



Iceland as a therapeutic landscape: white wilderness spaces for well-being

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Abstract Therapeutic landscapes are reputed to have a lasting repute for realizing healing. Traditional therapeutic landscapes have recognized natural environments as often sought after places for well-being. Such places promote wellness via their close encounter with nature, facilitating relaxation and restoration, and enhancing a combination of physical, mental, and spiritual healing. The physical environment of Iceland is explored through a case study approach, primarily employing data from the field notebooks of post-secondary students travelling in Iceland, as well as the authors' ethnographic field experience in Iceland. Iceland is examined using both a traditional understanding of therapeutic landscapes, as well as the contemporary understanding of the coloured landscape. In addition to the colour white, reflected in the glacial ice, moving water, and geo-thermal steams, black and various other colours in combination are discussed.

Keywords Therapeutic landscapes · Health geography · Iceland · Case study · Field work · Palettes of place

Introduction

In recent years, the study of therapeutic landscapes has turned towards the categorization and analysis of landscapes based upon their colour, known as 'palettes of place'. Foley (2015) outlines the various colours—green, blue, brown, and grey—that constitute therapeutic landscape research. Of all these colours, blue and green spaces have been studied most extensively. Green spaces have been known to have positive effects on mental health and encourage physical activity for people of all ages (Windhorst and Williams 2015a, b; Keniger et al. 2013; Gladwell et al. 2013), while water-focused, blue spaces inspired the very concept of therapeutic landscapes (Gesler 1993, 1996). The purported health benefits of immersion in green and blue spaces is unsurprising, as there are long-held cultural associations between wellbeing and spaces like urban parks, forests, rivers, and the ocean (Bell et al. 2015). Despite the wealth of information about green and blue spaces, there remain gaps in our understanding of other landscape colours. With the exception of Finlay's work (2018) addressing winter for old Minnesotans, for example, there is a gap

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regarding white spaces in the therapeutic landscapes literature. Though not traditionally associated with well-being, it is important to address the therapeutic qualities of white landscapes since people living in northern climates often experience snow and ice-covered spaces for four or more months per year. Although the inhabitants of these northern climates live with a full range of seasonal colours, we know very little about the white landscapes that surround them for a substantial part of the year.

To examine the therapeutic qualities of white spaces, this paper uses Iceland as a case study. Two methodological approaches are employed: analysis of student field notebooks, and; authors' ethnographic field experience. We begin with a review of the therapeutic landscapes literature as it pertains to natural environments and palettes of place. After a description of the various case study techniques used for data collection, thematic results are presented according to landscape type; the white spaces (glaciers, mountains, and water) are discussed and contrasted with black spaces (lava fields). Thematic results are followed by a discussion, conclusion and overview of future inquiry.

Literature review

In 1992, Gesler introduced the term 'therapeutic landscapes' to describe spaces or places associated with physical, psychological, and/or spiritual treatment, healing, or well-being. Traditionally, the therapeutic landscape concept has been employed in three areas (Bell et al. 2018): (1) the examination of places reputed for healing, such as natural environments (Palka 1999); (2) applications specific to vulnerable populations, such as those with mental illness (Geores and Gesler 1999), or families with autistic children (Nagib and Williams 2017, 2018), and; (3) applications to health services, such as the design of mental health hospitals (Curtis et al. 2007). Since then, the concept of therapeutic landscapes was extended to include psycho-social and spiritual environments (Williams 1998). Most recently, the health-enabling qualities of various coloured landscapes have been explored (Bell et al. 2018; Rosenberg 2016). In this paper, we will contribute to the examination of places reputed for healing—specifically natural

environments, while informing the palettes of place through examining white landscapes.

Natural environments

Nature is a highly contested term, spurring wide-ranging debates and tensions within human geography and beyond (Ginn and Demeritt 2008). In this paper we use the term natural environments to mean those biophysical environments that are relatively untouched, if at all, by human activity. The analysis of natural environments as therapeutic landscapes began with Palka's (1999) examination of Denali National Park in Alaska. This study's findings set precedents for future research, given the connection made between natural environments and relaxation and restoration via engagement and embodiment with a landscape (Palka 1999). The importance of engagement with the natural environment was further described by Milligan et al. (2004), with respect to gardening among other adults in Northern England. Their study highlighted the importance of sensory engagement in a therapeutic environment, as well as the need to consider opportunities for socialization and community gathering in natural environments (Milligan et al. 2004).

More recently, therapeutic landscapes literature turned to examine specific mental health outcomes of encounters with the natural environment. This new research direction drew on earlier work in the field of psychology regarding the healing potential of natural environments. Kaplan's attention restoration theory was particularly influential, where improved cognitive function resulted from spending time in nature, given that it does not require significant mental energy to observe (Kaplan 1995). Studies concerning the mental health benefits of natural environments often focus on specific groups, specifically, young people, older adults, and people with mental health concerns. Firstly, visiting natural environments allows young adults to physically and mentally separate themselves from stressful situations and seek solitude (Milligan and Bingley 2007). The importance of solitude was further explored by Windhorst and Williams (2015a, b), who found that post-secondary students sought out natural environments to avoid the pressures and judgement of social interaction. Ritchie et al. (2016) focused specifically on First Nations youth, wherein outdoor adventure experiences promoted

resilience. Immersion in the natural environment had similarly positive effects for older adults, including mental restoration, spiritual connection, exercise, and opportunities for socialization (Milligan et al. 2004; Finlay et al. 2015). Finally, people with mental health challenges can experience healing in natural environments due to the opportunities to challenge oneself and gain confidence (Milligan and Bingley 2007; Freeman et al. 2017). Evidently, natural environments function as a therapeutic landscape for people of various ages and health status.

Despite the wide-ranging benefits of immersion in the natural environment, there are also several challenges and limitations of studying them as therapeutic landscapes. Natural environments are not universally accessible due to requirements for physical mobility (Milligan et al. 2004); personal safety (Finlay et al. 2015); and affordability of travel (Freeman et al. 2017). Furthermore, the literature demonstrates variable experiences between individuals who have similar encounters with natural environments. For instance, Milligan and Bingley (2007) found some young people felt confident and relaxed being alone in woodland areas, while others were frightened. They point to the influence of social conditions in perceptions of and experiences of natural environments; participants noted that news media (reports of crimes) and entertainment media (supernatural/horror films set in wooded areas) created negative perceptions of natural environments (Milligan and Bingley 2007). Gender norms can also influence therapeutic outcomes, with girls gaining self-esteem in natural environments through opportunities to challenge traditional notions of femininity and demonstrate strength (Barton et al. 2016). Social conditions may be broad and general, as in the former examples, though they can also be place-specific. Deary and Warren (2017) note resistance among Scottish people to identify positive associations with land free of human presence; they believe these attitudes result from the Highland Clearances, which forced farmers off their land and had a devastating effect on the Scottish people. Human-free spaces thus recall a dark period in the country's history, rather than more positive, Romantic notions of pristine and beautiful wilderness seen elsewhere (Saeþórsdóttir 2010).

Colour in therapeutic landscapes

Foley (2015) outlines a palette of colours—green, blue, brown, and grey, in various therapeutic landscapes. Blue spaces have the potential to promote health and wellbeing with water as the focal point of the encounter (Duff 2012). Gesler (1992) discussed how many societies have used water as a source of healing; from the classical Greeks and Romans to the present, bodies of water have been seen as having curative and restorative powers (Gesler 1993; Williams 1999; Foley 2014). The physical health benefits of immersion in water are well documented, most prominently in relation to the relief of rheumatic disease symptoms. Physiological changes have been observed in patients who spend time at water-based health retreats (Sukenic et al. 1999; Serbulea and Payyappallimana 2012). People who engage in outdoor swimming also report more general physical and mental health benefits such as pain relief, increased energy, and relaxation (Foley 2015; Serbulea and Payyappallimana 2012). These findings seem to occur during contact with hot water or steam, as well as cold water. Immersion in water has increasingly become a healing tool because it has relatively few side effects, however it is unknown why some patients benefit while others worsen or do not change (Sukenic et al. 1999; Hashkes 2002). Unlike green spaces, blue space is more accessible to a wide variety of bodies; some who may identify as disabled may have the ability to experience freedom in immersion in water (Foley and Kistemann 2015) depending, of course, on past experiences with aquatic environments.

Despite therapeutic landscapes literature largely focusing on blue and green spaces, white and grey spaces like snow-capped mountains or snow-filled landscapes, beaches and deserts, stones, and cliffs have also been examined and found to elicit a variety of emotions. Lengen (2015) examined Swiss psychiatric patients through painting and narration, and many participants associated these white and grey landscapes with feelings of freedom, tranquility, and fascination. Meanwhile, Finlay (2018) explores the experiences of older adults in urban Minnesota, which experiences about 6 months of snow in a year. The impact of white spaces, like all therapeutic landscapes, was not absolute. For example, micro-features of the built environment, such as slippery sidewalks, can prevent frail individuals from going outside; this can

result in reduced general activity and social isolation. Meanwhile, some older Minnesotans enjoy the white space as they have adapted their lives around the weather conditions. In effort to address the missing link in the literature, this paper aims to explore these other palettes as therapeutic landscapes, particularly white spaces in natural environments.

Methods

Following approval from the Universal Research Ethics Board (MREB Number 0516), the authors collected data from two sources in this study: student field notebooks and authors' ethnographic field experiences. Regarding the field notebooks, 11 participant field notebooks were recruited. All field book contributors participated in a 10-day, interdisciplinary learning course in Iceland. Biographical/demographic information was not collected as part of this study, so participants' specific cultural background is not known. However, all participants had been studying full-time at a university located in southern Ontario, Canada for at least 1 year and were enrolled in a science program. Both authors, together with field book contributors, had never visited Iceland before, so the landscape was both novel and unfamiliar. Students completed the course in May 2016, 2017, or 2018, with the first author also participating in the field course in May 2017. The field course involved 8 days in the countryside, which included visits to a range of natural environments, including: waterfalls, glaciers, national parks, beaches, and caves. This was followed by 2 days in Iceland's capital city, Reykjavik.

The purpose of the course was to expose students to fieldwork methods used in geography and environmental sciences, as well as to teach students how to think about and analyze topics with an interdisciplinary lens. The course instructors were two Canadian and one Icelandic geology professor, as well as a fourth professor or graduate student whose academic field varied from year to year. As a result of the instructors' areas of interest and the course's focus on fieldwork, the core subject of the course was geology. To provide students with additional context for interdisciplinary learning, Icelandic ecology, history and culture were also included to a lesser extent. During the field course, students were required to keep a field notebook. Overall, students were encouraged to

include whatever they felt was important in their field notebooks and the instructors did not outline a required or preferred method. However, the instructors did provide some suggestions: observations of physical geography and ecology; reflections on their experience; and notes on topics discussed by the instructors. Students were encouraged to make connections between what they learned orally and what they observed, for example, how geological forces like a volcanic eruption created the current landscape. Participants voluntarily supplied copies of their field notebooks for use as data in this study. All participants were assigned pseudonyms to protect their anonymity. The first author's field notebook was also included in the sample. Qualitative thematic analysis of field notebooks was completed following a modified version of Burnard's method for qualitative analysis (1991). Following an initial reading to gain context, each notebook was read and notes were made. Notes were sorted into categories based on the natural feature in question and condensed to create main points and themes for each category. Lastly, relevant excerpts from the notebooks were transcribed for used in this manuscript.

In addition to student notebooks, this paper includes data collected by the two authors via their separate ethnographic field experiences in Iceland. As noted, the first author completed the same interdisciplinary field course in May 2017 and collected observations and reflections in a field notebook. Using an ethnographic approach, the second author completed a week-long field work session in June 2018. Field notebook participants and the first author travelled through southeast Iceland, while the second author drive around Iceland's 'Ring Road', which follows the perimeter of the island (Fig. 1).

Results and discussion

Permanence

There is a clear contrast between participant perceptions of white and black landscapes, particularly notions of permanence. Within the white landscapes, participants noted markers of glacial retreat and the movement of water and ice. For instance, during a hike in Iceland's Skatafell National Park, the group reached a rocky outcropping overlooking the proglacial area



Fig. 1 Map of key locations (Google Maps). Legend: A: The Blue Lagoon, B: Vatnajökull, C: Eyjafjallajökull, D: Skaftafell National Park, E: Reykjanes Peninsula, F: Eldfell, G: Faxi, Geysir, H: Gulfoss, I: Jökulsárlón, J: The Secret Lagoon, K: Reykjavik

(the foot of the glacial mountain) and glacial lakes of Skaftafellsjökull. Looking out over the vast expanse of ice created a sense of awe. Pieces would occasionally break off and fall into the lake below, suggesting the might and power of the glacier. Participants noted the size of moraines (areas of accumulated rock and dirt in front of glaciers) and how they varied at different sites. As one participant wrote, ‘each glacier has its own unique character and personality’. They noted the size of flood plains and their distance from the existing glaciers, which illustrates glacial retreat over time. The subject material discussed at these locations undoubtedly had an influence on why the participants focused on notions of change in their field notebooks. Course instructors spoke about how glaciers sculpt the land around them and how evidence of glacial retreat can be seen in the present landscape. Although viewing the landscape concurrent with a geology lesson may have been an effective teaching strategy, these lessons prompted participants to view the landscape in a particular manner—as a space of change—rather than with a more individual perspective.

Another white landscape that evoked a sense of change was a guided tour to the summit of

Eyjafjallajökull. Eyjafjallajökull is a volcano covered by an ice cap on Iceland’s southern coast, most widely known for its 2010 eruption that grounded air traffic across Europe. The base of the volcano was a predominantly green and brown space, and the landscape gradually transitions to a white space at higher altitudes. The presence of multiple colours surprised participants, with Logan stating, ‘amazing how in this cold, harsh landscape of black and white, there’s specks of green too’. In this, he demonstrates the limits of the palettes of place approach: landscapes are rarely exclusively one colour. For those that were able to reach the summit, it was a moving spiritual experience. Taylor wrote:

There are some moments in life that will be with you always – this was one of those moments. Arriving at the peak of Eyjafjallajökull, just as the clouds are clearing to reveal the breathtaking view of mountain ranges and ocean. Wind whipping you around and every sense totally electrified. Exposed to the elements, white glacier all around. Truly magnificent.

Being on the mountain’s summit was itself a powerful embodied experience. The rushing wind and slippery

surface gave the activity a real risk of injury, while the pristine mountains and ocean were aesthetically pleasing and induced a sense of joy and excitement. Similar to Taylor's account quoted above, several other participants described a sense of awe and felt this experience was a special one. During the first author's trip, the instructors mentioned several times that there was no guarantee of reaching the summit, while the tour guides repeatedly assured one group that the forecast called for the clouds to clear within a couple hours. This discussion about the shifting conditions on the mountain led students to perceive it as a dynamic space and also made the experience feel special—in place that constantly changes, they had been lucky to have just the right conditions. So while certainly a unique experience, the sense of awe and appreciation was also facilitated by the instructors and tour guides' frequent discussion of how the experience could have been different. In addition, these responses to the environment move the landscape beyond mere visual aspects of colour. The windiness, awe, and uniqueness of the landscape were all components of its "whiteness" and bound up with its ice-covered visual appearance.

In contrast, participants imbued the black landscapes (terrain formed by black volcanic ash, called "lava fields" by the instructors and students) with a sense of permanence and emotional grounding. Participants spent the first few days of the field course among these lava fields and were struck by their eerie tranquility. For example, Erin wrote, 'Iceland is a place where it is very easy to feel isolated: winding roads through imposing lava fields without the signs of any other humans in sights...so far I have never experienced such a strong sense of being utterly alone in an environment.' Other participants described the lava fields as barren, harsh, and disorienting, further reflecting perceptions of emptiness and strangeness. The landscape made participants feel small and encouraged emotional reflection. For instance, Meghan compared the lava fields to her experience at England's Stonehenge, stating, 'all the drama of your own life and things that make you feel like the world is spinning out of control; and yet the stones and standing there through it all.' The sense of permanence Meghan describes was further enhanced by the lack of movement and relative quiet of the lava fields; there was no vegetation rustling in the wind and the rocks did not shift at all, unlike the glaciers which had visible

movement as pieces broke off and fell into the lakes below. In addition, the ocean in the distance provided the only auditory component to this landscape. The silent nature of the space was off-putting and further contributed to the eerie atmosphere. The bareness of the lava fields was accentuated by the lack of vegetation, trees, and wildlife of any sort, likening it to the barren landscape of an extraterrestrial planet.

However unlike the white landscapes, student perceptions of the black lava fields did not reflect the nature of the educational materials discussed on-site. The instructors described the formation of lava fields as a massive change in the environment and one that added significant land mass to the island. As an example, one instructor noted a group of cliffs that currently stand far from the water's edge, but were once along the shoreline. In addition, the instructors noted the ways in which these landscapes would change over hundreds of years, where the biological succession process of vegetation growth would inevitably occur. Thus, the characterization of the lava fields as permanent and grounded is unexpected; for whatever reason, students were not unintentionally guided by the instructors to make certain observations about the lava fields as they were with the various white landscapes. On the other hand, the participants' notion of the lava fields as barren and eerie did follow the tone of the course learning content. While discussing the geologic importance of volcanic eruptions and how they formed the lava fields, the instructors also noted how destructive these eruptions were to the human population. Flowing lava destroyed man-made infrastructure and caused people to have to move elsewhere. Stories about the human cost of the lava fields' formation may have created negative connotations of the lava fields, leading students to perceive them as eerie and barren.

Further contrasts between participant conceptions of white and black landscapes were the enjoyment of sensory components and the lack of human activity. In the white landscapes, participants seemed to enjoy sensory immersion in the natural environment, even when it may have been physically unpleasant. For instance, participants recalled the roaring sound and spray of the waterfalls that made them cold and wet, yet it was nevertheless an exciting and awe-inspiring experience. Other landscapes had wholly positive sensory components, such as the relative quiet at Jökulsárlón (a lagoon filled with icebergs) and the

restorative warm water of the hot spring pools. Participants noted the silence of the lava fields; this environment was characterized as off-putting and eerie, not enjoyable or relaxing. The glaciers, steam vents, waterfalls, and lava fields were all vast landscapes with few signs of human activity, yet were characterized differently. The lack of human activity in the lava fields was seen to contribute to their emptiness and isolation, while in the white landscapes, lack of human activity made them more wild and exciting to visit. Despite the similarities between these two coloured landscapes, participants characterized them in different and, at times, opposite manners.

Taken together, student perceptions of the white and black landscapes demonstrate the ways in which landscapes are experienced and mediated through social components. While no two participants had exactly the same experience, their perceptions of the landscape tended to align with the stories and educational material presented by the instructors. Despite aspects of the course such as student field presentations which gave students some agency in their learning, the dynamic of the student–teacher relationship still positions the teacher as the “expert” providing knowledge to the student. The knowledge gap between student and teacher in this case was particularly strong, in that one of the instructors was a native Icelander who had taught the course for many years. As such, students may have been particularly influenced by his stories. The way students experienced the landscape was shaped in real time by the instructors; stories and lessons were generally narrated on-site, while students were physically located in the landscape and seeing, hearing, and feeling all its qualities. This sample of students demonstrates that one’s own physical and emotional reaction and the influence of others can simultaneously shape the experience of a landscape. However, it is important to note that these findings are limited by the fact that students began writing in their field notebooks once the course began. As such, students’ pre-conceived notions about Icelandic landscapes based on their own knowledge or research cannot be assessed.

In addition to the social influence of the instructors, the difference in perceptions of the white and black landscapes may be associated with cultural associations of these colours and their contrasting nature. There is a long-standing notion of the contrasting nature of white and black (or light and dark), as well as

many value-laden English terms associated with black and white (e.g. black sheep, black magic, white lie, white noise). In North American culture, white is generally known to represent new beginnings, goodness, and the pristine, while black represents finality, harshness, and evil. These types of associations are evident within participant’s field notebooks; white landscapes are seen as dynamic and changeable, and black landscapes are seen as permanent and desolate. These notions are reflected in a study of colour association, where participant had to link colours to emotionally-related words. In this study, black was most associated with negative emotion terms like misery, fear, and death; on the other hand, white most associated with positive emotion-laden terms like safety, freedom, and peace (Sutton and Altarriba 2016). These cultural associations represent the non-visual qualities of the palettes of place approach, where various cultural meanings and sensory components contribute to a landscapes “colour”. In addition to the limitations of a small, homogenous sample, this study’s results correspond to cultural trends in the English speaking, North American context and likely would not be applicable to student-tourists from other countries due to differing cultural associations of colour.

Novelty

As discussed, all participants, including both authors, visited Iceland for the first time. Although Iceland’s physical geography is unlike virtually any other place, participants compared their experience in Iceland to previous experiences in natural environments. Reflecting upon a visit to Gulfoss, Logan wrote, “[Gulfoss] makes me think of Niagara Falls, but Gulfoss is better. Less commercialized and you can actually get close to it.”. In Canada, Niagara Falls lies next to a commercial entertainment district, featuring a ferris wheel, arcades, casinos, and many chain restaurants and hotels. Gulfoss, on the other hand, has a parking lot, one restaurant, and walking paths from which visitors can view the falls. Neither approach is better, however, as Logan indicated, the experiences are quite different. In Iceland, the lack of human activity contributed to a sense of harmony and wildness, making participants value these waterfalls more. The relatively close proximity to the waterfalls provided a more engaging experience, as it gave participants a

strong sensory component to the landscape: hearing the roar of the water, feeling the spray of mist, and watching the moving water. The opportunity to have an intimate experience with the natural environment, via integration and assimilation into the natural environment at Gullfoss was novel to participants, and was also afforded to them at other sites. For instance, at Jökulsárlón visitors are allowed to walk right up to the glacial lake and walk along the ocean shore where remnants of the melted icebergs lie. There are no fences or gates preventing visitors from touching the water, or playing with the remnants of the icebergs on the ocean side. In fact, Meghan ‘tasted thousand-year-old ice- it didn’t taste like anything because it’s so pure.’ Not only were the sites themselves novel and unfamiliar, but the ability to touch and feel them was as well. This made the experience feel exciting and produced a sense of awe.

Therapeutic landscapes literature suggests retreat into a natural environment one does not inhabit regularly can provide a sense of healing. For example, Gesler (1996) characterizes the religious pilgrimage as a means of leaving daily life and entering a sacred space and Windhorst and Williams (2015a, b) found that immersion in natural environments provided an escape from the stress of university life. In both of these examples, the sites are not visited regularly, but are not wholly unfamiliar. Participants in the Windhorst and Williams study (2015a, b) had visited the natural environment multiple times and associated strong memories with it. In the case of Lourdes, the physical environment itself (a grotto) is typical of the area and not particularly novel, but the strong religious associations and traditions at the site make it a significant place of healing (Gesler 1996).

Yet in the case of participants in this research, a space was entered that was entirely novel and unfamiliar. The sense of novelty was further enhanced by the social dynamics of the field learning setting: most participants had never done a field-based course before. Together, the natural and social environments created a sense of excitement and intrigue that would likely not be present in a more familiar environment. The therapeutic benefits of immersion in an unfamiliar natural environment have been discussed by Lea (2008), who notes that the lack of familiarity allows closer attention on the body and one’s place in the world. The natural environment of Iceland certainly did take participants outside of their daily experience

and encourage reflection. There was also a strong sense of awe and mental restoration that resulted from immersion in Iceland’s unique natural environment. These results correspond with the experience of tourists in another one-of-a-kind natural environment—Australia’s Kimberley Coast; this study suggests that awe stemmed from the sense of authenticity tourists felt in viewing novel geological features and seeing animals in their natural environment (Pearce et al. 2017). The notion of authenticity is particularly relevant for the students in our study, since they had studied the geological features they would see in Iceland prior to the trip, some quite extensively. Participants explicitly noted that there was nothing like seeing the natural features they had studied in-person; a more implicit message was that there was nothing like seeing these natural features for the first time. Meghan was the only participant to directly speak to this sense of novelty and how it impacted her perceptions of the landscapes. She wrote, “what a strange thing to think we’ve been here only a week and already it’s like, ‘yep, that’s a glacier’ and it no longer feels like some miraculous, once-in-a-lifetime experience.” Even within the 10-day trip, the natural environment was met with less overwhelming, stunned awe, shifting towards a more reflective and restorative function.

In discussing the positive effects of immersion in the novel, natural environment of Iceland, it is important to consider who gets to experience these landscapes. Recent literature highlights the colonial origins of the idea of the benefits of immersion in, and the use of, natural environments for leisure purposes only. For instance, Adams discusses the “Yellowstone Model” of managing natural environments, where Indigenous inhabitants are made to leave the land so it can be “protected” for the benefit of European settlers seeking adventure and leisure (2005). While Iceland does not have a colonial history like that of North America and Australia, Adam’s argument underscores the idea that natural environments are set aside for those in the upper socio-economic classes (2005). Ôian argues that tourism can similarly act to transform spaces from sites of settlement and work to spaces of leisure (2013). In either case, money is the key factor in accessing these spaces; among this sample of students, financial accessibility was certainly contentious. In addition to costs for airfare, accommodation, and in-country transport, participants had to pay

tuition costs due to the educational and credit-granting components of the course. All told, this amounted to approximately \$3000 Canadian. There were also costs for food and optional excursions during the trip, and students were expected to bring gear such as hiking boots and waterproof clothing with them. In the first author's experience, university schemes that may have provided financial assistance or bursaries were not discussed at informational sessions prior to the course. So although the course is offered as an elective to students from across a variety of academic programs, the high cost means the opportunity was really only open to wealthier students. Visiting a novel landscape often means travelling far from home, which is an expensive endeavour and therefore not universally accessible.

Furthermore, the course involved spending most of the day outside, in all weather conditions, walking on terrain that was uneven, sloped, and sometimes ice-covered; a person with a mobility challenge would have found it difficult, if not impossible, to follow this route and experience the same degree of immersion in the natural environment. This further complicates the notion that visiting novel, natural environments has positive, therapeutic qualities, since the physical capabilities required to visit them mean they are not safe or enjoyable environments for all people. The risk culture associated with outdoor recreation suggests that encounters with natural environments should push the body to its physical limit, with the threat of injury (and thus, disability) as part of the thrill (Jaquette Ray 2009). While participants in this study did not participate in activities as extreme or dangerous as the ones described by Jaquette Ray, the idea of natural environments as a space for abled-bodied people is reflected in this study and others (Macpherson 2009; Bell et al. 2018). Given the educational context of participants in this study, it is also important to consider the ways in which fieldwork and other experiential or non-traditional learning methods counteract or reinforce norms of financial and physical ability among university students.

Conclusion

To date, the palettes of place concept has mostly focused on blue and green landscapes. Recognizing the limitations of a relatively small, homogenous

sample, this study shows the therapeutic potential of white landscapes, as well as their contrast to another unusual coloured landscape, black lava fields, providing a better understanding of the broader colourscape of the palettes of place that characterize therapeutic landscapes. The novelty of these natural environments for Canadian, first-time visitors to Iceland increased their therapeutic qualities by increasing participants' excitement and sense of awe. These unfamiliar landscapes were able to take participants outside of their routine ways of being and thinking, encouraging reflection, positive emotion, and mental restoration. At the same time, perceptions of these landscapes are clearly influenced by social cues and relationships of power within the student–teacher, tourist-guide relationship. It would be fruitful to examine how narratives and educational materials influence others who visit natural environments, including local people and non-student tourists. Furthermore, it would be beneficial for future research to explore how tourist narratives and desires may affect, and potentially undermine, local peoples' experience within the natural environment. Particularly in the context of Iceland, where tourists outnumber residents during the summer months, it is important to consider who can access and benefit from these natural environments.

These findings have implications for the tourism industry and others seeking therapeutic encounters with natural environments: a change in setting and a lack of familiarity facilitates a change in perspective and feelings of restoration. This study did not take into account participants' past experiences and opinions regarding natural environments, due to the data collection methods used. It would be fruitful to pursue further research to determine how familiarity with natural environments, or study travel/field-work more broadly, informs their experience in new environments. Yet it is important to consider the accessibility of these opportunities, in terms of the cost of travel to novel and potentially far-away natural environments, as well as the physical capabilities required to move around these environments. In addition, this study notes the role of educational institutions and tourism in shaping the idea of natural environments. This has implications in assessing who has social, cultural, and physical access to natural environments and what kinds of therapeutic qualities it provides. As such, this paper contests the notion that natural environments have inherently healthy qualities and furthers critique

of the therapeutic landscapes concept seen in recent literature.

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Compliance with ethical standards

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