appendix A: Pilot Study Forms

A.1 Pilot Study Ethical Approval Form

A.2 Pilot Study Information Sheet

A.3 Pilot Study Participant Consent Form

A.4 Pilot Study Experience Protocol

A.5 Pilot Study Risk Assessment

Appendix B: Main Study Forms

B.1 Main Study Ethical Approval Form

B.2 Main Study Information Sheet

B.3 Main Study Participant Consent Form

B.4 Main Study Interview Guide

B.5 Main Study Debrief Form

B.6 Main Study Risk Assessment

Appendix C: Transcriptions of Postcards

C.1 Participant Postcards

C.2 Personal Postcards

APPENDIX A: PILOT STUDY FORMS

A.1 Pilot Study Ethical Approval Form

SCHOOL OF MANAGEMENT, SWANSEA UNIVERSITY

FIRST STAGE ETHICAL REVIEW FORM

To be completed for all research involving human subjects OR datasets of any kind OR the environment

Name of PI or PGR Student	Louisa Hardwick
Staff Number or Student ID	[redacted]
Supervisors*	Tiff Low, Maggie Miller, Helen Williams, Katrina Pritchard
Date Submitted	
Title of Project	Using virtual reality for those with limited mobilities to experience adventure tourism.
Name of Funder / Sponsor*	NA
Finance Code / Reference*	NA
Duration of Project	Two months

Aim of research project (*250 words*):

Adventure tourism is a holiday type that is growing rapidly in popularity, although, for people with limited mobility, there can be obstacles and limitations to experiencing this type of holiday. With the growth and expansion of virtual reality, my research is interested in exploring whether or not experiencing adventure tourism through virtual reality may enable the removal of some of these barriers.
This technical pilot study hopes to gain some insight into the virtual reality adventure tourism experiences for those with limited mobilities, up to and including bedbound persons.

* *Complete if appropriate*

***Risk evaluation**: Does the proposed research involve any of the following?*
*✓**Tick** those boxes for which the answer is **YES***
*✗ **Cross** those boxes for which the answer is **NO***

Participants

✗ Will the study involve recruitment of patients or staff through the NHS or the use of NHS data or premises and/or equipment? If this is the case, the project **must** be reviewed by the NHS. Please see the following NHS online tools for help with this http://www.hra-decisiontools.org.uk/research/ and http://www.hra-decisiontools.org.uk/ethics/

✗ Does the study involve participants aged 16 or over who are unable to give informed consent? (e.g. people with learning disabilities: see Mental Capacity Act 2005. All research that falls under the auspices of the Act **must** be reviewed by the NHS)

✗ Does the research involve other vulnerable groups: children, those with cognitive impairment or in unequal relationships? (e.g. your students). This

may require NHS review, and will typically require the researcher to get **Disclosure & Barring Service (DBS) clearance** (formerly CRB checks)

✗ Will the research harm or pose any risk to the environment? (e.g. research in environmentally sensitive areas (e.g. SSSIs); permission needed to access field sites; transport of samples between countries (e.g. soil); sampling of rare or hazardous material (e.g. invasive species) that could deplete or endanger)

Please describe the participants involved in your research (if no participants, state 'none'): *max 250 words.*

The participants are of limited mobilities, wheelchair and bedbound. They are between the age ranges of 25 – 85. They do not require guardians or gatekeepers, are able to give informed consent, which will be done via the Participant Information Sheet and Consent Form detailing what their participation will involve and are well-known socially to myself.

Recruitment

✗ Will the study require the co-operation of a gatekeeper for initial access to the groups or individuals to be recruited? (e.g. students at school, members of self-help group or residents of nursing home?)

✗ Will it be necessary for participants to take part in the study without their knowledge and consent at the time? (e.g. covert observation of people or use of social media content)

✗ Will the research involve any form of deception? (e.g. misinformation or partial information about the purpose or nature of the research)

✗ Will financial inducements (other than reasonable expenses and compensation for time) be offered to participants?

✗ Does the research involve members of the public in a research capacity? (e.g. participant research; participants as co-producers or data collectors)

Please explain the recruitment of participants involved in your research (if no participants, state 'none'): *max 250 words.*

As the participants were already known to myself as friends and family, I approached them face-to-face during a visit and via social media, having previously discussed the project with them and knowing them to be interested.

Research Design

✗ Will the study discuss sensitive topics or require the collection of sensitive information? (e.g. terrorism and extremism; sexual activity, drug use or criminal activity; collection of security sensitive documents or information)

✗ Could the study induce psychological stress or anxiety or cause harm or negative consequences beyond the risks encountered in normal life?

✗ Is pain or more than mild discomfort likely to result from the study?

✗ Will the study involve prolonged or repetitive testing?

✗ Are drugs, placebos or other substances (e.g. foods or vitamins) to be administered to study participants, or will the study involve invasive, intrusive or potentially harmful procedures of any k, l ind? (If any substance is to be

administered, this **may** fall under the auspices of the Medicines for Human Use (Clinical Trials) Regulations 2004, and require review by the NHS)

X Will tissue samples (including blood) be obtained from participants? (This would fall under the terms of the Human Tissue Act 2004. All research that falls under the auspices of the Act **must** be reviewed by the NHS)

Please summarise your methodology in detail and provide reflective comments with regards to the design of your research: *max 250 words.*

For this technical pilot study, the chosen virtual reality headset is the Oculus headset due to its accessibility. It runs by itself and, although it does need a charger, there is no other equipment like a computer required. This will allow me to carry it to the participants chosen, safe environment.

Before the experience, if the participants are unfamiliar with the technology, I will give them time to play or familiarise themselves with the VR headset, controllers and technology.

There are two adventure tourism virtual reality experience options for the technical pilot study, both lasting up to twenty minutes: a safari in Kenya or hiking and photography in Peru. These experiences will also be available as a printout if someone feels too uncomfortable or tired to continue on the VR headset. With permission from the participants, using the Oculus app on my phone, their experiences will be recorded, alongside any reactions given at the time. This will only record the screen that they are watching and not the participants themselves.

If needed after the experience, there will be a short break offered.

After this, a short interview will follow starting with open-ended question such as "*what did you think?*" From then on, the interview will be directed by the participant and questions I will ask will be for clarification, for expansion or if they have spoken through the VR experience itself and I wish for further discussion on that. This will be recorded using a Dictaphone or my phone, with permission from the participants.

Finally, there will be a postcard written by the participant about the experience, as if they were writing a postcard home, which we may revisit and repeat at a later date, as a reflective exercise.

The whole experience, including the VR, interview, and written element, will take between two to four hours, depending on breaks and the time acclimatizing to technology.

Data Storage and anonymity

X Will the research involve administrative or secure data that requires permission from the appropriate data controllers and/or individuals before use?

X Will the research involve the sharing of data or confidential information beyond the initial consent given?

✗ Will the research involve respondents to the Internet or other visual/vocal methods where respondents may be identified?

Please describe how you will store your research data and for how long, and, if appropriate, how you will ensure anonymity of your data subjects: *max 250 words.*

The research data will be stored on a private, encrypted external hard drive and kept away from cloud storage and will be deleted as soon as the project is completed and submitted.
I will not reference any information that may be used to identify my participants outside of the technical pilot study or research project, I will only be using names, nicknames, or other monikers, chosen by the participants as identifiers. These will be added in during the transcription process, as will the anonymization of data. Any identifiable language will be removed or replaced with the chosen moniker.
The visual data will be shown back to the participant so that they may consent to it being used as examples and assign copyright of images to the researcher for use in the study.
Both audio and visual data will be kept on the private hard-drive and shared with the supervisory team using a password protected folder if required. The postcards will be kept in a private and secure physical location and back-up pictures will be kept on the hard drive.

Safety and Risk

✗ Has a risk assessment been completed?

✗ Is there a possibility that the safety of the researcher may be in question? (e.g. in international research: locally employed researchers)

✗ Will the research take place outside the UK where there may be issues of local practice and political or other sensitivities?

✗ Could the research impact negatively upon the reputation of the University, researcher(s), research participants, other stakeholders or any other party?

✗ Do any of the research team have an actual or potential conflict of interest?

✗ Are you aware of any other significant ethical risks or concerns associated with the research proposal? (If yes, please outline them in the space below)

Please describe the health and safety considerations in relation to both participants and researchers (*250 words max): If there are significant concerns an appropriate risk assessment and management plan must be attached.*

There is a chance of motion sickness when using the VR headset, in which case the experience will be stopped immediately. A printout will also be provided should they wish to continue the study in some way.
The two participants are well-known to myself, and I will be performing the technical pilot study in their own safe environments, adapted to their needs and my presence and movements within that space is dictated by themselves.
This technical pilot study will also serve as providing feedback from them as how to best support and make safe for other, future participants.

*If any answer to the questions above is **YES**, then a **Second Stage (Full) Ethical Review MAY** be required.*

*If the project involves **none of the above**, complete the **Declaration**, send this form and a **copy of the proposal** to **Amy Jones the School of Management Research Support Officer: amy.e.jones@swansea.ac.uk**. Research may only commence once approval has been given.*

Other significant ethical issues or concerns: (If None, then please state 'None')
None

***Declaration:** The project will be conducted in compliance with the University's Research Integrity Framework (P1415-956). This includes securing appropriate consent from participants, minimizing the potential for harm, and compliance with data-protection, safety & other legal obligations. Any significant change in the purpose, design or conduct of the research will be reported to the SOM-REC Chair, and, if appropriate, a new request for ethical approval will be made to the SOM-REC.*			
Signature of PI or PGR Student			
Signature of first supervisor (if appropriate)			
Decision of SOM-REC		Approved	
Ethical Risk Assessment	Green ☐	Yellow ☐	Red ☐
Signature of SOM-REC Chair or SOM-REC deputy Chair Date		[redacted] 27/10/21	
SOM-REC Reference number (office use only)			

A.2 Pilot Study Participant Information Sheet

Swansea University
Prifysgol Abertawe

Information Sheet: Using virtual reality for those with limited mobilities to experience adventure tourism.

You are being invited to take part in a research project that is being conducted by Swansea University as part of a PhD. The researcher, and person conducting the interviews, for this study is Louisa Hardwick ([redacted]) who will answer any questions you may have about this study and your participation within it. The research project is being overseen by the supervisory team of Dr Katrina Pritchard ([redacted]) and Dr Helen Williams ([redacted]), who are both based in the School of Management in Swansea University. If you wish to talk to someone else about this study and your participation in it, you may contact them or the School of Management Research Office (SoMresearch@swansea.ac.uk).

Before you decide to participate, however, it is important to understand what the participation will involve and why this study is taking place. Please take the time to read the following information carefully and, if there is anything that isn't clear or you would like more information, please feel free to ask any question you'd like. Take the time to decide whether or not you are interested in participating in this study.

Adventure tourism is a holiday type that is growing rapidly in popularity, although, for people with limited mobility, there can be obstacles and limitations to experiencing this type of holiday. With the growth and expansion of virtual reality, my research is interested in exploring whether or not experiencing adventure tourism through virtual reality may enable the removal of some of these barriers. I am hoping to gain your insights into your adventure tourism virtual reality experiences.

Your participation is entirely voluntary. If you decide to take part, you will be given this information sheet to keep and a consent form that summarises your confidentiality and general rights to sign before the experience begins. The experience consists of a choice of two virtual reality tourism experiences, which can last up to 20 minutes. The screen that you are viewing through the VR headset will be recorded on the Oculus app for later transcription and data analysis. Then, there will be a short interview about what you have just experienced, which will also be recorded for later transcription. The interview is recorded so that I don't need to take notes during the interview and distract from it. If you do not wish for a part or all of this experience, both in VR and the interview, to be recorded, then please inform me and it will be stopped at any point.

After this, I will ask you to also write about your experience in the form of a postcard. To keep the data anonymous, you may choose your own identifier or no name at all. A picture of this, or a quotation from this postcard may be used in the research but there will be no pictures taken if you do not wish for any to be taken.

Once these experiences have happened, the data will then be analysed. What has been written about your experience may be made available to you if you wish, although they will be anonymous. Academic publications from this study may be written, which will also be kept anonymous.

A.3 Pilot Study Participant Consent Form

Swansea University
Prifysgol Abertawe

Consent Form: How do people with limited mobilities experience virtual reality adventure tourism?

Researched by: **Louisa Hardwick** (999230@swansea.ac.uk)

I, ... agree to take part in this research project.

Please read and please put an initial in the box:

I confirm that I have read the information sheet and fully understand what is expected of me within this study.	
I confirm that I have had the opportunity to ask any questions, to have them answered to my satisfaction and I may ask further questions at any time.	
I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason.	
I understand that I may decline to answer any particular questions.	
I agreed that my interview will be audio recorded and that I have the right to ask for the recording device to be turned off at any time during the interview.	
I agree to provide information to the researcher on the understanding that all and any information provided will be anonymised. I understand that the provided information may be used in publications arising from this research project.	
I understand that if I have any concerns or wish to discuss this further, I can contact Louisa Hardwick [redacted] at Swansea University.	
I understand that if I wish to discuss this project with someone else, I can contact the research supervisors, Dr Maggie Miller ([redacted], Dr Katrina Pritchard ([redacted]) or Dr Helen Williams ([redacted]).	
I understand that I assign the copyright of my contribution to Swansea University School of Management Business School for use in education, research, and publication.	
I understand that I will pick a pseudonym to ensure data anonymization that will be used throughout the research project and used in any publications arising from this research project.	
I agree to participate in the study under the conditions specified above and set out in the information sheet provided.	

Swansea University
Prifysgol Abertawe

Name: ……

Signature: …… Date _____

Received by: **Louisa Hardwick**

Signature: …… Date _____

A.4 Pilot Study Experience Protocol

Swansea University
Prifysgol Abertawe

Experience Protocol/Schedule

i. Introduction

Thank you for agreeing to participate in this pilot study about using virtual reality to experience adventure tourism for those with limited mobilities. This experience, including the VR experience, interview, and written element, should take two-three hours. It will be audio-recorded, and the VR will be video-recorded, although only the screen that you see and not yourself, for use as a part of the study.

You may be unfamiliar with the virtual reality headset technology so please feel free to have some time to familiarise yourself with the technology and to ask any questions.
With the virtual reality headset, there is a chance of feeling motion sickness. If you do feel this and it makes you uncomfortable, you are free to stop the experience for a break or entirely. Also, if you feel tired or uncomfortable at any point, we can take a break or stop the experience. A printout of a description of the experiences will also be available for your perusal, that we can discuss as an alternative.

After the chosen tourism experience, which can last up to 20 minutes, we will have a short discussion about your insights and opinions of the adventure. Then, I will ask you to write a postcard, provided by myself, 'home' as a reflective piece. If you wish to keep this postcard as your own memento, please ask and it will be returned to you after a record or picture of it has been taken for the study. For confidentiality, please use a nickname or other name to sign off the postcard or, if you wish, no name at all. Again, if you feel uncomfortable or tired at any point, we can take a break at any time or stop the experience entirely.

As a reminder, all of the information you provide is confidential and anonymous. You are under no obligation to complete this pilot study and can withdraw both yourself and your data at any time, without needing to supply a reason.

Before we begin, do you have any questions or concerns about this experience or the study overall?

ii. Time for them to use the VR if they need it and time to ask any questions

iii. Experience of choice lasting up to 20 minutes

iv. (Break if needed)

v. Interview

This is to begin with an open-ended question for them to get chatting such as "*well, what did you think? /How did that feel?*"

From then, the interview will be directed by the participant and questions I will ask will be for clarification, for expansion or if they have spoken through the VR experience itself and I wish for further discussion on that. This will be recorded using a Dictaphone.

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vi. (Break if needed)

vii. Written Piece

viii. Debrief

Thank you for taking the time to do this pilot study with me today about your experiences. Are you still able or wish to do the next experience with me? In the interim between then, I would like to be able to contact you should I need further clarification for the transcription of this interview. Would this be possible? Do you wish to keep your postcard as a memento and, if so, may I take it with me to maintain a record and deliver it back to you?

Before we finish, do you have any questions or concerns? On your information sheet, there is contact information if you do not wish to discuss any concerns with me and would prefer someone else to answer.

APPENDIX B: MAIN STUDY FORMS

B.1 Main Study Ethical Approval Form

SCHOOL OF MANAGEMENT, SWANSEA UNIVERSITY

FIRST STAGE ETHICAL REVIEW FORM

To be completed for all research involving human subjects OR datasets of any kind OR the environment

Name of PI or PGR Student	Louisa Hardwick
Staff Number or Student ID	[redacted]
Supervisors*	Maggie Miller, Helen Williams, Katrina Pritchard
Date Submitted	04/04/2022
Title of Project	How do people with limited mobilities experience adventure tourism in virtual reality
Name of Funder / Sponsor*	NA
Finance Code / Reference*	NA
Duration of Project	*A year*

Aim of research project (*250 words*):

Adventure tourism is a holiday type that is growing rapidly in popularity, although, for people with limited mobility, there can be obstacles and limitations to experiencing this type of holiday, with more extreme forms of adventure tourism being almost impossible to access. With the growth and expansion of virtual reality, my research is interested in how people with limited mobility experience adventure tourism on a virtual reality headset.

** Complete if appropriate*

***Risk evaluation**: Does the proposed research involve any of the following?*
*✓**Tick** those boxes for which the answer is **YES***
*X **Cross** those boxes for which the answer is **NO***

Participants

X Will the study involve recruitment of patients or staff through the NHS or the use of NHS data or premises and/or equipment? If this is the case, the project **must** be reviewed by the NHS. Please see the following NHS online tools for help with this http://www.hra-decisiontools.org.uk/research/ and http://www.hra-decisiontools.org.uk/ethics/

X Does the study involve participants aged 16 or over who are unable to give informed consent? (e.g. people with learning disabilities: see Mental Capacity Act 2005. All research that falls under the auspices of the Act **must** be reviewed by the NHS)

- ✗ Does the research involve other vulnerable groups: children, those with cognitive impairment or in unequal relationships? (e.g. your students). This **may** require NHS review, and will typically require the researcher to get **Disclosure & Barring Service (DBS) clearance** (formerly CRB checks)
- ✗ Will the research harm or pose any risk to the environment? (e.g. research in environmentally sensitive areas (e.g. SSSIs); permission needed to access field sites; transport of samples between countries (e.g. soil); sampling of rare or hazardous material (e.g. invasive species) that could deplete or endanger)

Please describe the participants involved in your research (if no participants, state 'none'): *max 250 words.*

The participants are of limited mobilities, people who use aids to move or walk, such as wheelchairs or crutches or people who having difficulty moving the same way as a mobile person. They are between the age ranges of 19 – 85. They do not require guardians or gatekeepers and are able to give informed consent, which will be done via the Participant Information Sheet and Consent Form detailing what their participation will involve.

Recruitment

- ✗ Will the study require the co-operation of a gatekeeper for initial access to the groups or individuals to be recruited? (e.g. students at school, members of self-help group or residents of nursing home?)
- ✗ Will it be necessary for participants to take part in the study without their knowledge and consent at the time? (e.g. covert observation of people or use of social media content)
- ✗ Will the research involve any form of deception? (e.g. misinformation or partial information about the purpose or nature of the research)
- ✗ Will financial inducements (other than reasonable expenses and compensation for time) be offered to participants?
- ✗ Does the research involve members of the public in a research capacity? (e.g. participant research; participants as co-producers or data collectors)

Please explain the recruitment of participants involved in your research (if no participants, state 'none'): *max 250 words.*

- Posters at Surfability/Access Pembrokeshire/Ski4All Wales
- Presentations at Pembrokeshire First + Ski4All Wales
- Newsletter announcement in the Carmarthenshire Disability Coalition for Action [presentation due]
- Live demonstration at People First Carmarthen

Research Design

- ✗ Will the study discuss sensitive topics or require the collection of sensitive information? (e.g. terrorism and extremism; sexual activity, drug use or criminal activity; collection of security sensitive documents or information)
- ✗ Could the study induce psychological stress or anxiety or cause harm or negative consequences beyond the risks encountered in normal life?
- ✗ Is pain or more than mild discomfort likely to result from the study?
- ✗ Will the study involve prolonged or repetitive testing?
- ✗ Are drugs, placebos or other substances (e.g. foods or vitamins) to be administered to study participants, or will the study involve invasive, intrusive or potentially harmful procedures of any k, l ind? (If any substance is to be administered, this **may** fall under the auspices of the Medicines for Human Use (Clinical Trials) Regulations 2004, and require review by the NHS)
- ✗ Will tissue samples (including blood) be obtained from participants? (This would fall under the terms of the Human Tissue Act 2004. All research that falls under the auspices of the Act **must** be reviewed by the NHS)

Please summarise your methodology in detail and provide reflective comments with regards to the design of your research: *max 250 words.*

The Oculus headset has been chosen as the VR headset best suited to this study due to its accessibility. There is no computer or extra equipment required, other than a charger, as it runs by itself. This will allow me to take it without difficulty to the participants chosen, safe space.

Before the interview and experience, participants will have an information sheet to provide them with all the information they need but, before the experience itself, I will also talk the participants through what this whole experience entails and provide time to ask any other questions. I will also give them about half an hour to play with and familiarise themselves with the VR headset, controllers and technology.

Then, the participants will experience a virtual reality adventure tourism experience lasting twenty minutes, a hiking and photography experience in Machu Pichu in Peru. I will also be providing a printout of the experiences, the scripts and a visual description., if someone feels uncomfortable or too tired to continue on the headset.

If needed, after the experience, a short break will be offered. Then, a semi-structured interview will follow of around an hour, about the experience, improvements to the experience. This interview will be recorded using my phone and a Dictaphone, with permission from the participants.

Later on, after a period of time, much like the time between the holiday itself and returning from the holiday, the participants will write a postcard home, revisiting the experience and their reflective thoughts about it. These will be sent to me as pictures or, if they have no wish for a physical memento, they will be given back to me.

The whole experience, interview included, should take around between two three hours, depending on time participants need to familiarise themselves with the technology.

Data Storage and anonymity

- ✗ Will the research involve administrative or secure data that requires permission from the appropriate data controllers and/or individuals before use?
- ✗ Will the research involve the sharing of data or confidential information beyond the initial consent given?
- ✗ Will the research involve respondents to the Internet or other visual/vocal methods where respondents may be identified?

Please describe how you will store your research data and for how long, and, if appropriate, how you will ensure anonymity of your data subjects: *max 250 words.*

All research data will be stored on a private, encrypted external hard drive and kept away from cloud storage. As soon as the project is completed and submitted, the data will be kept on Swansea University password protected devices only.
I will not reference any information that may be used to identify my participants outside of the study, I will only be using names, nicknames, or other monikers, chosen by the participants as identifiers. These will be added in during the transcription process, as will the anonymization of data. Any identifiable language will be removed or replaced with the chosen moniker.
All data will be kept on the private hard-drive and shared with the supervisory team using a private folder, but only if required. The postcards will be kept in a private and secure physical location, if returned physically, and back-up pictures will be kept on the external hard drive.

Safety and Risk

- ✗ Has a risk assessment been completed?
- ✗ Is there a possibility that the safety of the researcher may be in question? (e.g. in international research: locally employed researchers)
- ✗ Will the research take place outside the UK where there may be issues of local practice and political or other sensitivities?
- ✗ Could the research impact negatively upon the reputation of the University, researcher(s), research participants, other stakeholders or any other party?
- ✗ Do any of the research team have an actual or potential conflict of interest?
- ✗ Are you aware of any other significant ethical risks or concerns associated with the research proposal? (If yes, please outline them in the space below)

Please describe the health and safety considerations in relation to both participants and researchers (*250 words max): If there are significant concerns an appropriate risk assessment and management plan must be attached.* There is a chance of motion sickness when using the VR headset, in which case the experience will be stopped immediately. A printout will also be provided should they wish to continue the study in some way. Using information gathered from the pilot study, surrounding the best way to support and make safe the participants, the participants and I will discuss the best place to meet for both our safeties. To keep both myself and my participants safe, we will be meeting public spaces that will allow us to use or rent meeting spaces, such as the meeting room in Ski4All.

Other significant ethical issues or concerns: (If None, then please state 'None') None

*If any answer to the questions above is **YES**, then a **Second Stage (Full) Ethical Review MAY** be required.*

*If the project involves **none of the above**, complete the **Declaration**, send this form and a **copy of the proposal*** to **Amy Jones the School of Management Research Support Officer: amy.e.jones@swansea.ac.uk**. Research may only commence once approval has been given.

***Declaration:** The project will be conducted in compliance with the University's Research Integrity Framework (P1415-956). This includes securing appropriate consent from participants, minimizing the potential for harm, and compliance with data-protection, safety & other legal obligations. Any significant change in the purpose, design or conduct of the research will be reported to the SOM-REC Chair, and, if appropriate, a new request for ethical approval will be made to the SOM-REC.*	
Signature of PI or PGR Student	
Signature of first supervisor (if appropriate)	
Decision of SOM-REC	Approved

Ethical Risk Assessment	Green ☒	Yellow ☐	Red ☐
Signature of SOM-REC Chair or SOM-REC deputy Chair Date	[redacted] 05/04/2022		
SOM-REC Reference number (office use only)	SOM-REC-PGR 084		

B.2 Main Study Participant Information Sheet

Swansea University
Prifysgol Abertawe

How do those with limited mobilities experience virtual reality in adventure tourism?

Research by **Louisa Hardwick** ([redacted])

Participant Information Sheet

You are being invited to take part in a research project that is being conducted by **Louisa Hardwick**, School of Management, Swansea University as part of her PhD research. Louisa will be your contact for all aspects of this project and will answer any questions you may have about this study and your participation within it.

This research project is being overseen by the supervisory team of Dr Maggie Miller ([redacted]), Professor Katrina Pritchard [redacted]), and Dr Helen Williams ([redacted]), School of Management in Swansea University. If you wish to talk to someone else about this study and your participation in it, you may contact them or the School of Management Research Office (SoMresearch@swansea.ac.uk).

Before you decide to participate, however, it is important to understand what the participation will involve and why this study is taking place. Please take the time to read the following information carefully and, if there is anything that isn't clear or you would like more information, please feel free to ask any question you'd like. Take the time to decide whether or not you are interested in participating in this study.

Adventure tourism is growing rapidly in popularity. However, for people with limited mobility there can be barriers to experiencing this type of activity. With the growth and expansion of virtual reality (VR), my research explores how VR adventure tourism experiences are experienced by people with limited mobilities.

Your participation is entirely voluntary. If you decide to take part, you will be given this information sheet to keep and a consent form that summarises your confidentiality and rights to sign before the whole experience begins. This can take between one and a half to two and a half hours.

Stage 1: Pre-experience questions

Stage 2: Familiarisation with the VR headset

Stage 3: The VR adventure tourism experience

Stage 4: The interview

Stage 5: Writing a postcard.

For Stage 1, the pre-experience questions will be about you and your own personal experiences with your limited mobility, travelling and any VR experience you may have. This could take between fifteen and thirty minutes. This will be recorded for transcription later on, for data analysis. If you do not wish to be recorded or wish for the recording device to be stopped at any point for any reason whatsoever, please ask and the recording shall stop, no questions asked. Also, to keep the data anonymous, you may choose your own identifier, or request that no name be used at all. Any mention of names or possible identifying information will be removed in transcription.

Stage 2 is time for you to familiarise or re-familiarise yourself with the virtual reality headset and its controllers. Take as long as you need and please feel free to ask any questions or seek guidance on how to use it at any point. This could take up to thirty minutes.

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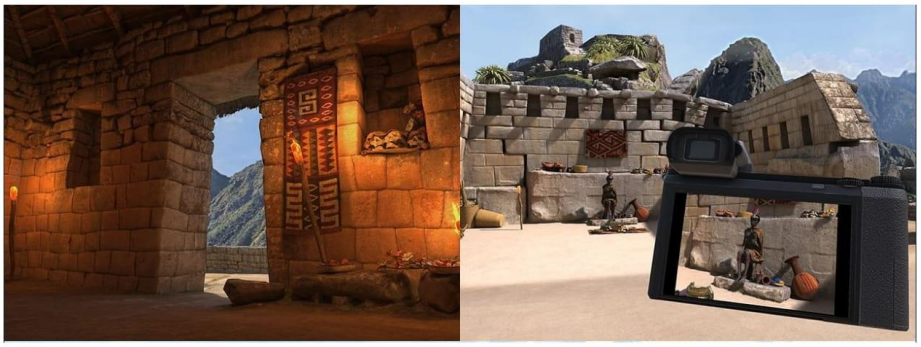
This is the VR headset we will be using for the adventure activity. It is adjustable to your requirements both on the straps and the goggles themselves.

These are the controllers the VR headset uses.

Very occasionally, users can feel a form of motion sickness. If you find this and are uncomfortable at any point, we can take a break or stop the experience. A printout of a description of the experiences will also be available for your perusal, that we can discuss as an alternative.

In Stage 3, hiking through Machu Pichu and taking pictures, is the experience on offer and this lasts around twenty minutes.



Hiking and photography in Machu Pichu.

Swansea University
Prifysgol Abertawe

In Stage 4, after the VR experience, there will be an interview of around an hour long about what you have just experienced, which will be also recorded for later transcription. Again, if you do not wish for this to be recorded or wish to stop at any point during the recording for any reason, then please inform me and it will be stopped immediately without question. In later transcription, any identifying information or names will be removed and replaced with the chosen moniker or removed completely.

For Stage 5, I will ask you to also write about your experience in the form of a postcard. This does not have to be written on the day. Take the time you need to reflect and then, when you're ready, email me a picture of the writing whenever you're done. You can sign the postcard using the moniker, if you wish. A picture of this, or a quotation from this postcard may be used in the research but there will be no pictures taken if you do not wish for any to be taken.

All of the data, from the Stage 1 pre-experience questions up to, and including, the postcard at Stage 5 to will then be analysed. What has been written about your experience may be summarised and made available to you if you wish, although they will be anonymous. Academic publications from this study may be written, which will also be kept anonymous.

All data will be stored on a private external hard drive and shared with the supervisory team using a password protect folder, if required. It will be kept in compliance with GDPR, anonymised during the transcription process and completely deleted as soon as the project is completed and submitted. The postcards, if I receive physical copies, will be kept in a private and secure physical location with back-up pictures kept on the external hard drive.

The copyright of your important contribution will also be attributed to Swansea University School of Management Business School for use in education, research and publication.

If any clarification is required on certain points, I may email you after the interview and, if you have any further questions, please do not hesitate to email me.

Thank you for reading.

Louisa Hardwick

[redacted]

B.3 Main Study Participant Consent Form

Swansea University
Prifysgol Abertawe

Consent Form: How do people with limited mobilities experience virtual reality adventure tourism?

Researched by: **Louisa Hardwick** [redacted]

I, …… agree to take part in this research project.

Please read and please put an initial in the box:

I confirm that I have read the information sheet and fully understand what is expected of me within this study.	
I confirm that I have had the opportunity to ask any questions, to have them answered to my satisfaction and I may ask further questions at any time.	
I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason.	
I understand that I may decline to answer any particular questions.	
I agreed that my interview will be audio recorded and that I have the right to ask for the recording device to be turned off at any time during the interview.	
I agree to provide information to the researcher on the understanding that all and any information provided will be anonymised. I understand that the provided information may be used in publications arising from this research project.	
I understand that if I have any concerns or wish to discuss this further, I can contact Louisa Hardwick [redacted] at Swansea University.	
I understand that if I wish to discuss this project with someone else, I can contact the research supervisors, Dr Maggie Miller ([redacted]), Dr Katrina Pritchard [redacted]) or Dr Helen Williams [redacted]).	
I understand that I assign the copyright of my contribution to Swansea University School of Management Business School for use in education, research, and publication.	
I understand that I will pick a pseudonym to ensure data anonymization that will be used throughout the research project and used in any publications arising from this research project.	
I agree to participate in the study under the conditions specified above and set out in the information sheet provided.	

Swansea University
Prifysgol Abertawe

Name: ……

Signature: …… Date _____

Received by: **Louisa Hardwick**

Signature: …… Date _____

B.4 Main Study Interview Guide

Interview Guide

Introduction

Hi there, thank you for agreeing to take part in this study about how people with limited mobilities experience adventure tourism in virtual reality. This experience will involve an interview that includes a few questions about yourself, an exploration of Machu Pichu in virtual reality and then questions about your opinions on that experience. This whole experience will roughly last around two to three hours and the interview will be audio-recorded for use as part of the study.

All the information you provide in the interview is strictly confidential and will be anonymised in the transcription and results of this study. You may pick an alternate name of your choosing. You are under no obligation to complete this interview; you may take a break or stop at any time. You can also withdraw your data at any time, no questions asked.

Before we begin, do you have any questions about the study or this experience?

Pre-Experience Questions

1. Please, could you describe the nature of your limited mobility?
2. What was the last experience you had of travelling?
    - *Would you describe that, or any of your other travels, as an adventure?*
3. What experiences have you had with virtual reality?

If you haven't used VR before and need some time to familiarise yourself with the technology and how to use it, feel free to take the time you need now.

Interview Questions

1. How did you find experiencing Machu Pichu this way?
    - *Which aspects stood out the most for you? Could you tell me more about how you felt about this?*
    - *Can you describe your overall reaction to this Machu Pichu experience?*
    - *What aspects, such as the controller interaction for example, made it an enjoyable/negative experience?*
    - *Can you tell me more about why they were positive/negative for you?*
    - *Why were they positive/negative for you?*
2. Was there anything about this experience that made it feel real to you?
    - *What contributed to that feeling?*
    - *Was there anything that detracted from that feeling? If so, can you tell me more about that?*
3. How do you think could this experience be enhanced for you?
    - *Would you need any type of adaptation?*
    - *If so, are there any ideas that you have for this adaptation?*
    - *Tell me more about the type of ideal experience here for you?*
    - *In what ways would your ideal experience differ from the one that you just tried out?*
4. Would you repeat the experience?
    - *If so, can you tell me more about why?*
    - *If not, can you tell me more about why not?*
5. Is there anything else you would like to say or add?

B.5 Main Study Debrief Form

Swansea University
Prifysgol Abertawe

School of Management

Department of Business and Management

Researcher: Louisa Hardwick

Debrief Form

I would like to take this time to thank you for becoming part of this research study.

If you have any further questions or wish to withdraw from the study, please email myself at [redacted] You do not need to provide a reason for withdrawing. Please be assured that all data collected will be treated in the strictest confidence.

This research will help to gain a more in-depth understanding of how people with limited mobilities experience virtual reality adventure tourism. You were chosen to take part in this study due to your limited mobilities.

If you feel affected in any way by your taking part in this study, please feel free to contact me to discuss it. If you feel uncomfortable or unable to discuss it with me for any reason, please contact one of my supervisory team, Dr Maggie Miller [redacted], Professor Katrina Pritchard ([redacted]) or Dr Helen Williams ([redacted]). If you wish to talk to someone else about this study and your participation in it, you can contact the School of Management Research Office (SoMresearch@swansea.ac.uk).

The following support services may of interest to you:

Mind Cymru

www.mind.org.uk/about-us/our-work-in-wales

Disability Wales/Anabledd Cymru

https://www.disabilitywales.org/

Cartrefi Cymru

www.cartrefi.org

Scope Wales

http://www.scope.org.uk/support/wales

Thank you, once again, for taking part in this study.

Louisa Hardwick

APPENDIX C: TRANSCRIPTIONS OF POSTCARDS

C.1 Participant Postcards

C.1.1 GI *Jane's postcard*

Machu Pichu was interesting but not my type of destination. Would recommend it to others who enjoy that holiday. VR was strange but good thanks.

C.1.2 *Hicks' postcard*

Hello, I've just visited Machu Picchu on the VR headset. I really enjoyed the area. I could look over the edge to see the river at the bottom of the gorge. I like the 'chchch' of the lizard going over the rock. The only thing that was missing was seeing where I could stay! Seeing the hotel and transport options would make me confident about what I could visit in person – great experience.

C.1.3 *Jack's postcard*

I really enjoyed all about the Andies and Machu Picchu.

C.1.4 *Jill's postcard*

Hi all. What an amazing experience. Don't think it can be matched. What a wonderful day. Love [REDACTED].

C.2 Personal Postcards

C.2.1 Figure 1. *Postcard from the Introduction*

So, we begin at the end. My introduction. Although I've had bullet points around this section since the beginning it was the very last thing I wrote. Everything after this is editing. I've never felt so busy than at this stage. It's all crashing down on top of me. I'll miss the journey though. The total focus on one topic. What will I do with all the time to myself once this is handed in? three years of my work coming to a close – there's this bizarre mix of relief and grief as I prepare to hand this over.

For my last postcard, it's the first time I'm at a loss of what else to write. So I'll say, sayonara. Thanks for letting me write.

I hope reading through my journey is as fun as it was to write.

C.2.2 Figure 2. *Postcard from the beginning of Literature Review journey*

This beginning was hard to pinpoint. I was in the middle, halfway through my first year, before I realised I had a vague document. Staring at it, I've never felt more proud to have written 15k of words. This postcard idea came fairly recently but I like it so it's stuck. Three years felt like a long time at the beginning, I always wondered why it took people so long – or with extra time at least. Now, I'm definitely starting to understand. I'm good at time management but I am a panicker. Only just now, six months in, feeling like I've gotten to the beginning? That feels panicky to me! Time runs away so fast. I've had a bit of bad news and now it feels like I'm not going to be able to catch up.

Still, celebrate the wins - I've got a document I feel confident enough to submit to Maggie. Fire the starting gun.

[Hand-drawn picture of a prank firing gun that has a banner that reads bang!]

C.2.3 Figure 4. *Postcard from the end of Literature Review journey*

Well. That was a long road. I'm looking at my previous postcard, remembering that document from two and half years ago. It looks nothing like that document. Different topics, different everything. That annotated bibliography really helped narrow it down, along with my research questions. It felt very satisfying to put a full stop on that last word of my chapter summary, like a mic drop. I found the summaries the hardest aspect, I have to admit. How do I cohesively summarise thousands of words, condensed into one short idea? At this point, I feel that there's so much knowledge in my head, I can't quite get it onto paper. At this stage I can't wait to forget it all – once it's all written. I can start emptying my head and replacing it all with useful pub quiz facts. No one ever won a pub quiz with "For five points, summarise three themes into three paragraphs!" I'd win that though.

C.2.4 Figure 5. *Postcard from the beginning of the Theoretical Framework journey*

Hey! Time to start thinking about my theoretical framework! Which is so hard! Why did no one warn me that a doctorate of philosophy required actual philosophy? The gall! I'm kidding of course but, for some reason, I underestimated the head-work required for this. I'm not prone to introspection but you have to have a strong understanding of self for this, I think. My poor supervisors have been trying their best to guide me through this murky little swamp, only to be met with blank stares. So far, and we're still fairly early on so things might change, I think I'm starting to settle on one theoretical positioning. I was having a writing through type session with other postgrads and getting to chat to them was really useful. Wading through the swamp together – I managed to feel like I was really understanding what I was writing for the first time. Start of the conquering journey.

C.2.5 Figure 6*. Postcard from the end of the Theoretical Framework journey*

Hi!! So, I've been told that, actually, the full no bullet points of ELEPHANTS (my fill word when I don't want to stop writing), is fine. I'm on track, no worries. I can't quite bring myself to feel it though. My theoretical chapter has been in my head for almost two – three years now? I've been thinking about it for so long, it feels like I've never had a time where it wasn't on my mind. Maybe it's how I'll find myself thinking in the future. "But from a relativist standpoint, what does it mean?" I wonder if anyone's ever had an identity crisis over whether they're truly objectivist or not. I close out this portion of my PhD journey with a really amusing image of some goggle-eyed scientist dropping a beaker of viscous liquid, horrified that they're actually a subjectivist. Well, I find it amusing. I feel might be alone in that one. The relief at having the theoretical framework done must be universal for all PhD candidates though!

C.2.6 Figure 7. *Postcard from the beginning of Methodology journey*

I'm about to start data collection!! My first interview is tomorrow! I'm feeling pretty nervous. I keep telling myself it'll be okay and you know, I'm sure it will be. I used to do improv comedy at Fringe fests, I've had job interviews that I got. So, I'll be fine. Yeah, that doesn't always work though. I'm nervous about so many things. I wanted to bracket, or at least try to. I'd hoped to avoid putting myself too much into the research. My voice can get pretty loud. Thinking about it further, I knew it was a bad idea. I can't even read a book without getting emotionally involved. Knowing what I know is good though, forewarned is forearmed and all that. Still, it's difficult. What if I miss something? What if I can't interview for the length of time I need? What if? What if? What if? I'm gonna drive myself crazy.

C.2.7 Figure 25. *Postcard from the end of Methodology journey*

Data collection is finished, I've met the participants for the first and possibly last time. The amount of postcards I've received back was disappointing but I've got this for myself, which is kind of nice. I'm going to miss this stage. I really enjoyed meeting the participants. They're fascinating people and, doing transcription alongside it, makes me dive a little deeper into their worlds and minds. I've watched so many TV shows and films at their recommendations – not that they understood that at the time. I did it to better understand their influences. I definitely didn't mind booting up the old PlayStation to play Assassin's Creed again! If I met them again, it'd be so weird. I'd feel like I know them – we're best friends I've spent so long with them. They only know me as the woman they spent an afternoon with once. I still have more time with them so maybe it's for the best our paths are unlikely to cross again.

C.2.8 Figure 26. *Postcard from the beginning of Findings journey*

ANALYSIS TIME! Halfway through the interviews so it's time to start analysing my findings. I feel like I'm a cliff edge but I don't know why. Like, I'm just at a precarious place somehow. I know this is a long process. Helen warned me about 'lodgers'. I'm going to be carrying these voices, words and people around, even past the whole project. Part of me wonders if I have the room. Most of me is eager to get started. I've gotta make the room – that's the integral step here. To continue the analogy, if I don't allow the participants space to 'move in' how can I do their words and experiences justice? That's what this whole project is about – voices, disabled voices. To speak a hard truth out loud, had I not become disabled I'm unsure I'd care this much, or at all even. But that's what happened and now I'm aware of the absence of voice, it's gotta be heard even in some small way. Maybe this is why I feel like I'm on a cliff's edge, screaming sound into a void?

C.2.9 Figure 27. *Postcard from the end of Findings journey*

Findings chapter is done! I can now set aside it all and focus on the rest of it. Yeah, like I can do that! I've never let anything go – I'm haunted by grudges from primary school (I will never forgive you Kyle Jenner). Now, I'm haunted by the participants – especially as I take them through to my Discussions. Questions about what parts of them I take with me and parts of me that I leave behind. I talk it through with my therapist sometimes. They say I've become much more comfortable talking about my disability. The term itself was a label I rejected. "I'm still able" – "other people have it worse". There's no competition in suffering though. Saying other people have it worse but I am also in pain are two statements that can co-exist. Thank you to the participants, my therapist, and this doctoral journey for helping me understand that.

C.2.10 Figure 28. *Postcard from the beginning of Discussions journey*

I've found a new postcard! It's similar to the last one in that it has a llama. Bizarrely, the llama has been an almost mascot through this – my daemon like in the Dark Materials book. Most participants, my lodgers, my guides, loved the llamas. It's time to start drafting the Discussion chapter and I feel the start of a creeping, almost existential dread, so it's fitting I now have my llama guide to help me. How do I fit everything I know and want to say into one itty, bitty chapter? These are my contributions, my reasons for study. More importantly, these are the participants' contributions. My gratitude and appreciation for the participants is still strong, even a year after meeting the last one (a year! Time flies). My dedication to their representation is still strong too. Part of my dread is from that. Most of my dread is for me. This is the chapter that proves I'm a DOCTOR! I've done the work – we're nearing three years of my life – but will my writing represent this? Represent me? I guess that's not really for me to decide – I'm not responsible for the representation of me in someone else's head. So, I'll channel the llama – calm but stubborn!!

C.2.11 Figure 29. *Postcard from the end of Discussions journey*

A hand-drawn picture of a mic drop.

EPILOGUE

Dear Reader,

When I was younger and travelling consistently, I would go years without coming home. Instead, I would write letters home with drawings of buildings I had seen, the coffee shops of wherever I was writing, or the view from whatever transport I was taking at the time. During a recent move, my mother found them and gave them back as she's kept every single one. Re-reading them was a great trip backwards but what struck me the most was how little I spoke of the areas in which I was travelling. It was all about the people, many of whom I remain in contact with. Settings, buildings, coffee shops were all just contexts for me to showcase the people. I feel that this is reflective of my PhD, although the coffee shops contexts have certainly changed! It feels apropos that I write this epilogue in the form of a travel letter. That and I couldn't source any more postcards! Don't worry though, I'll spare you the drawings.

My parents used to joke that I walked into life, fully formed, like Athena without the wisdom. I have always been very assured in who I am and hyper independent. This was true until I became disabled. After all of those years of increasing damage caught up with me and I was left unable to walk for a while, my whole identity took a sharp veer to the left. I had to take on a new, unexpected identity which I felt had taken away my identity as an adventurer and traveller that took me a long time to accept. It took me even longer to settle into my new identity, at first calling myself a person 'with disabilities'. As mentioned in the PhD, I am aware that person first terminology is the established norm for academic research. I stumbled upon the term when I younger and researching everything I could about my new identity, I've always been a curious researcher at heart. It fit me for a while. I was a person with this disability, handed to me by dumb choices and bad luck.

However, the more I settled into my disabled identity, the more I disliked the terminology. The disability was affecting every aspect of my life and become more and more an integral part of who I was. I wasn't just some unlucky person whose disability trailed behind them as if on a leash, which is how the 'with disabilities' terminology felt. I am disabled. It is now enmeshed in me, a permanent part of me even if my disability might not actually be permanent. I now feel as assured of who I am and still as independent as I was before I became disabled. I believe it is the PhD journey and everything that has happened during this time that has helped this the most. This and my years of therapy probably helped.

I was quite reluctant to call myself disabled out loud by the time I entered academia for my masters. My work life had not been sympathetic to my adaptation requirements, neither physical nor for my neurological needs. I wasn't very hopeful. That was until I was told about the provisions I could have, like Swansea's SPLD. This seems like the basics to me now and par for the course but at the time even a little thing like that was huge. It felt like I could ask for adaptations without pushback. I began to discuss my disability more openly and by the time my PhD came around, disability felt like the perfect choice and a way of continuing to understand my own disabled identity too.

My confidence in my disabled identity and as a disabled scholar was also improved by attending academic conferences, which was an unexpected by-product. I was already fairly confident in public speaking and presenting. During my undergraduate time in university, I was part of an improv troupe who managed to get along well enough that people were willing to pay to see us during Edinburgh Fringe shows. If there's anything that'll erase the fear of public speaking, it was definitely that trial by fire. My main worry was announcing that personal link to my research during the presentation; it was

so integral to my PhD journey I felt I had to announce it. I couldn't tell you why I was worried and, whilst there had been nothing to worry about, saying it out loud was very helpful. Having it respected by other scholars who would find me after my presentations to discuss being a disabled scholar with me was even more helpful. I could share my experiences with others, not just my therapist.

This, however, brought a new fear. I started questioning myself as a disabled scholar. Would I be known as The Disabled Scholar™. My research interests are varied, disability had been chosen just for this project because of its three-year timeline. Would I be pigeonholed into this interest for the rest of my academic career? As I reflect in my PhD thesis, disability is so personalised, so multidimensional and complex that it would feel disingenuous to become The Disabled Scholar™ as I can only write from a singular perspective. Its why reflexivity and positionality were such a central theme of my PhD. It is also why my participants were so important and another reason Interpretative Phenomenological Analysis (IPA) was chosen.

Participants are, of course, important to any research that has them. However, I spent so long with the participants I felt they were somehow more than the research. I spent so much time beforehand with them, emailing them, answering questions. Their personalities made themselves apparent immediately. By the time I met them, I felt I knew them. Then, after the long periods of interviewing and experiencing Machu Picchu on VR, I rooted around in their brains for a while. I turned everything they said to me over and over. I dragged them under every microscope and magnifying glass for months on end before I even began writing my Findings chapter. It was almost an obsession. There is no argument that the participants have made a huge impact on my life. I plan on writing papers around my PhD of course so they will continue to have a huge impact on my life. I wish I knew how much of an impact I'd had. I wish I knew definitively if I had any impact *at all*.

When I received the idea of this epilogue, I reached out via email to the participants. A few had said they were interested in how the project had turned out. None have reached back however, apart from Hicks. Rather unfortunately Jack, the 87-year-old with osteonecrosis, passed away last year, I was informed by his daughter. I remember the joy he gave me with his delight over VR and being able to access Machu Picchu in a way he never thought possible, sitting in an armchair he was too small for, kicking his legs. Jack told me throughout his interview about how excited he was to experience something new for the first time in years. He mentioned feeling content about leaving the world behind as long as something as exciting as VR existed. I can't ask him of course, but I feel certain the experience made him happy for a time.

As for Hicks, his use for VR was practical. He is, in his own words, an eminently practical man. Through his disability and aging Hicks is feeling less confident on the roads and turns more to maps, both paper and Google, to plan longer journeys in his caravan. In our most recent interaction, Hicks mentioned he remembers his experience fondly and wishes he could use it for this. Almost two years after the experience, his mind still turns to it, however briefly.

I don't think the impact I and the experiences had on the participants is as strong as the impact they had on mine. However, that doesn't change the gratitude I feel towards them or the sense of loss I feel knowing one of them is gone. It's nice to know the impact is there, nonetheless. I just know I'll take this whole experience with me, wherever I go after this. I'm still unsure as to what the future holds for my career, although I'd like it to be in academia. I would like some research from this to be published. The grand dream, of course, is to see change in VR and have this research contribute to it. However, whatever the outcome, this will always be a time I'm grateful for.

If this really were one of my travel letters, I would sign off with a drawing. I'm currently typing this on my laptop, listening to the rain, curled up on a seat in the conservatory. I might've drawn the view of my very soggy garden. More appropriately, I might've drawn the VR headset I used throughout this journey. If I was any good at drawing people, I'd probably have drawn Jack, laughing in his armchair with the headset on, full of motion. I don't know how that would go over on the ethical anonymisation though. Instead, I'll sign off with a simple phrase to the participants.

Thanks for the memories.

Louisa.