



Sport in Society

Cultures, Commerce, Media, Politics

ISSN: 1743-0437 (Print) 1743-0445 (Online) Journal homepage: www.tandfonline.com/journals/fcss20

The role of an environmental perspective among skiers in the changing landscapes of alpine skiing

Marie Larneby

To cite this article: Marie Larneby (2025) The role of an environmental perspective among skiers in the changing landscapes of alpine skiing, *Sport in Society*, 28:10, 1540-1558, DOI: [10.1080/17430437.2025.2450807](https://doi.org/10.1080/17430437.2025.2450807)

To link to this article: <https://doi.org/10.1080/17430437.2025.2450807>



© 2025 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group



Published online: 18 Sep 2025.



Submit your article to this journal [↗](#)



Article views: 1356



View related articles [↗](#)



View Crossmark data [↗](#)



Citing articles: 2 View citing articles [↗](#)

The role of an environmental perspective among skiers in the changing landscapes of alpine skiing

Marie Larneby 

Department of Sport Sciences, Malmö University, Malmö, Sweden

ABSTRACT

Alpine skiing is an outdoor sport that has been increasingly threatened by climate change. This study aims to explore alpine skiers' intentions for skiing and working in a skiing landscape and to understand the role of an environmental perspective in their lifestyle and professional practice. Ten alpine skiers were interviewed, and data were analysed using two conceptual frameworks: the logics of practice and ecostrategies (landscape approaches). The results show that a mix of logics motivates the skiers, notably experiencing nature, enjoying, and conquering. The skiers move between two landscape approaches: active domination and active adaptation. Namely, they adapt nature to skiing, but they also want to protect nature while they ski. When the skiers share their environmental perspective, they potentially increase awareness in other skiers, prompting them to make better choices in their use of nature and the landscape while skiing.

ARTICLE HISTORY

Received 5 July 2024

Accepted 16 December 2024

KEYWORDS

Alpine skiing; nature experience; landscape approaches; logics of practice; environmental perspective

Introduction

Winter sports tourism has around 115 million skiers and snowboarders worldwide visiting about 2,000 ski destinations in 80 countries (Hudson and Hudson 2015). Alpine skiing has for decades been part of this tourism as an important leisure activity (Denning 2015; Nadegger 2024; Strobl 2019). It is also a competitive sport regulated by the International Ski and Snowboard Federation (FIS), which organizes the top-level international competition, the FIS Alpine Ski World Cup (FIS 2024). Today, alpine skiers are used to landscapes that have been constructed for skiing. Such landscapes with comfortable facilities and technological solutions have developed over time. The modernization of the European alpine landscape was initiated during the late 1800s. Anderson (2012) describes how urban people started to approach and gain access to the mountain landscape through the effort of alpinists' construction of paths and huts for hiking and experiencing the alpine environment: 'Overcoming alpine nature became a practice of overcoming "backwardness" and subjecting the Alps to modern development' (Anderson 2012, 173). Further, walking up the mountain and skiing downhill, 'introduced a novel and volatile element in the landscape: speed' (Denning 2015, 92). Alpine skiing also developed through a slow but steady modernization

CONTACT Marie Larneby  Marie.larneby@mau.se

© 2025 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. The terms on which this article has been published allow the posting of the Accepted Manuscript in a repository by the author(s) or with their consent.

of the landscape and the conquest of the mountain on skis. Alpine skiing expanded rapidly during the 1950s and 1960s in the European Alps, and the landscape changed from being nearly untouched and pristine to being an established setting for winter sports tourism – with a network of lifts, groomed slopes, and service facilities such as restaurants, hotels, chalets, and ski schools (Denning 2015; Podkalicka and Strobl 2019; Thöny 2019). Scandinavian ski destinations also underwent similar development (Moen and Fredman 2007).

One of the main prerequisites for alpine skiing is a slope, so it is specifically bound to mountainous or hilly landscape (Denning 2015). Additionally, snow is a key element (Trandberg Jensen and Gyimóthy 2020; Ritner 2022), so the presence or lack of snow due to climate change is central in the discussion about skiing (Demiroglu, Halvor, and Carlo 2018; Hopkins 2014; Nöbauer 2022; Rice, Cohen, and Scott 2024). Media reports of melting glaciers, closed ski resorts, and cancelled alpine ski races have surged in recent winters. Deteriorated access to snow is well documented in ski resorts in Australia (Pickering et al. 2010), New Zealand (Hopkins 2014), North America (Stoddart 2011), and in the Alps (Steiger and Stötter 2013). Insufficient snow cover has led to strategic adaptations such as changing the operational period of lifts and slopes, developing snow production technology, and guiding guests to more climate friendly means of transportation. Simultaneously, climate changes affect snow conditions at different rates; while ski resorts in Europe seem to suffer from a big negative impact on snow (Nöbauer 2022; Steiger and Stötter 2013), ski resorts in Sweden and Norway are not as affected yet (Rice, Cohen, and Scott 2024; Scott et al. 2020). Nevertheless, Gerretsen (2023) warns that climate change threatens to close ski resorts on different continents and portrays skiing as an ‘endangered pastime’. Consequently, people working with snow-sports-related tourism risk losing their jobs, their existence ‘literally melting away’ (Nöbauer 2022), and people who engage in winter sports recreationally or professionally risk losing access to such sports.

While alpine skiing is highly affected by climate changes (such as warmer temperatures, changed patterns of snow fall, and melting glaciers), it has a bidirectional relationship with the environment. As part of the ski industry and mass tourism, alpine skiing has exploited the environment. For instance, snow production systems at ski resorts, services such as lifts and slopes, and other services have increasingly affected the environment and the climate (Denning 2015; Hudson and Hudson 2015; Moen and Fredman 2007; Nadegger 2024). Wrede (2023) relates the threat to the European Alps to climate change and mass tourism.

This study focuses on how professional and recreational alpine skiers relate their skiing activity to the environmental changes impacting alpine landscapes. Following Reichwein, Schut, and Quin (2024, 1), who ask whether nature sport could be ‘a lever of change toward a better way of living on the land in ethical relations with the environment?’, I explore whether alpine skiing could contribute to a positive change. The underlying argument in this study is that this change depends on alpine skiers’ perception of nature and landscape, and their logics for skiing. Sandell and Öhman (2013) argue that intrinsic values of outdoor recreation might be inspirational to environmental behavior and actions. Nadegger (2024) sketches a critical picture of alpine skiing, conceptualizing it as a ‘troubled’ and ‘troubling leisure practice’ (1109). According to Nadegger, alpine skiing is ‘carving lines through melting lands’ (1106) in relation to the Anthropocene, but a ‘re-turning’ to skiing with a new perspective can lead to caring relationship with more-than-human contexts.

The passion for skiing does not end because the sport is threatened (Nadegger 2024). Instead, it might drive action to counter the threat. For instance, Langseth and Vyff (2021) investigated surfers' environmental attitudes and actions. They found that because surfers are close to nature, they could be advocates for environmental action and, thus, could be able to continue surfing in a pro-environmental way. However, surfing and alpine skiing also share the development from being a pastime to being large tourist industries, with emission-heavy travelling and gear impacting the environment. As Wheaton (2020) critically discusses, there are tensions between surfers' environmental connection and their negative environmental impact. While the act of surfing makes surfers feel connected to nature and exposes them to the negative impact on-site (for instance, they surf in the plastic pollution), their travel habits are 'the elephant in the room' (161). Additionally, the surf industry's required hardware, clothing, and accessories have an immense negative impact on the environment, which is also the case for alpine skiing.

In addition to recreational alpine skiers, workers in the ski industry also have an impact, so this study includes their perspective as well. Nöbauer (2022), Denning (2015), and Podkalicka and Strobl (2019) pay attention to the importance of alpine skiing for people living and working in alpine regions. Skiing as a living implies that the sport can be practiced for a livelihood, and people who work with their sport can, according to Hallmann et al. (2022), be called 'lifestyle entrepreneurs'. The entrepreneurs in Hallman et al.'s study revealed a strong connection between their choice of profession and their wellbeing and their desire to achieve a higher quality of life. Alpine skiing athletes (racers and freeskiers), race coaches, and ski school instructors have all made a profession based on their skiing. Hence, the skiers in this study are perceived as practicing (or having practiced) their activity for a livelihood, and therefore as part of the ski industry. The ski industry is aware of its impact on the environment and the climate (Hudson and Hudson 2015; Moen and Fredman 2007; Rice, Cohen, and Scott 2024). Construction expansion and renovation of ski resort facilities and infrastructure (such as chalets, hotels, restaurants, lifts, slopes, snow cannon systems, and pistes grooming vehicles) are a comprehensive arrangement (Hopkins 2014). In addition, travelling is most often required (Stoddart 2011; Wicker 2018), and gear and clothes are needed (Aall et al. 2011).

Turning from ski industry to the skiers, research on skiers' experiences, the environment, and sustainability shows that a high awareness of the connection between these aspects does not necessarily translate into a high degree of climate friendly behaviour or actions. For instance, Stoddart (2011) and Wicker (2018) reveal that skiers and snowboarders' pro-environmental attitudes were not associated with climate friendly transportation to ski resorts. Pickering et al. (2010) report that Australian skiers would ski less often in Australia if resorts had low natural snow cover, meaning their awareness of the change leads them to consider travelling elsewhere rather than taking climate-friendly actions. Moreover, a study on Norwegian summer ski tourists found that 68% of the respondents experienced the negative effects of climate changes that were visible in the Norwegian summer ski centres, and many stated that they would probably change their skiing habits if the negative trend continued and would ski more during winter instead (Demiroglu, Halvor, and Carlo 2018).

Thus, several perspectives need to be taken into consideration to understand climate change's impact on alpine skiing. One way to unpack the complexity is to give voice to active skiers who are situated in this milieu. Therefore, this study aims to explore professional and

recreational alpine skiers' intentions for skiing and working in a skiing landscape and to understand the role of an environmental perspective in their lifestyle and professional practice.

Theoretical framework

In this study, alpine skiing is considered a versatile outdoor activity. Depending on the skier, alpine skiing can be a *competitive sport*, a *recreational activity*, or a *profession* (for instance ski instructor or coach). Alpine skiing is performed in a landscape that is threatened after a century of modifications to nature. Therefore, exploring how alpine skiers perceive the environment is relevant. This study is inspired by and complements Backman and Svensson (2023) study on environmental sustainability in the changing landscapes of outdoor sports. They argue that the logics of practice of cross-country skiing and canoe slalom athletes and their use of landscape influences how they expressed environmental awareness. While Backman and Svensson studied elite athletes, the participants in this study are alpine skiers who have skiing as a lifestyle or profession. Accordingly, this paper explores alpine skiing through the analytical framework of logics of practice in movement culture (Engström, Karin, and Håkan 2018). Further, to analyse the intersection of alpine skiing and the environmental perspective, I use the landscape approaches in the ecostrategic conceptual framework by Sandell and Öhman (2013) and Sandell (2016).

Logics of practice in movement culture

Engström, Karin, and Håkan (2018) describe patterns of participation in movement culture in terms of what 'govern practice in different movement culture' (897). They sketch the significant features of different logics of practice, but there can of course be others. To do so, they investigate how an activity is regulated: 'what can be done and what is one expected to do – or not to do?' (897). They present three main logics of practice in movement culture and their sub-logics. The logic *performing* 'is the means to an end' (898). Its sub-logics are competing, conquering, and expressing. The logic *improving* is expressed through the sub-logics of training (working hard to improve) or practicing (mastering a movement). *Experiencing* is about the movement itself. Playing, experiencing nature, and moving to music are its sub-logics.

A key aspect of this framework is that although some activities are dominated by a specific logic, 'most practices include several logics' (Engström, Karin, and Håkan 2018, 900). For instance, on the same slope, alpine skiing can be performed to race in a competition or to enjoy carving turns for recreation. It is the same activity, but with different intention. When studying alpine skiing, researchers have to cover all the possibilities of performing the activity, which take place in the same landscape. This study explores the dominant logics of the practice of the skiers in this study.

Ecostrategies and landscape approaches

Sandell (2016) and Sandell and Öhman (2013) present a conceptual framework of landscape perspectives in relation to outdoor activities, outdoor recreation, and outdoor education. The framework 'tries to include the aspects of *what* one does and *why* one does it in the form of which landscape relation outdoor education has' (Sandell and Öhman 2013, 44–45).

Accordingly, *ecostrategies* is about the views on and use of landscape. The ecostrategies for nature relation and landscape relation take the form of three landscapes approaches that are applicable when ‘in place’ in the landscape: *active domination*, *active adaptation*, and *passive adaptation*.

In the active domination approach, the landscape is regarded as a ‘factory’ (Sandell and Öhman 2013, 46). The landscape is purposely adapted and improved to be used for a specific function, in this case, a ski destination. It is a built landscape in which specialized outdoor activities often require equipment and which often involves long-distance travel. In the active adaptation approach, the activity is subordinated to the landscape, but the landscape is used and changed with the activity (such as berry picking, hunting, and fishing). The point of departure is the local landscape, explained as a ‘dedicated place to be utilized’ (Sandell 2016, 68). It could be where one lives. Lastly, the passive adaptation approach contrasts the active approaches as it involves passively contemplating, studying, and coping with the landscape. There are no active changes in the landscape, although the practitioner might be very active (for example, when hiking): ‘The ideal is that nobody will know that you have been there’ (Sandell and Öhman 2013, 47).

The landscape approach that is prevalent in alpine skiing determines the opportunities and barriers for environmental behaviour and action. For example, in an active domination approach, pro-environmental behaviour might be difficult because the landscape is subordinated to the activity (Sandell and Öhman 2013).

Methods and material

A qualitative approach was used to collect ten skiers’ perceptions of and reflections about skiing, landscape, and environmental sustainability (Tracy 2019). Semi-structured interviews were conducted between July 2022 and April 2023. The interviews were conducted digitally and transcribed verbatim.

My own background as alpine skier is of relevance for the collection and analysis of the material and the reporting of the results. I have been an alpine skier for forty-two years and worked as a ski instructor in the Swedish mountains between 1997 and 2008, so I have a close relationship to the activity and the skiing landscape.

Participants

I turned to my network of former ski instructor colleagues and asked *via* email and Facebook messenger whether there was an interest in participating in a study on alpine skiing, landscape, and environmental sustainability. The ten skiers who agreed to participate are presented in Table 1. At the time of the interviews, five of the skiers worked as ski instructors or were involved in ski school or ski-instructor education, so skiing was their full-time profession and main source of income. Three skiers (two of which were former ski instructors) volunteered as ski coaches in their local ski clubs. They described coaching as part of their lifestyle and an unpaid work during leisure time. Two former ski instructors no longer engaged in skiing as a profession but skied between five and seven weeks per winter. I was in contact with the skiers a year after the interviews, during the winter of 2023/24, and all were still active in their professional or lifestyle skiing.

Table 1. Participants and relation to alpine skiing.

Skier, age	Relation to alpine skiing
Martin, 60	Ski instructor since the early 1980s. Educates ski instructors at a bigger ski destination.
Anna, 41	Ski instructor and ski coach since 2000. Sports director at a ski resort.
Henrik, 50	Ski instructor since the early 1990s. CEO of a ski resort.
Sara, 47	Alpine ski coach for thirty years. Coaches in a club located at a bigger ski resort.
Sofia, 45	Ski instructor for two years. Now sporadically works as an instructor. Active skier several weeks/season. Owns a chalet in the Swedish mountains.
Richard, 55	Ski instructor since 1988. Educates ski instructors at a bigger ski resort. Responsible for educations in a national ski instructor association.
Joanna, 65	Ski instructor for ten years during the 1980s and 1990s. Active skier five to seven weeks/season.
Tobias, 47	Ski instructor since 2000. Head of a ski school. Responsible for summer activities at a bigger ski destination.
Tom, 44	Ski instructor and ski coach since 1999. Coaches in a local ski club. Works every now and then as ski instructor.
Jack, 41	Ski instructor since 2000. Coach and chairman in the local ski club. Participates in operating the local hill.

Thematic analysis

A reflexive thematic analysis (TA) and an abductive approach were used to identify and analyse recurring themes on how alpine skiing as a lifestyle and profession and an environmental perspective were interrelated (Braun and Clarke 2022). Initially, an open reading of the interviews was carried out from the broad perspective of alpine skiing, the bidirectional relationship between skiing and the environment, and environmental sustainability. This reading uncovered a complex relationship between the skiers' experiences of skiing and their use of the landscape and nature. The frameworks of *logics of practice* and *landscape approaches* were applied to identify and further analyse this relationship. The abductive and iterative process emanated in three main themes: the logics of practice in alpine skiing, the skiing landscape, and the quest for snow.

Ethical considerations

This study follows the principles of ethical conduct as stated by the Swedish Research Council (2024) and Tracy (2019). Written information about the research and planned publications was provided to the skiers before they agreed to participate. Informed consent was obtained at the start of the interview process. In addition, all skiers were offered to read drafts of the study. To protect the skiers' privacy, their names have been replaced with pseudonyms, and geographical locations are not mentioned. The information provided in Table 1 was approved by the skiers.

Conducting research involving my personal interest and former profession is a challenge, but also an asset. I am familiar with the skiing community in general and ski instructors' culture in particular. I acknowledge that my personal involvement and experience in alpine skiing and the ski instructor community might be problematic due to my closeness to the studied phenomenon. However, since the study is about environmental issues in alpine skiing and the way they are managed by alpine skiers in contemporary ski industry settings, I approached the topic from an exploratory research position, not from my position as a skier. I am a ski tourist nowadays and consider myself sufficiently distanced to skiing to enter the position of the curious researcher but without denying my own experiences. According to Braun and Clarke (2022), researcher subjectivity is 'the primary "tool" for reflexive TA' (8). By being transparent throughout the

analysis and providing an authenticity based on the skiers' narratives, the study aims to achieve high trustworthiness (Tracy 2019).

Results and analysis

The skiers described what alpine skiing meant to them, and their descriptions emphasized the multidimensional nature of the activity:

Skiing is not just one type of physical activity or exercise or movement. It is an entirety with nature experience, fresh air, weather, and wind and all that comes with it. (Martin)

We ski to and from our front door. (Richard)

The world would not be destroyed if skiing disappears. It is not essential, from a practical point of view. But we are humans, with a spiritual side. Skiing has a purpose, but.... Why do people still fly to ski in the Alps? (Sofia)

These quotes illustrate how activity, lifestyle, wellbeing, and environmental sustainability are intertwined in the narratives. This section unpacks this intertwinement into three themes: The first theme, logics of practice in alpine skiing, explores the skiers' salient logics that guide their skiing practice. The second theme, the skiing landscape, examines the conditions of skiing as a professional and recreational activity through the lens of landscape approaches. The third theme, the quest for snow, addresses the meaning of snow for alpine skiing.

Logics of practice in alpine skiing

The interviews revealed that alpine skiing has always been instinctive for these skiers. All of the participating skiers established a professional relationship to alpine skiing as teenagers or young adults, where nine of them started working as ski instructors and one as a ski coach. The combination of skiing as a leisure activity and a profession (instructing or coaching) signifies that skiing is important to these skiers: it is more than a lifestyle. During the interviews, the skiers reflected upon the why they ski. The following sub-themes present the skiers' salient logics that guide their skiing.

Enjoying and experiencing nature

'Being in nature' and 'enjoyment' were mentioned recurrently when the skiers described their background and why they ski. Both incentives are part of the logic of experiencing, which is about the moving itself, about playing in various forms and encountering nature (Engström, Karin, and Håkan 2018). In this logic, joy is important, and the here and now is key to understanding experience. Tom jokingly acknowledged that in his family, he is the most eager to ski:

Noone is as eager as me in the fall, when skiing [season] is approaching... I am passionate about this. It is so fun to ski and see others develop. That is my biggest enjoyment in skiing.

Besides his own experiences of skiing, he linked his enjoyment to other peoples' skiing and emphasized the significance of sharing his knowledge as a ski instructor and coach.

All those reasons emanated from his joy in skiing. Similarly, Sara, who lived in a mountain ski resort, explained that 'skiing is very important to me. Skiing is a big part of the whole family's life, and I think that if the possibility to ski should disappear, it would be very sad'. Enjoyment here is implied by the fact that its absence would lead to sadness. Joy was also closely related to the professional part of their skiing. Henrik, who mainly worked at a smaller ski resort in south-central Sweden for more than twenty-five years before he became CEO at another ski resort, explained that he has always loved alpine skiing and that is why he stayed in the industry: 'It is as simple as that. I cannot help but stay'.

It takes dedication to be a ski coach because it is unpaid work. Tom spends three nights a week and one day per weekend from end of October to March in his role as a coach. As a coach Tom did not ski much himself; rather, he provided a service to others, organizing practice and competitions and coaching kids on the slope. Tom's years as a ski instructor and now as a coach indicate his passion to teach and coach others. Similarly, Jack explained that skiing was a passion, and it motivated his work as a ski instructor and now as an unpaid coach with guests and children:

To see the glow in their eyes when they enjoyed and that they succeeded, that was an amazing feeling... That more people perceive skiing like I do.

In these quotes, joy and agency were elevated as the prerequisite to skiing or working with skiing.

The skiers placed their skiing experiences in nature and being outdoors. Sofia described herself as a nature geek: 'I love to be in the outdoors, and I get depressed staying indoor'. To Sofia, it was enough to just be in nature, to sit and stare at the mountains. She described it as 'perhaps some kind of mindfulness, having a spiritual touch'. Experiencing nature can be understood as her driving force. This resembles Joanna's reflection on moving in the outdoors, which was explained in terms of combining instrumental and intrinsic value:

I just need to be outdoors, to look at all the beauty, to just breathe and *feel*. As an intrinsic value. It is almost spiritual to me. It is a force that empowers me. Nature gives me strength, power. It can comfort me. A walk is sufficient. But it is also about instrumental values, being in nature and going cross-country skiing, that my practice is exercise. I think I do both.

This is in line with how Sara explained why she skis:

To me, skiing is a way to be outdoors, a way to move. I can't say that I exercise when I ski. It is a way to be outdoors in the fresh air, I think it is the speed and the wind in my face, it is a kind of freedom... Or the adrenaline rush when you challenge yourself.

The skiers discussed how nature set the scene for how an individual can move on skis. Joanna mentioned the sounds she hears while skiing, and she emphasized the feeling of the movement that occurs while skiing and meeting nature. She encapsulated the experience by describing it as an amazing, embodied experience in combination with being outdoors.

Conquering the mountain

Conquering is a sub-logic to the logic of performing. This was not described as a major reason to ski, but it was still relatively important. In conquering, it is the achievement, the challenge, and the risk that are key. Conquering is performing without competing, and it requires physical capacity and concentration (Engström, Karin, and Håkan 2018). In the

interviews, conquering the mountain is closely related to the logic of experiencing nature, as expressed by Sara:

The mountain is meaningful to me, but it is not just about the mountain, it is about being outdoors, being in nature... and the possibility to be outdoors and move or just to sit on a stump in the forest or whatever. But the *mountain*, specifically, is about vastness and views, harsh weather, being small in all this vastness.

Sara not only reflected on the outdoor environment and experiencing the mountain as nature but also dwelled upon the feeling of being able to ski in this, often challenging, location in nature. Thus, conquering and experiencing nature are overlapping logics. Conquering the mountain on skis is about taking risks under nature's conditions. For instance, skiing beyond the prepared slopes involves a risk of avalanches, rocks under the snow, and cliffs and snow cover that break under the skis. However, the prepared slopes also entail risks because weather conditions can be hazardous, such as strong winds, poor visibility, and cold temperatures. The skiers argued that the conquest experience would not be the same if the activity was not situated in nature. Additionally, joy and agency played a significant role in the decision to conquer the mountain.

The skiing landscape

In this theme, I explore how the skiers perceived, used, and experienced the landscape. They clearly framed ski resorts and local hills as facilities built to be used by skiers for various activities. The skiing landscape was described as a constructed place, as illustrated by Martin:

Well, much in our everyday life is constructed: asphalt and whole cities are constructed, too. But alpine skiing presupposes a certain infrastructure with lifts and accommodation, parking lots, and cars and transportation to the mountain. These are the conditions needed to enable skiing, and we need to travel to the mountains.

Tobias, who worked as the head of a ski school at a bigger ski resort in the mountain range, shared the importance of working and living in this landscape:

I always get back to that skiing is the sanctuary... To get outdoors and breathe, to move. In my work, I ski routinely, but the days when I ski at my own level make me physically tired as well. It is recreation. What would I do otherwise? You feel good when you ski.

For many of the skiers, the skiing landscape was simultaneously their workplace and recreational arena, and like Tobias, they lived at the foot of the mountain. In addition to resorts in the mountainous landscape, the approximately 150 local hills are an important part of the Swedish ski industry (Swedish Ski Areas Industry Association 2024). A local hill is proportionately small, has no (or few) accommodations for guests, and most often lies close to a town or in a community. Unlike ski resorts, it does not have to rely on tourists. A local hill functions like any sport and recreational facility for residents or day visitors. Tom and Jack, who formerly worked as ski instructors at mountain ski resorts, now live close by and work in their local hills as coaches in ski clubs. They described their proximity to local hills as an increased accessibility to skiing. In contrast to expensive ski camps or tourism in ski resorts, which often require accommodation and longer travel, the local hill provides good skiing opportunities for the community:

It is an opportunity to stay in the local hill instead of going away to ski camps. It is better for everyone's wallets. It is important to offer skiing to everybody who wants to do it. (Jack)

Regardless of where the skiing landscape was located, nature had a certain value within this constructed landscape. The skiers acknowledged that alpine skiing is an activity that uses the landscape, but to them, skiing was about being able to be in nature. Richard's experience touched upon what is possible to do in this landscape and perceived nature as a place where he can move freely:

The freedom to move across big areas very freely, compared to much else. Like in mountain corridors, where you as a skier choose what is happening... That is an escapist experience.

The skiers' contemplations about the mountain and nature experiences in the previous theme are similar to Richard's description. The ski is the instrument that makes moving in this landscape possible. Descriptions of skiing across big areas or down a narrow and steep mountain corridor reveal the dependent relationship between the skier, the skis, and the landscape. Moving on skis is a way to be in control in the landscape and, simultaneously, to be in dialogue with the landscape, but I also interpret the ski as a tool to control the landscape.

The skiing landscape as a product and the environmental impact of skiing

For as long as Martin has been involved in ski tourism, industry stakeholders have had reflections on Sweden's opportunity to sell the vastness of nature:

We cannot offer the type of high mountains or slopes or nice weather as in the [European] Alps. But we can sell the vastness and the untouched nature.

Nature is described as part of skiing as a product, but it is also meant to be experienced and admired. There was an ambiguity in the skiers' reflections that revolved around the skiing landscape: it was difficult for them to talk about nature without mentioning the constructed landscape and vice versa. It was in relation to this ambiguity that they mentioned skiing's impact on nature. Although they were aware of skiing's impact on nature, they argued that it is not the skiing itself – moving in the landscape – that impacts nature. What has the greatest impact are the arenas constructed for skiing – including human behaviour in those arenas, for instance, transportation with high carbon emissions, (lack of) waste management, energy-and-water-demanding snow production, the consumption of gear and garments, and (the construction of) accommodations and facilities. Nevertheless, skiers need this arena to be able to ski; consequently, they contribute to the impact.

Of course, everything that we build affects nature, and we cannot... change the course of nature. It will always have its course, regardless of how much we build and try to change the course of water or whatever... That is why some things happen, also... for instance, a hole [in the road] in the middle of a ski resort because they have built too much. How much can we build on the mountain before something happens? (Anna)

In the discussions about how and why nature is used as a landscape for skiing, the skiers reflected upon skiing in terms of a product. They discussed how this product legitimizes the expansion of ski resorts, the exploitation of nature, and the construction of more accommodations. All this construction is situated in the landscape. Additionally, alpine skiing

requires ski boots, skis, poles, jacket, trousers, and gloves, and many skiers use helmet and goggles to be able to move in the landscape. Positively, the skiers reported on the increasing trend among ski racing clubs to arrange local swap markets, where skis, boots, gear, clothes, and garments get new owners. Anna also mentioned equipment in relation to ski instructors:

I try to talk to my ski instructors... Of course they want new equipment, too, but in our industry, it is more respected to wear the same goggles for two seasons or use your skis for two seasons if you take good care of them.

Thus, equipment is part of the skiing landscape. The skiers demonstrated an awareness of the fact that their need for, and use of, equipment and garments contribute to consumption, which in turn negatively impacts the environment. They argued that they took more care of equipment and clothes now than they did ten years ago by choosing to buy high quality products that last longer.

Domination of nature and adaptation to nature

The skiers' descriptions and reflections of the skiing landscape uncover the three landscape approaches presented by Sandell and Öhman (2013): active domination, active adaptation, and passive adaptation. The most prominent use of landscape concurs with an active domination of nature, in which the landscape is purposively adapted and improved to be used for skiing. That is, ski lifts, prepared slopes, and services dominate the landscape and are built for skiers. Sandell (2016) uses the ski resort as an example of a landscape that actively dominates nature, and in an earlier work, Sandell and Öhman (2013, 46) aptly use the term 'factory' to describe a ski resort that is built and developed for winter tourism. This term fits well with the skiers' descriptions of the skiing landscape, and it aligns specifically with the concept of skiing as a product. Ski schools offer a product: the competence of the instructor as well as the experiences of joy and nature. 'Factory' and 'product' correspond with discussions of accommodations and travel to resorts. In addition, the need for equipment and garments can be interpreted as part of the 'factory', with the immense marketing of equipment and clothing brands that profit on the ski industry. On the one hand, one can be critical towards this approach, namely the domination of the landscape. On the other hand, it provides access to nature. For instance, the lift gives access to the mountain, which has a positive meaning and an intrinsic value to people. Thus, the dominated skiing landscape also overlaps with an active adaptation of nature.

In active adaptation, the activity is subordinated to the landscape, but the landscape is used and changed with the activity. The skiers' narratives, which show their appreciation of the vast and untouched nature beyond the slopes and lifts, represent a reverence of nature and a wish not to harm it; simultaneously, as previously discussed, they show an awareness of the ski industry's impact. Accordingly, the skiers are closer to an active adaptation than an active domination of the landscape. Following this line of thought, the passive adaptation approach is visible in the interviews as a reflection on how skiers can move in nature without leaving any trace of their presence. In the passive adaptation approach, the individual is passive, merely contemplating or coping with the landscape without making any changes to the landscape. A skier who has left the prepared slopes to ski down a mountain side does not have to change the landscape despite being active in the landscape. The only visible trace is the ski tracks. Hence, the passive adaptation landscape would be a mountain that

is not at all constructed for skiing, where the skier walks up and skis down and rarely buys new equipment. However, in order to access and ski on off-piste sites, skiers still need lifts, transportation to the lifts, and equipment.

The quest for snow

The skiers emphasized how essential snow is to alpine skiing. For Martin, Henrik, Anna, Richard, and Tobias, who worked at ski resorts, snow was the direct link to their livelihood. Without snow, ski resorts cannot run the lifts, sell any ski passes, or offer ski school. Snow is also a requirement for Sara, Jack and Tom's ability to coach, and without it, the kids in the ski clubs would not get the opportunity to pursue their leisure activity. Without snow, lifestyle skiers such as Sofia and Joanna would have to travel farther north in Sweden or Norway when the snow conditions are bad due to warmer temperatures. Henrik, who is the CEO of a ski resort, had a clear opinion about the impact of snow and deteriorating snow conditions on the availability of skiing and keep facilitating winter sports:

It is vital that the ski resorts that produce snow or save snow facilitate winter sports, regardless of whether it is cross-country skiing or downhill... That is so vital!

Sweden still has weather conditions that facilitate outdoor alpine skiing, but not without a high-technology snow cannon system, and the weather is not as reliable as a decade ago. The skiers discussed the long-term consequences of this development and reflected on whether they will be able to ski at all in the future. They talked about changes in temperatures in relation to snow production. Until a decade ago, it was often cold enough for ski resorts in the mountain range to produce snow and open some slopes at the end of October or at least by mid-November. Today, due to warmer temperatures, the possibility to open slopes is mostly postponed until the end of November or mid-December. Despite this development, there is still a quest for snow early in the season. This is especially true for skiers and ski clubs who do not wait for the snow; they either travel farther north in Sweden, to glaciers in the Alps, or to indoor skiing facilities in Norway or Germany. Sara acknowledged that

The quest for snow so early in the season results in a pressure to produce snow in another way than before, at warmer temperatures. I know there are ski resorts that save snow, having calculated that it is much more sustainable than producing new snow. [...] Still, we might need this technology to be able to ski in the future, so it needs to be sustainable.

The skiers were worried about the increasing number of smaller ski resorts and local hills in Sweden that have had to close due to warmer temperatures. It is not viable for smaller resorts or hills to take the chance to produce snow in the brief periods that are cold enough to do so or wait for natural snow to fall if they do not have financial means to manage a warmer and shorter winter season. Jack, whose local hill is in the southern part of Sweden, witnessed this himself. Some years ago, his local hill did not open at all during the season. Usually, they can operate the lift from at least January to March and run it almost exclusively on cannon snow.

Snowfall is part of nature, whereas snow production is strongly related to the fact that the landscape has been constructed for skiing. In a contemporary context, the production of snow has become a natural part of the ski industry:

We want the arena that is in the environment and in nature. Related to that, we need snow... And then we need a sustainable approach to the general environment and to nature, but also regarding alpine skiing. For instance, producing snow is strongly related to that. (Martin)

The skiers argued that since about the turn of the millennia, there has been an expectation on ski resorts to produce snow. There were also reflections on that produced snow is not perceived as artificial; it is just produced in another way:

I am not pro the term 'artificial snow'; I prefer the term 'cannon snow'. We have talked about that in the industry. It is water and air. It is produced snow. It isn't artificial in any way; it is just different crystals because it is created in a snow cannon. (Henrik)

Nevertheless, there was an ambiguous attitude towards snow production technology among the skiers. Being able to produce more snow with better technology, especially in warmer temperatures, is beneficial for the ski industry. The skiers perceived sustainable snow production, with little or no impact on animals and nature, as mostly positive because produced snow is what the future ski industry needs to exist.

In general, we cannot escape the fact that a ski resort as it is run today has a pretty big impact on nature. [...] But the ski resorts are aware of this and are often the ones initiating the discussion on environmental work. (Richard)

Conversely, the technology is not unproblematic from an environmental perspective. The skiers perceived snow production as problematic since this technology is expensive, consumes energy and water, and contributes to make alpine skiing even more expensive.

Snow cannons need a lot of water and lots of pressure. Water is not always available, and access to water mostly needs to be constructed. That affects the animals and nature, a lot. I do not think people generally think about that. (Sofia)

While some skiers embraced building indoor alpine skiing facilities as positive in relation to skiing as an important leisure and sport activity, others found this indoorization of an outdoor sport to be problematic from an environmental standpoint. Building and operating a totally artificial skiing landscape requires immense amounts of energy and water resources. Additionally, the outdoor experience would be lost.

Landscape approaches undoubtedly influence alpine skiing's relation to snow. Produced snow is part of the active domination of the landscape; the snow is produced only to enable skiing. If the ski industry only relied on natural snow, the active domination of the landscape would not be so active. Snow production corresponds to the idea of a ski resort as a 'factory' in terms of how people utilize the landscape (for skiing) and how they dominate nature through the use of water and energy (for skiing). Although the skiers described the Swedish ski industry's work today as more pro-environmental than before and implied that it is still under development, snow production still impacts nature, so it fits in the category of the active domination of nature. Importantly, the skiers' quest for snow is not only about producing snow; it is just as much about the non-produced snow: the 'powder' snow. All skiing that takes place outside the prepared slopes is on natural snow and is thus not part of the constructed skiing landscape. The snow would be there regardless of the presence of humans and their domination of nature. Perhaps this quest for snow and skiing on only natural snow can be regarded as an active adaptation of the landscape, where lifts are used to get to the natural snow (in or outside the slopes), but the skiing is only available at nature's condition.

Discussion

This study aimed to explore professional and recreational alpine skiers' intentions of skiing and working in a skiing landscape and to understand the role of an environmental perspective in their lifestyle and professional practice. The results reveal that the skiers' logics of practice in alpine skiing, the ways they utilize the skiing landscape, and their awareness of environmental issues are closely interlinked.

The logic of experiencing was prominent among the skiers, with enjoyment, agency, and nature experience as key aspects. These were inseparable incentives to ski, reasons to work with skiing, and an advantage when meeting other skiers. Moreover, in the logic of conquering, the skiers' own passion for skiing and nature was illustrated in their stories of skiing on the mountain. These logics showed a clear connection to respecting nature and wanting to preserve it while being active in it. This combination of logics seemed to be an advantage when meeting other skiers and contributed to the exchange of experiences and perceptions of skiing. With the increasing alarms on climate changes, there is a new content in the transfer of 'know-how' (Thöny 2019, 133) from educated skiers to other skiers. They do not only teach the skills of skiing, but about what it means to ski in nature and our impact on the landscape.

According to Denning (2015), modern alpine skiing started out as a form of appreciation of the mountains and a way to move on skis in a pristine, nearly untouched landscape; it has since developed into an industry that has scarred the landscape and put an unsustainable pressure on the environment. The modern skiing landscape threatens the future of skiing. The skiers in this study seem to feel caught between wanting to preserve nature and being aware they are harming it since they choose to continue skiing. They are worried that future generations cannot work in snow-sports-related tourism (Nöbauer 2022). Nadegger (2024) discusses this in terms of skiing being a 'troubled leisure practice', but she also argues that the skiers can be the solution. A loving but harmful encounter with snow and nature can contribute to skiers adopting a critical standpoint and thus finding a transformative potential in their practice, for instance, by asking, 'which relations matter to us, to our leisure practices?' (1123). This aligns with Reichwein, Schut, and Quin (2024, 1), who ask whether nature sport could be 'a lever of change toward a better way of living on the land in ethical relations with the environment?'. In the introduction, I posed the question of whether alpine skiing could contribute to a change. According to the skiers in this study, it can, but not without changing their own perspective of skiing. I interpret the skiers' prominent logic of experiencing nature as a way to disrupt the century-long scarring of and pressure on the landscape; that is, they want to find a way to ski in the landscape on the landscape's own terms. Additionally, I argue that the sense of conquering the mountain today might be a way for skiers to be a part of nature and the landscape and adapt to it. The skiers in this study were not describing conquering in terms of taming the mountain or battling their own bodily limits; rather, they expressed it as connecting to the landscape and respecting it. This contradicts the conquering of the mountain in the early modernization of the alpine landscape of 'overcoming backwardness' (Anderson 2012, 173), and alpine skiing as described by Denning (2015, 92):

Although speed was initially interpreted as a harmonization of human action with the natural environment, skiers in the 1920s and 1930s increasingly understood their manipulation of speed as a heroic domination of nature, significantly altering the cultural meanings of the sport.

Nevertheless, having nature experiences and enjoyment as prominent logics is not enough to change environmental behaviour. The utilization of the landscape needs to be taken into consideration. Therefore, other vital questions arise: What kind of landscape do we ski in, and in what way do we contribute to the construction of this landscape?

As shown in this study and in previous studies, the constructed skiing landscape is an active domination of nature that has a negative impact on nature (Denning 2015; Nadegger 2024, Nöbauer 2022; Steiger and Stötter 2013; Stoddart 2011; Wicker 2018). For the skiers in this study, the professional and the lifestyle skiing are conjoined; they are what Hallmann et al. (2022) refer to as 'lifestyle entrepreneurs'. All ten skiers have or had skiing as their livelihood. Skiing was such an important part of their lives that the thought of not being able to ski because of progressing climate change was deeply troubling. Ski resorts have for decades provided job opportunities as part of the tourist sector, including ski-specific jobs, such as ski instructing and coaching (Nöbauer 2022; Podkalicka and Strobl 2019; Thöny 2019). However, the ski resort, these skiers' workplace and the arena of their most beloved activity, is the 'factory' that actively dominates the landscape. This recognition uncovered a clash between wanting to ski and not wanting to negatively impact the environment. Using Nadegger's (2024, 1109) terms, the skiers create and continue to be in 'trouble' while skiing. The troubling issues of transportation and equipment are raised by the skiers. Stoddart (2011) studied skiers' transportation behaviour to Canadian ski resorts and revealed that while the skiers showed a major concern for the environment, they often neglected the environmentally harmful behaviour of travel and tourism. In addition to travel, Aall et al. (2011) report that some clothes for outdoor leisure activities are often special for the activity and cannot be used in other contexts, which increases the total consumption. This is especially the case for ski boots and skis, which cannot be used in other activities than alpine skiing. The skiers in this study are aware of the environmental pressure made by the ski industry and struggle with doing pro-environmental choices in transportation, clothing, and equipment. Their experiences of a growing second-hand market and an increased acceptance among ski clubs and ski instructors to use, lend and mend clothes and equipment is one example.

Thus, the skiers' experiences uncover tensions between alpine skiing and the environment. The results in this study share similarities with results from studies on surfing and cross-country skiing, particularly in relation to use of equipment, travel to skiing and surfing sites, and the increase of indoor slopes, ski tunnels, and wave pools (Langseth and Vyff 2021; Svensson 2019; Wheaton 2020). Although the skiers in this study see themselves as close to nature, they do not explain alpine skiing as a 'natural sport' since it needs the technological constructions of the landscape, unlike surfing. Additionally, while alpine skiing has developed through technological constructions of the landscape to move easily on the mountain (Denning 2015), cross-country skiing has for long continued a more traditional form of skiing, using personal effort to move (Svensson 2019). However, cross-country and alpine skiing share many similarities; they offer activity in nature landscapes and both sports need snow and produce snow. They prepare slopes and ski track (many are flood-lit), and indoor facilities are built as a development

of the technological landscape of skiing (Hudson and Hudson 2015; Svensson 2019). Nevertheless, for alpine skiing, the authenticity of the activity is central, and nature (and snow) is key. Regardless of how the skiers get to nature (by ski lift), the activity takes place in nature, just as surfing and cross-country skiing do. This natural setting stands in contrast to indoor facilities that control the unpredictable, ever-changing natural environment of the skiing landscapes or the surfing waters.

Regardless of the skiers' individual choices, individually they are constrained when it comes to making changes to mitigate the most pressing environmental issue: snow. The skiers recurrently returned to the meaning of snow, which was nearly glorified. It is the core of alpine skiing (Ritner 2022), and the skiers' quest. Therefore, waiting for snow was tangible in their narratives. In relation to ski resorts, I heard a politics of snow narrated in the interviews, much like Trandberg Jensen and Gyimóthy (2020, 117) describe it: Snow is 'a central "currency" in alpine societies', and produced snow is an engineered material in a 'complex socio-technical system' of workforce, services, snow cannons, and lifts. As discussed above, the skiers' descriptions of snow uncover that snowmaking is a vital part of the 'factory' and the active domination of the skiing landscape. Nevertheless, produced snow is a taken-for-granted part of the ski industry today (Hopkins 2014; Rice, Cohen, and Scott 2024; Scott et al. 2020). By continuing to ski, skiers legitimize the ski resorts' choices of snow production. This is in line with Sandell and Öhman (2013) claim that an active domination landscape approach is not 'an inspiration for environmental concern' (50). Therefore, the individual responsibility of skiers is to inform themselves of a ski resort's sustainability work and to choose pro-environmental ski resorts.

Concluding remarks

The skiers in this study acknowledge that skiing is important and that it guides their choices. This is at the root of the main finding in this study: The physical activity takes centre stage and sustainability takes second place. Skiers need equipment and clothes to be able to ski. Skiers most often need a ski lift, and most importantly, skiers need snow. However, these necessities lead to the commodification of skiing, which in turn legitimizes the construction of the landscape. Nevertheless, as the skiers in this study revealed, the intrinsic values of outdoor recreation might inspire environmental behaviour and actions. The logic of experiencing nature was strong in the skiers' descriptions, and I argue that this logic influenced their reflections about the skiing landscape. The logic of conquering might have also played a role as it was strongly related to being part of nature. These logics resulted in the skiers feeling ambivalent – wanting to ski but not wanting to negatively affect nature. So far, stakeholders in the ski industry have been meeting climate changes with adaptation strategies and mitigation and working to transform it into a more pro-environmental ski industry. However, this does not necessarily contribute to changes in skiers' behaviours, consumption choices, and actions in nature. Here, the role of an environmental perspective is of significance in the staff that meet the skiers or in leaders that work with young skiers in clubs.

This study clearly demonstrates that recreational and professional skiers have the potential to be great ambassadors of environmentally-friendly skiing, increasing awareness of the bidirectional relationship between climate change and the ski industry among their circles of friends, ski school guests, and ski clubs. They all meet face to face on the slope, in the lift, and on the mountain. This attitude might be the key for change in how nature

is perceived. If skiers and stakeholders within or connected to the ski industry put nature at centre stage, a collective change might be possible. Future research should investigate how ski schools and ski clubs can apply an environmental perspective and how they can contribute to turning alpine skiing into a pro-environmental leisure activity that is on better terms with nature than its contemporary constructed skiing landscapes.

Acknowledgements

I am grateful to colleagues within Mistra Sport and Outdoors and key persons from Malmö University for valuable discussions related to the study.

Disclosure statement

No potential conflict of interest was reported by the author.

Funding

This research is supported by the Mistra Sport and Outdoors research and collaboration program.

ORCID

Marie Larneby  <http://orcid.org/0000-0001-9526-5885>

References

- Aall, Carlo, Ingun Grimstad Klepp, Agnes Brudvik Engeset, Silje Elisabeth Skuland, and Eli Støa. 2011. "Leisure and Sustainable Development in Norway: Part of the Solution and the Problem." *Leisure Studies* 30 (4): 453–476. <https://doi.org/10.1080/02614367.2011.589863>.
- Anderson, Ben M. 2012. "The Construction of an Alpine Landscape: Building, Representing and Affecting the Eastern Alps, c. 1885–1914." *Journal of Cultural Geography* 29 (2): 155–183. <https://doi.org/10.1080/08873631.2012.683288>.
- Backman, Erik, and Daniel Svensson. 2023. "Where Does Environmental Sustainability Fit in the Changing Landscapes of Outdoor Sports? An Analysis of Logics of Practice in Artificial Sport Landscapes." *Sport, Education and Society* 28 (6): 727–740. <https://doi.org/10.1080/13573322.2022.2073586>.
- Braun, Virginia, and Victoria Clarke. 2022. "Conceptual and Design Thinking for Thematic Analysis." *Qualitative Psychology* 9 (1): 3–26. <https://doi.org/10.1037/qap0000196>.
- Demiroglu, Cenk, O., Dannevig Halvor, and Aall Carlo. 2018. "Climate Change Acknowledgement and Responses of Summer (Glacier) Ski Visitors in Norway." *Scandinavian Journal of Hospitality and Tourism* 18 (4): 419–438. <https://doi.org/10.1080/15022250.2018.1522721>.
- Denning, Andrew. 2015. *Skiing into Modernity. A Cultural and Environmental History*. Oakland, CA: University of California Press.
- Engström, Lars-Magnus, Redelius Karin, and Larsson Håkan. 2018. "Logics of practice in movement culture: Lars-Magnus Engström's contribution to understanding participation in movement cultures." *Sport, Education and Society* 23 (9): 892–904. <https://doi.org/10.1080/13573322.2017.1290597>.
- FIS. 2024. "FIS." <https://www.fis-ski.com/>
- Gerretsen, Isabelle. 2023. "How Climate Change Threatens to Close Ski Resorts." *BBC*, January 25. <https://www.bbc.com/future/article/20230124-how-climate-change-threatens-to-close-ski-resorts>
- Hallmann, Kirstin, Laura Bogner, Kathrin Sander, and Konrad Reuß. 2022. "Sport for a Livelihood and Well-Being: From Leisure Activity to Occupational Devotion." *International Journal of the Sociology of Leisure* 5 (1): 55–77. <https://doi.org/10.1007/s41978-021-00091-6>.

- Hopkins, Debbie. 2014. "The Sustainability of Climate Change Adaptation Strategies in New Zealand's Ski Industry: A Range of Stakeholder Perceptions." *Journal of Sustainable Tourism* 22 (1): 107–126. <https://doi.org/10.1080/09669582.2013.804830>.
- Hudson, Simon, and Louise Hudson. 2015. *Winter Sports Tourism: Working in Winter Wonderlands*. Oxford: Goodfellow Publishers Limited.
- Langseth, Tommy, and Adam Vyff. 2021. "Cultural Dissonance: Surfers' Environmental Attitudes and Actions." *Frontiers in Sports and Active Living* 3695048; 695048. <https://doi.org/10.3389/fspor.2021.695048>.
- Moen, Jon, and Peter Fredman. 2007. "Effects on Climate Change on Alpine Skiing in Sweden." *Journal of Sustainable Tourism* 15 (4): 418–437. <https://doi.org/10.2167/jost624.0>.
- Nadegger, Monica. 2024. "Carving Lines through Melting Lands: A Diffractive Engagement with Troubled and Troubling Relations of Alpine Skiing in the Anthropocene." *Leisure Sciences* 46 (8): 1106–1128. <https://doi.org/10.1080/01490400.2023.2269159>.
- Nöbauer, Herta. 2022. "Our Existence is Literally Melting Away': Narrating and Fighting Climate Change in a Glacier Ski Resort in Austria." In *Local Responses to Global Climate Change*, edited by Susanna M. Hoffmann, Thomas Hylland Eriksen, and Paulo Mendes. New York: Berghahn Books.
- Pickering, Catherine, M. Guy, J. Castely, and Michelle Burt. 2010. "Skiing Less Often in a Warmer World: Attitudes of Tourists to Climate Change in an Australian Ski Resort." *Geographical Research* 48 (2): 137–147. <https://doi.org/10.1111/j.1745-5871.2009.00614>.
- Podkalicka, Aneta, and Philipp Strobl. 2019. "Skiing Transnational: Cultures, Practices, and Ideas on the Move." In *Leisure Cultures and the Making of Modern Ski Resorts*, edited by Philipp Strobl and Aneta Podkalicka, 1–23. Cham: Palgrave Macmillan.
- Reichwein, PearlAnn, Pierre-Olaf Schut, and Grégory Quin. 2024. "Nature Sport and Environmental History: Adulation or Alteration of Nature?" *Sport History Review* 55 (1): 1–12. <https://doi.org/10.1123/shr.2024-0008>.
- Rice, Harald, Scott Cohen, and Daniel Scott. 2024. "Perceptions of Climate Change Risk and Sustainable Adaptations in the Swedish Ski Industry." *Journal of Sustainable Tourism* 32 (2): 402–418. <https://doi.org/10.1080/09669582.2022.2151858>.
- Ritner, Jesse, H. 2022. "White Gold: Snowmaking, Resort Growth, and Skier Experience in the U.S. East, 1945–1971." *The International Journal of the History of Sport* 39 (1): 111–125. <https://doi.org/10.1080/09523367.2021.1928082>.
- Sandell, Klas. 2016. "Ecostrategies: Presentation and Elaboration of a Conceptual Framework of Landscape Perspectives." *Tourism* 64 (1): 63–80.
- Sandell, Klas, and Johan Öhman. 2013. "An Educational Tool for Outdoor Education and Environmental Concern." *Journal of Adventure Education & Outdoor Learning* 13 (1): 36–55. <https://doi.org/10.1080/14729679.2012.675146>.
- Scott, Daniel, Robert Steiger, Halvor Dannevig, and Carlo Aall. 2020. "Climate Change and the Future of the Norwegian Alpine Ski Industry." *Current Issues in Tourism* 23 (19): 2396–2409. <https://doi.org/10.1080/13683500.2019.1608919>.
- Steiger, Robert, and Johann Stötter. 2013. "Climate Change Impact Assessment of Ski Tourism in Tyrol." *Tourism Geographies* 15 (4): 577–600. DOI <https://doi.org/10.1080/14616688.2012.762539>.
- Stoddart, Mark C. J. 2011. "If We Wanted to be Environmentally Sustainable, We'd Take the Bus': Skiing, Mobility and the Irony of Climate Change." *Human Ecology Review* 18 (1): 19–29.
- Strobl, Philipp. 2019. "From Niche Sport to Mass Tourism: Transnational Lives in Australia's Thredbo Resort." In *Leisure Cultures and the Making of Modern Ski Resorts*, edited by Philipp Strobl and Aneta Podkalicka, 185–214. Cham: Palgrave Macmillan.
- Svensson, Daniel. 2019. "Skiing through Time: Articulating a Landscape Heritage of Swedish Cross-Country Skiing." In *Leisure Cultures and the Making of Modern Ski Resorts*, edited by Philipp Strobl and Aneta Podkalicka, 93–115. Cham: Palgrave Macmillan.
- Swedish Research Council. 2024. *Good Research Practice*. Stockholm: Swedish Research Council.
- Swedish Ski Areas Industry Association. 2024. "SLAO – For a Fun and Safe Skiing." <https://www.slao.se/en/>
- Thöny, Christof. 2019. "Arlberg: The Creation of a Resort and the Transfer of Knowledge." In *Leisure Cultures and the Making of Modern Ski Resorts*, edited by Philipp Strobl and Aneta Podkalicka, 117–141. Cham: Palgrave Macmillan.

- Tracy, Sarah, J. 2019. *Qualitative Research Methods: Collecting Evidence, Crafting Analysis, Communicating Impact*. Newark: John Wiley & Sons, Incorporated.
- Trandberg Jensen, Martin, and Szilvia Gyimóthy. 2020. "Snow Matters. From Romantic Background to Creative Playground in Alpine Tourist Practices." In *Weather: Spaces, Mobilities and Affects*, edited by Kaya Barry, Maria Borovnik, Tim Edensor, 111–129. London: Routledge.
- Wheaton, Belinda. 2020. "Surfing and Environmental Sustainability." In *Sport and the Environment: Politics and the Preferred Future*, edited by Brian Wilson and Brad Millington, 157–177. Bingley: Emerald Publishing.
- Wicker, Pamela. 2018. "The Carbon Footprint of Active Sport Tourists: An Empirical Analysis of Skiers and Boarders." *Journal of Sport & Tourism* 22 (2): 151–171. <https://doi.org/10.1080/14775085.2017.131370>.
- Wrede, Insa. 2023. "Europe: How Climate Change, Mass Tourism Threaten the Alps." Business Europe, June 11. <https://www.dw.com/en/alpine-tourism-threatened-by-overcrowding-and-climate-change/a-67311515>.