

*Routledge Research in Sport, Culture and Society*

# **SPORT, PERFORMANCE AND SUSTAINABILITY**

Edited by Daniel Svensson, Erik Backman,  
Susanna Hedenborg and Sverker Sörlin



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# Sport, Performance and Sustainability

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This book examines the logic of ‘faster, higher, and stronger’ and the technological revolution that has driven tremendous growth in the sports economy and in sport performance over the last 100 years. It asks whether this logic needs revisiting in the light of the climate crisis and sport’s environmental responsibilities.

Drawing on multi-disciplinary work in sport history, sport pedagogy, sport philosophy, sport science, and environmental history, the book considers not only how sportification may have contributed to the growing environmental impact of sport but also whether it might be used as a tool of positive social change. It reflects on the ways that sport sets performance limits for other ethical reasons, such as doping controls, and asks whether sport could or should set limits for environmental reasons too. *Sport, Performance and Sustainability* touches on key themes in sport studies, including digitisation, activism, social media, empowerment, youth sport, and physical education.

This is fascinating reading for anybody with an interest in sport, the environment, development, sociology, or culture.

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Writing a book is a bit like playing a game of football. You have an idea of how to tackle the task, only to realise that everything changes as you go. Someone may get injured, and someone else may come off the bench and score the decisive goal. And it is not only about the players on the pitch but it is also about a whole support structure behind them who made it all possible.

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*Malmö, Falun, and Stockholm  
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*Daniel Svensson, Erik Backman, Susanna Hedenborg, and Sverker Sörlin*



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Part I

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# Overarching Logics and Issues

Tensions and Entanglements Between  
Sport, Performance, and Sustainability

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# Introduction

## Balancing Performance and Environmental Sustainability

*Daniel Svensson, Erik Backman,  
Susanna Hedenborg and Sverker Sörlin*

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### Introduction

Climate change and environmental degradation is not a threat in a distant future – it is already affecting sports across the globe (e.g., Orr & Inoue, 2019; Ross & Orr, 2022). For winter sports, the impact of warmer climate is already a hot topic. Cross-country skiing, alpine skiing, or ice bandy is not what it was 30 years ago. As with many other sports, cross-country skiing has undergone numerous changes with regard to, for example, equipment, technique, ski wax, and the construction of tracks for skiing. The climate change during the last decades has also changed the most fundamental condition for cross-country skiing, namely, the snow. Today, artificial snow is, more or less, a prerequisite in many parts of the world in order to practise cross-country skiing, and the number of indoor facilities for cross-country skiing is growing. Alpine skiing is threatened too as ski resorts have difficulties promising snow, and as skiing seasons are changed dependent on the snow situation. Ice bandy, the third example, is today often played in indoor arenas, as ice in the outdoors can be difficult to maintain (Andersson, 2020). The cases of cross-country skiing, alpine skiing, and ice bandy show how climate change and environmental degradation are not a threat in a distant future – it is already affecting sports across the globe. However, summer sports are in no way spared. Heatwaves impact runners, cyclists, footballers, equestrians, and other athletes severely. Air pollution and extreme weather conditions are among the most evident threats (Bernard et al., 2021). Iconic events like Tour de France have had to face extreme temperatures and related consequences for participants and spectators (Orr, 2022).

Modern sports are intimately linked to broader developments and started to grow in tandem with the industrialisation of society in the 19th century. With the rise of globalised capitalist economies and tremendous increases in transportation, GDP, energy consumption, etc., millions and millions have been lifted out of poverty. It is this development that has increased our possibilities in so many ways, giving us better health, longer lives, and better opportunities. However, these positive effects have been unevenly distributed and also resulted in many negative consequences. The environmental impact is one, and what we



focus on here. The link between industrialised capitalism and modern sports have been analysed in detail (Gross & Roeder, 2022; Guttmann, 1978; Ingham, 1978; R. Millington et al., 2022), and we believe that the whole concept of sportification is in many ways a reflection of the growth paradigm which has guided our economies. Only in sport, the growth of profits is not the primary target (even if it has become increasingly important given the rise of globalised sport economies). Instead, it is about increasing performance.

The winter and summer sports mentioned above may here serve as examples of how the rapid development of sports has consequences for aspects such as performance, meaning-making logics, fair conditions, and, not least, the influence that sport has on the environment. What will happen with these, and other sports, in another 30 years when the global warming has further increased temperature levels and the need for natural resources to practise sport? Will the basic ideas of equal opportunity, fairness in competition, standardised rules and arenas, increased performance levels, and uncertainty of outcome still prevail?

In his classic *From Ritual to Record*, Allen Guttmann (1978) outlined a theory for how sports develop. Although he did not use the term himself, it has become known as *sportification* (or in some instances: *sportisation*). Guttmann's (1978) general point was that sports are developing along similar patterns, towards increasing quantification, organisation, specialisation, regimentation, and several other criteria. The motif behind the development boils down to the logic of sports: to improve and to perform better, in the words of the International Olympic Committee (IOC): *Citius, Altius, Fortius* (faster, higher, and stronger).

Sportification goes hand in hand with an increased management in more detail, the development of advanced technologies, and more far-reaching scientific contributions. This development, which has been labelled a techno-scientific revolution (Fouché, 2017), has undoubtedly contributed to the tremendous growth of the sports economy during the last 100 years, as well as an impressive increase in results and performance levels in most sports. This development is in turn linked to the comprehensive competition logic that drives sportification of performance and practice in predominantly Western sport, rooted in the cultivation of able bodies, and maximum performance, what in German was called *Leistung* (Eichberg, 1978).

However, as sports have developed in tandem with the global industrial economy it is also facing similar problems. Over the last decade, sport organisations, supporters, athletes, scholars, and others have begun to problematise the consequences of an ever-growing sports economy and the constant strive for increasing performance levels, growing events, and intensified travel (e.g., Backman & Svensson, 2022; Heck, 2019; Loland, 2001, 2006, 2018; McCullough & Kellison, 2018; Svensson et al., 2020). Recent books and articles have analysed the variety of environmental issues and initiatives in sport (e.g., Hognestad et al., 2022; McCullough & Kellison, 2018; McCullough et al., 2022; Triantafyllidis & Mallen, 2022; Wheaton, 2020; Wilson & Millington, 2020). Furthermore, large research projects and research groups have been started on this topic in many countries,

including Sweden (Mistra Sport & Outdoors), North America, and the UK (The Sport Ecology Group).

While many highlight how sport organisations, facilities, participants, and supporters still act in unsustainable ways, there are also an abundance of positive examples. Several national and international federations and associations of sport, such as the IOC, the Union of European Football Associations (UEFA), and Fédération Internationale de Football Association (FIFA), have begun to address environmental issues in a more ambitious manner. However, there is still scepticism towards whether some of the major events will succeed in their environmental efforts (Boykoff & Mascarenhas, 2016; Collins et al., 2009; Geeraert & Gauthier, 2018; Miller, 2016).

The introduction will present an overview of the chapters in the book and how they relate to each other. Before that, however, the competition logic and the sportification model – a model for understanding how sports develop from, to quote Allen Guttmann, *Ritual to Record* – will be described. We do that to problematise the role of sport in society and pose questions about whether sportification and a strong focus on increasing performance can go hand in hand with a sustainable development.

## Varieties of competition – Existing and emerging

Sport is the epitome of competition. The competence of athletes is their ability to provide competitiveness. That is how it is, and the logic of competition has become hegemonic. But it hasn't been like that for very long. Competition as we know from contemporary sport is largely a phenomenon of the last hundred years, with some minor early forays in earlier periods. Competitive sports have developed alongside with competition in economy and society and have become ever more advanced and sophisticated and painstakingly pursued. It has also expanded into new areas, which were previously protected from marketisation and its ensuing competition. Sustainability and competition have a complicated relationship. Competition can improve ecological efficiency and there is a substantial “green growth” literature (Hajer, 1995; World Commission on Environment and Development, 1987) and an impressive array of strategies in individual countries, and in the OECD since 2009 (<https://www.oecd.org/greengrowth/>). The overall outcome of the efficiency gain is, however, a “rebound effect” through growth of production and consumption. As a result, environmental decline and climate change have grown almost in tandem with competition. On the other hand, a promise is repeatedly held out that more competition would ultimately free us of this relationship, despite its dismal track record.

Sport is one of several sub-sections of societies where the growth and competition logic reigns. Important for sports was military competition and imperialism, where the logic of war and conquest suggests that it is hard not to use what is available in terms of technological development and force. The goal is to win or gain, or at least to not lose (Hickey, 2011; Mangan, 1981, 2000, 2012).

Environment is typically ranked low in such a traditional brute force competition logic. But what happens if climate change becomes a “hyper threat” (Boulton, 2022), considered the super evil and super enemy and acknowledged as such by the military? “Comprehensive security” includes, since its introduction in the 1980s, a wider range of security building forces, including climate, environment, health, food, and natural resources (e.g., Westing, 1989).

The logic of capitalist market competition has also influenced sport (Smart, 2007). Many alternative forms of sportive activities have already been proposed for modesty, degrowth, downshifting, playfulness, “de-sportising”, and new rules of the game (Sterchele, 2015, drawing on a large literature). Limits on competition are accepted in war as well as in trade and commerce, and in the politics that regulate them. With drastic challenges and increasing environmental and public health stress, it is likely that more constraints will be urged, or forced to lower risk and stay within what has been called “planetary boundaries” (Rockström et al., 2009; Steffen et al., 2015).

Changes of the rules of the competition game for sustainability and green transition may lead to reform of competition more generally, although it remains an open question whether this will happen at all and if it does, the process will likely be slow. Might such reformed or selective competition be applicable in sport? Could it start earlier in sport and even be more decisive there? Would it be possible to consider new forms of sports in the transformations ahead? Is it possible to abstain from competition and develop other varieties of fitness and entertainment? Is there performance involved in giving up ambitions of winning? Might there also be other kinds of sport entertainment and spectator sports where sustainability is cultivated?

These are the kinds of overarching, future-directed questions, which we have had in mind as we have designed the structure and chapters of this volume. We will find innovation in different areas; certainly, in the competitive sports themselves, where sustainability initiatives have been taken in recent years, ranging from policies on low carbon travel to attempts to regulate environmentally friendly materials. But just as often, initiatives come from the concerned peripheries of sport. Media formats have emerged where sport is integrated in news and infotainment about science, environment, weather, and climate, such as European media formats for weekend winter sports and televised international championships. The Swedish TV show *Vinterstudion* [The Winter Studio], shown every weekend from November through March, is a case in point where increasingly winter, snow, and cold have become not just a backdrop but contested conditions for sport itself. The link to climate issues is obvious. When winter is no longer taken for granted, the worship of winter through media may be a substitute? Can winter sports become a “campfire” around which people gather to engage with sustainability, for the “right to be cold” as Canadian Inuit activist Sheila Watt-Cloutier (2015) has suggested? Media is one of several arenas where experimentation is going on to join transformative societal change with growing demands from policy and public opinion to make sport and athletic competition align with sustainability goals.

## The sportification model

When Allen Guttmann's (1978) *From Ritual to Record* was published, he outlined a model for how sports have developed from a ritualistic activity to an organised, rationalised, and specialised endeavour with focus on performance enhancement and record breaking. Guttmann used seven characteristics: secularisation, equality, specialisation, rationalisation, bureaucratisation, quantification, and records (Guttmann, 1978, pp. 54–55). Guttmann argues that records are especially interesting as an essential part of modern sports, while all the other criteria can be found in various degrees also in older versions of sport. Records depend on the ability to measure and compare results over time and thus rely on increasingly advanced technology. As our ability to measure records in detail has grown, so has the importance of records. However, the strong emphasis on records do not fully cover what sportification is. While records are important, many of the other criteria have continued to develop. If records separate ritualistic pre-modern sports from modern sports in an industrialised world, then we argue that some of the other characteristics are better tools to understand the developments of sport in the last 50 years. In this book, we use sportification not as a mountain-top where spectators can arrive at, sit down, and enjoy the view. Rather, we see sportification as a process which through technological, scientific, and economic developments make most sports increasingly complex and demanding.

Following Guttmann, many scholars have used, expanded on, revised, and critiqued the sportification model. It has been further developed by many scholars (e.g., Collinet et al. 2013; Elias & Dunning, 2008; Goksøy, 1988; Heere, 2018). It has also been critiqued (Eichberg, 1995; see also Lidström and Carlsson, this volume), not least for perceived homogenisation and re-enforcing of power structures related to ethnicity, sexuality, and gender (Pfister, 2007; Von Der Lippe, 1994). To give a full overview of all the suggested criteria and dimensions of sportification would be a Sisyphean task. And while we are certainly no strangers to the thought of running endless intervals uphill, we here instead want to outline what we see as the most commonly used sportification criteria and briefly explain how we interpret them in this book. Building on earlier research on the sportification model (e.g., Yttergren, 1996, 2013), we include the following: specialisation, rationalisation, standardisation, regimentation, organisation, equalisation, and quantification. We will now explain what we mean by the seven characteristics and give some examples of each of them.

*Specialisation* refers to the increasing level of specialised roles, training, equipment, etc. that can be seen in most sports. If a football team in the 1920s had one or two generalist coaches dealing with more or less all aspects of coaching, a 2020s elite football team has dozens of coaches specialised in various aspects such as fitness, nutrition, offence, defence, tactics, and throw-ins (!). A typical cross-country skier in the 20th century would compete in all disciplines, while a 2020s skier is most likely to specialise in sprint or long-distance races. And when specialisation is happening in a sport, it becomes harder for generalists to

compete. Increasing specialisation is therefore both a driver of and a result from hardening competition.

*Rationalisation* covers the growing importance of systematic, scientific knowledge as a base for things such as training, preparations, nutrition, acclimatisation, with the purpose of increasing performance, and reducing the risk of injury. The growth of sport science and of sport-related uses of basic science across the world over the last century is a testament to the importance of rationalisation.

*Standardisation* links to equipment, rules, arenas, and many other aspects in sport. In the early days of a sport, the size of the ball or the length of the pitch may vary quite a lot, especially when competing against athletes or teams from other countries. In a sport that has gone through a long and far-reaching sportification process, it is unlikely that such differences will remain. Standards will have been established along the way, thus also introducing an element of path dependence and a co-dependence between sport and industry (Fouché, 2017; Gross & Roeder, 2022).

*Regimentation* refers to the increasingly detailed rules and regulations regarding all aspects of a sport, including what types of equipment are allowed and what techniques can be used. Doping is one example where regimentation is important for the legitimacy of sport.

*Organisation* is especially important, as it links all other aspects of sportification to the actual governing entities that can administrate and develop issues such as rules or standardised arenas. It is a remarkable difference from the early days of sport in the 19th century when local clubs were the main organising force, to our current situation with extremely influential international organisations that operate on a global scale. FIFA, IOC, and World Athletics are all examples of this. The organisational pyramid is then completed by continental, national, regional, and local organisations, and all the way down to the individual clubs. At all levels, sport organisations can function as the backbone of sportification.

*Equalisation* is perhaps the most elusive of these aspects of sportification. It usually refers to the uncertainty of outcome, a key ingredient in most sports. However, it can also be interpreted in a more ambitious way, as a process of making sports more equal in relation to gender, ethnicity, class, sexuality, age, physical ability, or any other factor that historically has been used for limiting people's access to sport. Sportification is no guarantee for more equality but can, in some sports such as skateboarding (D'Orazio, 2021) and football (Svensson & Oppenheim, 2018), have potential to challenge traditional structures and ideas.

*Quantification* links to the records that Guttmann (1978) highlighted in his title. As sports have developed, so has our ability to measure performance and keep records of earlier results in training sessions and competitions from rather basic data (i.e., the time it takes to run a specific distance or the height an athlete jumps) to more advanced and much larger sets of data regarding the number of specific passes in a football match that leads to a clear-cut goalscoring chance or the number of goals a team "should" statistically have scored, given the number of good chances they created in a game (known as *expected goals*, Xg). To put it bluntly, if your team has a high Xg but don't score any goals, you may want to take a discussion with your striker.

While the seven characteristics of sportification above are presented individually, they also relate to and reinforce each other. For example, it would be difficult to ban the use of certain performance-enhancing substances (regimentation) if their effect had not been scientifically determined (rationalisation) and if there were no international organisations to implement and follow up on such a ban (organisation). Not unlike the United Nations' (UN) Sustainable Development Goals (SDG), each criterion of sportification contributes to the whole. They are related and often mutually reinforcing, though also sometimes in conflict. It is, to name but one such tension, easy to see how an increased level of rationalisation and quantification based on the use of more advanced (and expensive!) technology could make equalisation even harder. Professionalisation can offer opportunities to advance specialisation through more time available for training and recovery, while it may challenge equalisation. Looking at how such issues have developed in action sports (Thorpe & Dumont, 2019), it is clear that professionalisation can be an important (and somewhat controversial) driver of the sportification logic. New technologies, advanced materials, and cutting-edge science are entangled with coaches, athletes, and environments in complex ways (Denison, 2022), which further underlines the need for more research on how sustainability comes into play in sports.

## **Sportification and sustainability**

While we have seen a growing literature of sports and the environment in recent years (see e.g., McCullough & Kellison, 2018; Wilson & Millington, 2020), sportification and the core idea of increasing performance have so far not been addressed to any major extent. *Citius*, *Altius*, and *Fortius* can be beautiful at the sports arena, but how does it work in relation to a society that needs to lower its environmental impact? This leads to our main focus: can sportification and its associated focus on increasing performance contribute to a growing environmental impact of sports? Is there even something fundamentally problematic with the idea of sportification and the strife to be faster, higher, and stronger?

In this book, we will analyse challenges and links between sportification and the environmental impact of sports. What environmental implications does sportification have in various sports and in the sports sector in general? Is it possible to pursue sportification criteria such as professionalisation, quantification, specialisation, and organisation without increasing the environmental impact? Are there even ways to use and adapt sportification for more sustainable development in sports, primarily environmental but also linking to social and economic aspects? The sports sector, viewed from a wide perspective, including competitive elite sport, youth sport, and school physical education, with its long tradition of regimentation and quantification, may be well suited to engage in environmental issues. Sports are accustomed to setting limits to performance enhancement for ideological reasons. Doping, for example, is one area where sportification has been limited because of ethical reasons. High-altitude training, hormone levels, and equipment are other areas where limits have been set, although performances

would probably have been even higher without any regulations of these. Could environmental impact become another such example? If so, what would that do to sports as a whole, and how would it manifest in different sports? Is there a potential in inscribing environmental concerns into the fundamental ambitions of sport? The irony in that one of the most famous visualisations of our environmental predicament (the Great Acceleration curve) has the shape of a hockey stick should not be lost here (McNeill & Engelke, 2016). Ice hockey is one of the most modern sports in terms of indoorisation and of removing environment from the equation. Other sports, such as ice bandy or cross-country skiing, have been much more dependent on nature both in practice and in rhetoric (Andersson, 2020; Sörlin, 2011; Svensson, 2016). This would indicate that while many of the problems concerning sport and the environment are international and global in scope, perceptions, and traditions on national, regional, and local levels shape the way we understand them. Ultimately, different levels of sportification may result in very different environmental impacts, and ideas about how sport, practices, and landscape are connected.

## **The structure of this volume**

The parts and chapters in this book all address links and interrelations between sportification and sustainable development. However, they do so from a multitude of different perspectives and research fields, including sociology, philosophy, history, pedagogy, and sport science. In order to strengthen connections between the contributions, and to point at the most important overall perspectives, we have divided the book into three parts. **Part I** will focus on the overarching logics and issues in the relation between sportification and sustainability. **Part II** deals with contemporary trends and developments and how these could challenge the sportification model. **Part III** zooms in on youth sports and education and specifically on how the balance between sport, performance, and sustainability is managed in physical education. We have chosen these three parts as they together address what we believe are the most critical areas where more knowledge is needed in order to fundamentally change the sporting world in a more sustainable direction. We will now introduce the three parts and the chapters included and then wrap up this introduction with some of the most important findings and conclusions.

## **The parts and chapters in the book**

### ***Part I – Overarching logics and issues: Tensions and entanglements between sport, performance, and sustainability***

As hopefully have become clear by now, this book explores tensions between sport, performance, and sustainability. We depart from the sportification model and have used this introduction (and also the first chapter of Part I, written by the four editors) to set the stage. The role of overarching logics in sport, such as the

ambition to perform better, has been our focus. We have done so with a historical and sociological perspective but also acknowledge that philosophical underpinnings of established values in sport need further attention. Sports philosophy can contribute with deeper understanding of the historical–philosophical roots of values in sport, as well as important perspectives on the future developments.

Asking questions, problematising the taken for granted, and suggesting new ways of understanding sports, Sigmund Loland presents an interpretation of “natural athletic performance” that can inform the understanding of sport as a human practice and serve as a regulative idea in the shaping of its rules and practices. Loland points to how sports practised according to the idea of “natural athletic performance” can connect participants in deep and interactive ways with their organic nature and thereby with the environment of which they are parts.

## **Part II – Developments and processes: Challenges to the performance paradigm?**

Sports follow certain logics, where sportification is key to pursue increasing performance levels and competitiveness. However, not all sport is about competition and performance. There are many other values at play, which becomes especially clear when looking at emerging sports, traditional sports, or adventure sports. All of these can challenge established logics of modern sports in various ways. In Part II, we have three chapters that all explore potential challenges to sportification and the performance paradigm.

Social media influencers play an important role in shaping our views and understandings of contemporary times. In Simon Beames and Jack Reed’s chapter, influencers’ posts are studied. The selected influencers present narratives on adventurous physical activities which could have been interpreted within the frame of *Citius*, *Altius*, and *Fortius*. Yet, their narratives don’t adhere to sportification. Instead, they clearly represent voices in which working against climate change and for the reaching of UN’s SDG are central. Beames and Reed’s analysis points to contradictions in the narrative of sportification of physical activities and an environmentalist perspective.

There is a lack of knowledge with regard to how active presence in these artificial facilities influences sporting practitioners’ thoughts about the environmental impact of their own practice in sport. In the chapter by Backman, Svensson, and Danielski, they critically discuss environmental issues connected to sports facilities in a general sense and more specifically in relation to artificial sports and outdoor facilities. In doing this, they use several theoretical models and concepts (Engström et al., 2018; B. Millington & Wilson, 2016; Sandell, 2016) to discuss the current research with examples taken from the illustrative artificial landscapes of cross-country skiing, canoe slalom, and turf-based sports.

Johan Carlsson discusses padel, a fast-emerging racket sport in Europe, especially Sweden, and some of its conditions and consequences in relation to different aspects of sportification (such as institutionalisation, eventification, and



commercialisation) and environmental sustainability. Padel is a relatively new sport in Sweden; therefore, it is interesting to pose questions around whether agents in a new sport are more environmentally aware when they adhere to sportification. Carlsson even questions whether sportification is a fruitful perspective to understand environmental challenges in padel? He shows that there are several challenges not the least connected to consumption patterns (the buying of new equipment) and the growing number of arenas. Lastly, he examines how agents in padel can get more motivated to create systems for environmental sustainability that can not only recognise the force of sportification but also challenge it when needed.

In the chapter by Lidström and Carlsson, they analyse the development of lassoing as a competitive sport among the Sámi, an indigenous population residing in Northeastern Europe. Lidström and Carlsson have a particular interest in deviations from the characteristic features of modern sport (such as universal measurability, fairness, and standardisation of rules and equipment) and their intention is to depict alternate developments and new directions for how sports are organised and performed in a post-modern (and post-colonial) context.

### ***Part III – Education and sport sustainability: Pedagogical, social, and environmental challenges in school sport and physical education***

Environmental sustainability education plays an important role in preparing citizens to think and act in a more sustainable manner (Dingle & Mallen, 2020). It is sometimes conducted in the form of interdisciplinary project and sometimes in the form of subject-specific education. Environmental sustainability is in many countries often well supported in school curricula documents. In this part, two subject contexts from the Swedish school system, physical education (Isgren Karlsson & Backman) and school sport (Larneby), are portrayed with regard to how they relate to different aspects of sustainability.

In the chapter by Isgren Karlsson and Backman, the relationship between how environmental sustainability is presented in national curricula and how it is perceived by physical education teachers is explored. Using an explanatory sequential approach to both quantitative and qualitative data, and basing the analysis of Bernstein's (2000) concept of classification, this chapter contributes to the discussion of how teachers enact their governing school documents when it comes to environmental sustainability in physical education.

In the chapter by Larneby, the aim is to reflect on and discuss how the merging of education and sport in school sport can have consequences for gender norms and social and environmental sustainability. She uses examples from previous studies as illustrations of how sustainability is expressed in school sport. Further, sustainability is discussed in relation to gender as a power relation, based on questions of how logics of sport and education and sustainability is managed within educational steering documents.

## Beyond performance – Sustainable sporting futures

While research on relations between sport and environment have grown tremendously over the last decade, we argue that potential tensions between sustainability and performance have largely escaped scrutiny. Much of the work on sport sustainability, sport ecology, and sport geography have had a contemporary focus, and the historical developments and choices need further attention. This book addresses these historical dimensions, as well as their implications for current and future sport sustainability. We argue for the importance of asking fundamental questions about the relationship between sport and sustainability. To do this, there is an urgent need to historicise the environmental issues of sport in new and innovative ways, adding chronological depth to complement the often-contemporary approaches in sport management. This book offers perspectives from leading scholars from sport history, sport pedagogy, sport philosophy, environmental history, and sport science. In doing so, we speak to readers from all those fields and hope to inspire interdisciplinary discussions.

Our ambition has been to both problematise and develop the sportification model, which is one of the fundamental theories used in sport-related research in humanities and social sciences. We argue that one result of more than a century of increasing sportification has decontextualised sport in a number of ways. The landscapes of modern sport are highly specialised and standardised (Bale, 1994). While many sports emerge in a specific geographic and cultural context, the globalisation of sport has turned sport facilities and landscapes into what Swedish scholar Mattias Qviström (2013) has labelled *portable landscapes*. Building on this idea, and the concept of *contextual sport* as laid out by Millington and Wilson (2016), we argue that a recontextualisation is necessary for sports to address environmental aspects in a meaningful and credible way. In this process, it will be important to acknowledge traditional games and sporting heritage, as well as local and indigenous sporting traditions and knowledge about relations between the human body in motion and the environment (Wheaton et al., 2021). If sportification is to be sustainable in the long term, environmental considerations need to become part of its core logic. Just as sports have tended to develop towards more specialisation and rationalisation, we now need a stronger focus on *environmentalisation* as part of the sportification process.

To enable such an environmental turn in sport, we argue that it is crucial to see sportification not as a set of criteria that are either present or not present in a specific sport. Instead, sportification is a process with a set of underlying values (e.g., that increasing performance is positive and important in its own right). Standardisation, rationalisation, quantification, and many of the other criteria are continuously pursued and developed, driven by the strife for performance. To exemplify, football was no doubt as much a sport in the 1920s as it is today but the level of sportification is totally different. To exemplify, having one generalist coach is a step on the sportification ladder but no way near the complexity of present-day football teams at the highest level, which have dozens of coaches and

other specialists in their organisations. Sportification has been used as a checklist with a set of boxes that can be ticked and once they are, an activity (such as padel or e-sports) has transformed into a sport. We strongly believe – and show throughout the book – that sportification is an ongoing process with ever-more ambitious and far-reaching implications for specific sports as well as the sector as a whole.

That said, the process is not a natural given but can (and has been) be shifted in various ways. Performance-enhancing elements, such as doping or high-altitude training, have been regulated and new technologies have been banned. The latest example is the Corona crisis, which showed that sport organisations on all levels can make rapid changes in response to extreme situations in ways that were previously impossible to predict. In Sweden, not only meetings but also various arrangements, such as exercise races, were digitalised and many began to exercise and be physically active in outdoor environments (Svensson & Radmann, 2021). Coaches, as well as athletes, in sports tell, for example, that they moved training from indoor halls to surrounding parks or natural areas. Exercises were done in new ways – possibly ways that could develop into more environmentally sustainable alternatives to the indoor sports activities. A trend, at least for adult exercisers in Sweden, appeared to be that although sports activities decreased, physical activity remained unchanged. For younger practitioners (especially young adults), however, a reduced participation in sports seems to have affected physical activity negatively. More of them testify that they lacked what they experienced as the most important driving force for practising sports – the competition. This underlines the importance of analysing the driving forces for peoples' involvement in sports – possibly pointing to that some sport activities can be changed into more environmental alternatives, whereas others will be difficult to change (e.g., Book et al., 2022; Hedenborg et al., 2022).

This introduction, as well as the individual chapters, all point at potential ways in which environmental concerns can get on the sports agenda. On a structural level, we need policy documents, regulations, and organisations to make environmental sustainability part of their *modus operandi*. Organisations, such as UEFA, have been important in establishing and developing sports based on logics of sportification (Vonnard et al., 2016). Now, sportification needs to include an environmental dimension and make it a priority when it inevitably comes into conflict with other aspects of sport. While this can be critiqued for undermining the strive for excellence and increasing performance in sport, we have already many historical examples of how certain values and ideas have been prioritised over performance. We have outlawed doping, we have limited the use of certain technologies, and we have gone rather far in trying to preserve a space for “natural” performance (see Loland, this volume). This idea of natural performance could be complemented with a broader ecological dimension, meaning to perform within the ecologic boundaries in a way that would be sustainable in the longer perspective. There is, after all, nothing wrong with aiming to be stronger, to run faster, or jump higher. To paraphrase the most famous document of modern international

environmentalism (World Commission on Environment and Development, 1987), a sustainable sportification is one which allows us to meet the sporting needs of the present without compromising the ability of future generations to meet their sporting needs. As this book aims to show, such an ambition is not a threat to the values of sport. It is business as usual that is the real threat. We can still aim for increasing our performances in sport – as long as we also perform well regarding environmental sustainability.

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# The Idea of Natural Athletic Performance

## An Interpretation and a Defence

*Sigmund Loland*

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### Introduction

In an intellectual climate celebrating pluralism and with scepticism to essentialist claims of the nature of things, ideas in sport of ‘the natural body’ and ‘natural athletic performance’ meet resistance (Fouché, 2017). On the other hand, references to ‘the natural’ carry meaning in everyday language and practice (Kaebnick, 2014). Parents want their children to develop ‘naturally’, outdoor exercise and education in nature attract increased interest, and, more generally, concern over the ecological crisis and the quest for sustainable development have revitalised ideas of humans as interconnected with and parts of nature.

In sport, topical dilemmas such as where to draw the line between acceptable and non-acceptable forms of performance enhancement, or how to classify athletes who do not fit into the binary sex classification scheme, relate to these more general issues. Traditionally, the doping debate originated in attempts on distinguishing between ‘natural’ and ‘unnatural’ performance (Tolleneer et al., 2013), and classification issues have led to heated debates on the relevance of biology and ideas of the natural body (Loland, 2020).

Are references to ‘the natural’ still useful in sport? If so, in what way? In this chapter, I will propose and defend an interpretation of natural athletic performance and demonstrate its relevance in the doping and athlete classification discussion. In the conclusion, I point to the potential in sport of connecting practitioners in deep and interactive ways with their organic nature and with the environment to which they belong.

### The natural

Conceptualisations of ‘nature’ and ‘the natural’ are integrated parts of human culture (Kaebnick, 2014). Most cultural and religious systems include ideas of the essence or nature of human beings and their relationship to their worlds.

Ideas of ‘nature’ and ‘the natural’ play a role today as well. Following Norman (1996), concerns typically arise when what he calls basic biological backdrop conditions are under debate: birth, illness, or death. The development of innovative



and powerful biotechnologies such as gene therapy, means to assist in sex change, or performance-enhancing means in sport, gives rise to disagreement and conflict. Where are we to draw the line between acceptable and unacceptable means and methods? To what extent can conceptions of nature be of help?

Kaebnick (2014) points to ideas of the natural as multifarious and vague. On the one hand, and exemplifying by 'cruelty', 'generosity', and 'integrity', he defends vague concepts as serviceable and fertile in everyday discourse. Most people can apply vague ideas in meaningful ways in a variety of situations and contexts. On the other hand, the same vagueness can be exploited in repressive and manipulative ways, as exemplified in the exclusion in sport throughout history of the 'unnatural' participation of women. In line drawing and rulemaking in concrete practices, there is a need for clear and precise operationalisations.

Soper's (1995) analysis of conceptualisations of 'the natural' in ecology is of help. A first conceptualisation is metaphysical and includes attempts on clarifying the 'true essence' and *modus operandi* of nature. Grand theories in eco-philosophy such as Næss' (1990) view on the realisation of the ecological Self can be an example. My interest here lies in far more restricted interpretations of the 'natural' in sport, and I leave metaphysical investigations aside.

Soper (1995) then points to what she calls the realist conceptualisation. From a scientific point of view, the attempt is to describe in quantitative terms and explain mechanistically phenomena in organic nature. Typically, in sport science analyses of the human body and its movement, the realist perspective is predominant with perspectives from anatomy, physiology, and biomechanics.

A third possibility is a lay conceptualisation that departs from human practice and experience (Soper, 1995). 'Nature' and 'the natural' are studied with hermeneutic and qualitative approaches, and also as phenomenological descriptions. In phenomenologically inspired sports studies, human movement is understood as intentional, context-sensitive, and meaning-producing acts and accompanied by phenomenological analyses of experiential qualities such as joy, flow, and rhythm (Martinkova & Parry, 2015).

In my interpretation of natural athletic performance, both realist and lay conceptualisations will be of relevance. Let me start by getting a firmer grasp of the building blocks and characteristics of such performance.

### **Athletic performance – A regulative idea**

An athletic performance is the outcome of an infinite number of influencing factors from the moment of conception to the moment of performance. An individual's outcome in the 'genetic lottery', that is, the individual's genetic makeup or genotype provides the predispositions for the further development of performance phenotypes such as strength, endurance, flexibility, and technical and tactical skills. A high number of controllable and non-controllable factors impact the development: basic gene–gene–environment interactions, early physical and

socio-psychological stimuli as well as movement possibilities in the physical environment, general socialisation processes, sport-specific socialisation in training and coaching, health and injury status, ending with the individual's condition, and shape at the very day and moment of performance.

In sports, some of these factors are accepted and even cultivated whereas others are eliminated or compensated for. Definitions of relevant abilities and skills are found in the core constitutive rules of the sport in question. The rule proscribing the use of hands contributes to the definition of soccer. The rule prescribing skiers to pass through all the gates of the course is constitutive of slalom. Is there a common idea underlying these rules that characterises all sports? Are there regulative ideas that indicate in more general terms what athletic performances are all about?

A common, structural goal of sporting competition is to measure, compare, and rank athletes and teams according to rule-defined performance. Sports, then, are about a particular kind of human inequality. Let me try to circle this inequality by looking first at the inequalities that are eliminated or compensated for, that is, at the outcomes of sporting equalisation processes.

Most sports regulate inequalities in *external conditions*. Runners run the same distance and are timed with the same technology, soccer teams change pitch halves after halftime, and in ski jumping advanced technology is developed to compensate with points for inequalities in wind conditions.

Second, most sports regulate inequalities in *equipment and technology*. In sports such as sailing, or throwing events in track and field, or in ski jumping, there are strict standardisation rules. To a certain extent, these rules are thought to eliminate or at least compensate for *system inequalities*: inequalities in the financial, scientific, and technological resources supporting an athlete or team. The quest for system equality is a difficult one and meets resistance from political, ideological, and commercial forces with partial aims of prestige of various kinds, and of profit. What is needed here are innovative rules and policies as exemplified by UEFA's Financial Fair Play regulation, and by the possibility in cross-country skiing of standardisation of ski material.

Third, most sports regulate certain *individual inequalities* between athletes. Typically, athletes are classified according to biological sex and in some sports according to body weight. Other inequalities, for instance in genetic predispositions for developing strength and endurance, are left untouched.

By examining more closely this overview, a general principle seems to emerge that relates to what in the literature is referred to as the sportification criteria of equalisation (Guttman, 1978).

Non-relevant inequalities, whether they are external, systemic, or individual, share the characteristic that they are hard if not impossible to impact and control by the individual athlete or team. Their regulation empowers individuals and teams in terms of enhancing their impact on and control over their performances. The principle at stake is one of fair equality of opportunity (FEO).

In ethical theory, FEO is found in several versions (Arneson, 2015). With reference to the examples above, a sport-specific formulation (FEOs) can be formulated (Loland, 2002):

In sports, inequalities with significant and systematic impact on performance and upon which athletes and teams exert limited impact and control ought to be eliminated or compensated for.

This chapter focuses on a particular interpretation of athletic performance as an expression of 'the natural'. My discussion of FEOs, therefore, will concentrate on individual and team inequalities. These inequalities can be further categorised (Loland, 2018). One set of inequalities, primarily those of biological sex and body size, are *stable* inequalities. Typically, and with FEOs as the backing norm, in sports in which stable inequalities exert significant and systematic impact, they are compensated for, primarily with the help of classification. This leaves room for testing and comparing *dynamic* inequalities such as strength, endurance, and technical and tactical skills that can be impacted and controlled to a certain extent by athletes' and teams' training and effort.

Sport stands out, then, as a practice cultivating athlete and team impact and control. Such empowerment of athletes and teams implies, too, that they can be held responsible to a certain extent for how they perform. Sporting games have a clear meritocratic structure.

### **The natural revisited**

This begs further questions. What sense can be made of competitive sport above and beyond rule-defined performances? How can sport be understood as a social and cultural phenomenon and in the context of *human* values?

A comprehensive discussion of the social and cultural status of sport is beyond the scope of this essay. Some comments on the values of individual and team performance are of relevance, however. Performances are outcomes of many years of cultivation of genetic talent through effort and hard training, and they are embodied and concrete results of athlete and team history and identity. In Murray's (2018, p. 21) words, the meaning and value of sport are constituted by

... the combination of natural talents, the dedication and discipline to perfect those talents, and the courage to test yourself against an external standard, be it your competitor, a measure of distance and height, or the clock.

In this sense, performances are *authentic* expressions of who athletes and teams *are*. Ideas of authenticity and responsibility open for evaluation and critique, and, potentially, for respect and admiration. At their best, athletic performances can be concrete and embodied instantiations of human excellence.

In operationalising the authenticity argument, Malloy et al. (2007) refer to sports as the cultivation of 'physiological authenticity'. Athletes' bodily potential is the 'natural' raw material to be modified and cultivated with FEOs as the structuring norm. Relevant movement abilities and skills are constitutive and meaning-producing elements – the dependent variable so to speak – according to which athletes and teams are being measured, compared, and finally ranked.

Extending this line of reasoning, my thesis is that the meaning and value of athletic performances are connected to 'the natural' in a practice-specific and operational sense of the term. Biologically speaking, the development of sporting abilities and skills implies *the systematic utilisation of human biological plasticity as developed in evolution* (Loland & Hoppeler, 2012). In short, the constitutive rule structures of sport are designed to enable athletes' and teams' exploration of their potential within the biological limits set by 'nature'. Sports build on the idea of 'natural' athletic performance.

In what follows, I will test whether this interpretation can be operative and of help in line drawing in two main controversies in modern sports: the use of performance-enhancing means and methods or doping, and the classification of athletes who do fit into the binary and biologically based distinction between men and women.

## **The use of performance-enhancing means and methods**

The ban on the use of specified performance-enhancing means and methods defined as doping has a long history in sports (Gleaves & Llewellyn, 2014), culminating in the 1999 establishment of a global agency with responsibility for the worldwide harmonisation and implementation of an anti-doping regime: the World Anti-doping Agency (WADA).

The justification of the ban has developed over the years. One standard justification is that of fairness. Doping use is unfair as it implies rule violations and provides rule violators with an unfair advantage. Doping is cheating. Justifying a ban with reference to the wrongness of breaking it, however, rests on a circular argument and does not justify the ban itself.

An alternative justification comes with the reference to health. Doping ought to be banned as it represents a threat to the health of athletes. Indeed, extensive use of performance-enhancing drugs in non-therapeutic dosages is risky behaviour and may even have lethal consequences (Birzniece, 2015).

However, competitive sport implies a series of health hazards. Hard and intensive training can lead to overtraining and fatigue injuries. In intense competitions, acute injuries are *legio*. Some sports such as parachuting and downhill skiing are risk sports in which severe injury and death are possible outcomes. Banning health risks from competitive sport is a slippery slope argument and could lead to radical changes in many sports and even to the abandoning of elite sport. There is an obvious need for distinctions between relevant and non-relevant health risks.

In the WADA Code (WADC), this is acknowledged. Three criteria are defined for a substance or method to be considered for the prohibited list. The two first criteria lend themselves to science and facts: the existence of scientific evidence and/or experience that the substance or method under scrutiny is performance-enhancing, and/or is implying a health risk. These are not sufficient, however. As exemplified above, intensive training can be both performance enhancing and risky but represents a core of sporting practice.

Hence, the third criterion is normative. Performance-enhancing means and methods should not violate 'the spirit of sport' as operationalised with a series of ideal values: health, fair play, honesty, excellence et cetera (WADA, 2021, p. 13). Despite being 'serviceable' and with an intuitive appeal, 'the spirit of sport' criterion is vague (Loland & McNamee, 2019). This is where I believe the more concrete and operational understanding of natural athletic performance can be of help.

In the case of pharmaceutical substances, its applicability is rather obvious. Drugs are designed to overrun the systemic and adaptive processes of the organism and attack their biological target directly. Drugs overrun human biological plasticity as developed in evolution. In a therapeutic setting involving injury and disease, drugs can help restore the organism and are relevant indeed. In sports, however, the same drugs can be used as performance enhancers. Their overrunning of the systemic adaptation of a healthy and fit body violates the idea of natural performance. In the sporting context, performance-enhancing drug use is unnatural.

A tougher test of the usefulness of my thesis comes with so-called grey areas in which there is uncertainty about whether a particular means or method should be banned, or not. One such case is that of technologically constructed hypoxic conditions (TCHC) as found in altitude chambers and tents.

As a technology, TCHC is many decades old and used in both therapeutic and professional contexts, among those in the acclimatisation of individuals and groups assigned to perform in hypoxic conditions such as air pilots (Serebrovskaya, 2002). In the 1960s, exercise physiologists came up with the idea of TCHC use for elite athletes to stimulate the production of haematocrit, or red blood cells, and enhance the body's oxygen transportation capacity. The technology is of particular interest in endurance events.

The use of TCHC provoked discussion. In the 1960s, even the use of natural altitude for training was subject to controversy (Kasperowski, 2009). Upon their commercialisation and relatively widespread use, parts of the sporting community raised further concerns (Malloy et al., 2007). Some regarded TCHC as an integrated part of athlete preparation and saw no difference to hard training and effort. Others considered the technology a problematic border case or even doping. Some likened TCHC use with the use of the banned substance synthetic erythropoietin (EPO): Both means stimulate the production of haematocrit and red blood cells.

Hence, in the mid-2000s, WADA's Ethics Board was asked to consider TCHC in as related to 'the spirit of sport'. The review concluded that TCHC use violated

the criterion due to its assumed 'passive' performance-enhancing effect. The Board considered the technology as strengthening the dependency of athletes upon external expert systems and reducing athlete and team impact on, control over, and responsibility for performance (Loland & Murray, 2007). When it came to WADA's science/fact criteria, however, research indicated no substantial TCHC effects on performance and health (Płoszczyca et al., 2018). Hence, in an overall evaluation, the WADA Board decided to place TCHC on a list of technologies under scrutiny, but not on the prohibited list.

With my operational definition of natural athletic performance, the issue could have been clarified more easily and tensions reduced. On the one hand, it is true that TCHC scores low when it comes to athlete and team impact and control. The technology is developed and administered mainly by external expertise, and there is little or no effort in terms of training on the side of the performer.

On the other hand, the technology is developed based on insights into the plasticity of the human organism. When exposed to a certain altitude, the body responds systemically. High altitude triggers the production of haematocrit and *can* enhance performance. But with altitude adaptation, there are also challenging features: the risk of high lactate concentration over time and overtraining, of mountain sickness, et cetera (Płoszczyca et al., 2018). Adaptation takes time and is one of 'physiological authenticity' that athletes can sense and upon which athletes can respond and react. Whether the use of TCHC in performance enhancement really pays off, is debatable.

Synthetic EPO, on the other hand, works differently. This is a drug developed to overrun the systemic adaptation of the organism and go straight to its biological target: the bone marrow's production of haematocrit. In situations of therapy, the drug is an efficient and proper means. Used by athletes, the drug mimics one specific effect of altitude without offering systemic adaptation. 'Physiological authenticity' is overrun.

In other words, and although the TCHC technology belongs to what many consider a grey zone where sport values are challenged, the technology can be framed acceptable within my conceptualisation of 'natural athletic performance'. As it overruns the natural response and systemic adaptability of the human organism, EPO use cannot.

### **Classification in sport: Challenges to the binary biological sex system**

A recent dilemma in competitive sports is related to the classification of athletes. The traditional binary system of biological sex classes is under debate.

In 2009, the South-African middle-distance runner Caster Semenya became track and field World Champion in the 800-metre middle-distance running event. In 2012 and 2016, she won Olympic gold in the same event. After her wins in 2009, her eligibility for the women's class was challenged. Having (according to critics) anthropometric and muscular characteristics similar to men, the

argument was that her participation was unfair. As sex verification tests in track and field were abandoned in 1992, Semenya was subjected by the International Athletics Federation (IAAF, since 2018 World Athletics (WA)) to so-called eligibility tests and procedures. The assumption was that Semenya has a differences of sexual development (DSD) syndrome or, more specifically, a hyperandrogenism syndrome with endogenous testosterone values far beyond the statistically normal range of women.

Scientific reports point to the possible competitive advantages of such values (Betancourt et al., 2018). In 2011, the IAAF introduced rules defining threshold endogenous testosterone values for participants in the women's middle-distance running events, and Semenya and other athletes with similar syndromes were no longer eligible.<sup>1</sup> Semenya appealed, and the case went twice to the Court of Arbitration of Sport (CAS) before being settled in a 2019 split decision in support of an updated version of IAAF's DSD regulations.<sup>2</sup> As of current, the WA considers athletes with endogenous testosterone levels above 5 nmol/litre of blood (average range of women is 0.1–1.7 nmol/L) and who experience a 'material androgenising effect' as non-eligible in the middle-distance running women's class.

The Semenya case caused a heated debate on many fronts. After the first CAS ruling, the IAAF was challenged on the (lack of) scientific justification of the DSD regulations. Critics claimed that the rules were scientifically problematic and even based on the manipulation of data and scientific fraud (Pielke et al., 2019). Moreover, Semenya became a signal case for critics who consider the conventional binary sex scheme to be reductionist and repressive (Karkazis & Carpenter, 2018; Teetzel, 2014). The position is that athletes should be able to compete in the class that corresponded to their legal gender status. The Semenya case caught even more general interest from the perspective of intersectional feminism and interpreted as a concrete and embodied example of repressive strategies by hegemonic power structures (Jones, 2016). Semenya is a black, African, non-binary woman living in a same-sex relationship.

Can the idea of natural athletic performance be of help in classification cases? First, DSD athletes are born with their specific talent. In that sense, their talent, including all physiological characteristics, is authentic and 'natural'. However, in sport, some aspects of natural talent constitute a basis for differentiation and classification. As FEOs prescribes, *stable* inequalities that matter to performance and that athletes cannot control or impact in any significant way ought to be eliminated or compensated for. Inequalities between men and women, for instance in the predispositions to developing explosive strength and speed in middle-distance running, fall under this criterion.

It is commonly accepted that one main driver of sex differences in athletic performance is the unequal level of endogenous testosterone (Hirschberg, 2019). Men have 15–20 times higher levels than their female counterparts. In sports in which these inequalities impact performance, sex classification is called for. In the running events in track and field, record statistics demonstrate a 10–15% difference with men being the faster runners. Tentatively, and based on the premise

that DSD athletes with stable and high levels of endogenous testosterone have a significant performance advantage, non-eligibility in the women's class is justified.

The case has further complications, however. As CAS emphasises in their ruling, the Semenya case and the DSD regulations involve discrimination and a conflict of rights: the right of athletes in the women's class within the normal testosterone range to compete under FEOs conditions, and the right of DSD athletes to compete in the class that corresponds to their legal sex.

Several solutions have been discussed (Camporesi, 2016). One possibility is for the affected DSD athletes to compete in the men's class. However, having testosterone levels significantly lower than the male average, the solution implies replacing one unfairness with another.

Alternatively, as suggested by the IAAF among others, athletes can be medicated to reduce their testosterone levels below the threshold. But medication of perfectly healthy individuals is problematic from an ethical point of view and implies a violation of DSD athletes' 'natural' condition: the way they are born. Another possibility is a third competitive class for DSD athletes. Again, this is challenging as the class will be a subcategory based on sensitive, medical information on testosterone levels. Finally, there is the option of changing the very structure of the running events by including tactical elements and reducing the emphasis on testosterone-dependent abilities such as speed and strength. This, however, would imply radical changes and would basically constitute new running events.

In other words, the case of DSD athlete classification is a dilemma of rights in which there is no obvious ideal solution. Work remains to find possibilities where DSD athletes can pursue their sporting ambitions as any other athlete. Still, in the current situation and with backing in FEOs and the operative distinction between stable and dynamic inequalities emphasising 'natural athletic performance', the DSD regulations seem to be the lesser evil approach.

## Concluding comments

I started out by developing an interpretation of 'natural athletic performance' that can inform the understanding of sport as a cultural practice and serve as a regulative idea in the shaping of its rules and practices. I demonstrated how sport's rule structures build on the fair equality of opportunity principle (FEOs) and on the cultivation of a specific form of individual and team meritocracy. FEOs prescribe the elimination or compensation of *stable* inequalities (such as in external conditions, in biological sex and body size, and in system strength) upon which athletes exert little or no impact and control. Sports cultivate inequalities in *dynamic* abilities and skills that can be impacted and to a certain extent controlled by athletes. I see this as resonating with the ideal of 'the natural' in a specific sense: the development of genetic talent via training and effort, or, in more technical terms, the systematic utilisation via training and effort of the plasticity of the human organism as developed in evolution. At its best, sport is a celebration of natural human abilities and skills.



This interpretation, I argued, opens for the identification of athletes with their performances, for ideas of athlete responsibility and authenticity, and (when sport is displayed at its best) for admiration, and even for displays of forms of morally relevant human excellence.

I tested and defended the idea in two controversial issues in sport: the use of bio-medical performance-enhancing means and methods (doping), and the classification of athletes who do not fit into the traditional binary and biologically based classification system. I argued that the idea of 'natural athletic performance' is useful and operative and of help in line drawing and policymaking in value dilemmas.

Before concluding, there is the need for a couple of comments. I emphasise that what I propose is a sport-specific and operative interpretation of 'the natural'. In most other human practices with other structural goals and standards, ideas of 'the natural' and their operationalisation appear as less relevant. For instance, the practice of research aims at innovative knowledge production and requires theoretical and methodological competence and skills. Standardising of external conditions, equalising system strength, or classifying individuals according to biological sex and body size do not make sense. In sports, however, the goals and standards of excellence are different, and cultivating natural athletic performance leads to their realisation.

In a modern high-technological world in which everyday movement has become redundant, sports stand out with their emphasis on bodily capacities and effort. If practised according to ideals of natural athlete and team empowerment, sports connect its participants in concrete and interactive ways with their organic nature and have the potential of enhancing the understanding and respect for with the physical and organic environment of which they are parts. Herein, I think, lies a considerable ecological potential that should be realised to a larger extent in the time to come.

## Notes

- 1 It has to be added that the DSD regulations are valid only in international competition, and DSD and trans-athletes are free to take part and compete at lower levels of performance.
- 2 For a detailed account of the Semenya case and the ruling, see [https://www.tascas.org/fileadmin/user\\_upload/CAS\\_Award\\_-\\_redacted\\_-\\_Semenya\\_ASA\\_IAAF.pdf](https://www.tascas.org/fileadmin/user_upload/CAS_Award_-_redacted_-_Semenya_ASA_IAAF.pdf)

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Part II

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# Developments and Processes

Challenges to the  
Performance Paradigm?

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# Adventure Sports, Social Media, and Environmental Activism

*Simon Beames and Jack Reed*

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Jeremy Jones rips down a slope of knee-deep champagne powder and flashes a smile for the camera. The 20-second video is then 'liked' by 11,000 snowboarding lovers on Instagram. But it doesn't end there. Jones' next posting on social media references the latest Intergovernmental Panel on Climate Change report and urges his 337,000 followers to 'demand action amongst our law makers' who lack the will to find clean energy 'solutions with the urgency the climate crisis demands' (Jones, 2022, para 2). This example of how a world-renowned adventurer is using their influence to shape unified action to address climate change is only one of an emerging genre of adventure activists.

Sloan and Quan-Haase (2017) suggest that social media has the capacity to enable 'user-generated content in forms such as images, text, videos, and status' to be shared with others, and that it provides possibilities for others to 'engage with one another in the form of collaboration, community building, participation, sharing, linking, and other means' (p. 5). Most typically, social media platforms are replete with 'influencers' who can shape what their followers think and do, through presenting their everyday lives to the public through text, images, GIFs, reels, and so on (Abidin, 2015). These representations can be more influential than traditional sources of information as they may be viewed as recommendations from a friend's personal engagement with an online post (Stubb & Colliander, 2019). Recent work in the area of social media influencers in recreational equestrianism has called for increased research on the impact of influencers 'in relation to influencer-follower dynamics, perceived authenticity, generation of trust, and the impact on consumer behaviour' (Radmann et al., 2021, p. 12). Further, in response to an unexpected 'activist' subtheme that emerged from a study exploring women's outdoor adventure experiences on Instagram (Low et al., 2022), it was concluded that there is value in assessing how social media users 'raise awareness around topics such as race, sexual orientation, environmental issues and access to natural spaces' (p. 22).

This chapter sets out to examine the intersection of social media, outdoor adventurers, and environmental activism. Specifically, questions around who these adventuring environmental activists are, and what they do as part of their

mission, will be addressed. We will also search for traces of sportification in the narratives of these influencers, enabling a discussion of whether environmental activism in outdoor adventuring includes references to specialisation, rationalisation, standardisation, regimentation, organisation, equalisation, and quantification. The chapter finishes with a discussion on the problems and complexities associated with this emerging genre of pro-environmental action.

### **Adventure, the climate and ecological crisis, and activism**

The relationship(s) between adventurous activities and the climate and ecological crisis are increasingly well documented. This is especially so in relation to adventure tourism (Huddart & Stott, 2020; Rosenberg et al., 2021) and adventurous activities in outdoor spaces, as undertaken by a broad range of actors predominantly in the Global North, which feature aspects which may directly contribute to, and also directly address, the climate and ecological crisis. For instance, through drawing on existing literature (e.g., Brymer et al., 2009), Hanna et al. (2019) acknowledge that while participation in adventurous activities has often been to seek risk, experience the sublime, or conquer nature, adventurous activities can also develop connections to nature alongside pro-environmental relationships. Meanwhile, Beames et al. (2019), in a chapter addressing adventure and sustainability, present three central issues for adventure and broader leisure in the present-day context. These recognize that adventurous activities come with ecological costs, that adventure has a humanitarian element and should not 'other' anyone in the pursuit of traditional adventurous values, and question whether authentic adventure exists in societies dominated by capitalism and other macro cultural norms.

The history of environmental activism is rich and cannot be adequately summarized in this chapter. It must be sufficient to highlight that environmental activism (arguably) has its roots in the United States, during the 18th and 19th century: Benjamin Franklin advocated for clean air, Ralph Waldo Emerson suggested that humans limit their expansion into undeveloped areas, James Audubon championed wildlife conservation, and Henry David Thoreau penned *Walden*, which has become a touchstone for environmentalists (Wylter, 2018). Following the acts of these white, American men of privilege came organizations such as the Sierra Club in 1892, from which Greenpeace was spawned in Canada in 1971. Within this story of environmental activism, exists a notable thread of outdoor adventure being used as a means of drawing public attention to issues of environmental justice.

Inspired by Mahatma Ghandi's civil disobedience in India, an early example of adventure-based environmental activism took place on Norway's Mardøla River in 1970. Hundreds of protesters, including mountaineers and eco-philosophers Arne Naess and Sigmund Kvaløy Setreng, rallied against the building of a dam across the river, above a 700-m-high waterfall (Kvaløy Setreng, 1984).

Among other acts, they (along with others) chained themselves to the rock faces. Although they eventually lost this battle, and the river was dammed, it inspired a generation of people who were willing to disrupt developers' projects through illegal means in order to stand-up to perceived environmental injustices.

Adventure-based environmental activism blossomed in the 1990s, with Clayoquot Sound on Canada's west coast taking centre stage. Tindall and Robinson (2017) recount how '850 people were arrested for engaging in civil disobedience to prevent the clear-cut logging of pristine ancient temperate rainforests' (p. 1). Many of these protesters climbed the threatened old-growth trees and camped in their canopies.

An adventurous feat in more recent memory featured six women climbing the Shard in London. In 2013, this feat was undertaken to raise awareness of Shell's plans to drill for oil in the Arctic (Guardian, 2013). The Shard was climbed without permission, of course. What was different about this undertaking was the way it was featured on social media. The advent of Facebook in 2004, Twitter in 2006, and the iPhone in 2007 collectively laid the foundation for activists of all kinds to use social media as a vehicle for sharing their causes. Environmental activists who used adventure to draw attention to their protests now had a powerful tool through which to broadcast their messages.

### **Social media: Scoping and defining the territory**

It is now thought that more than 4.6 billion people use social media globally (Kemp, 2022).

Such ubiquity has raised questions regarding the shifting nature of social reality. In addition, the outcomes associated with having a significant portion of the Earth's population interconnected within a few single social media platforms has given rise to a substantial literature base. Given both Dyer (2020) and Aichner et al. (2021) illustrate the complexity of what the term *social media* represents, it is an important first step to sketch out exactly what we mean by 'social media'.

It was boyd and Ellison (2007) who offered the first broadly accepted definition, describing social network sites as:

Web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system.

(p. 211)

Carr and Hayes (2015) state that this definition has frequently been employed as an all-encompassing account of social media which has resulted in theoretical imprecision and thus does not keep up with the ever-shifting nature of social media spaces. In an attempt to consolidate the issue, Aichner et al. (2021) reviewed 21 theoretical definitions from 1994 to 2019. These definitions, cited in



approximately 60,000 articles, demonstrated two primary perspectives: the pre-2010 perspective and the post-2010 perspective. Prior to 2010, the term social media was simply associated with connectivity between people with corresponding interests. Post-2010 saw a shift that now focuses on social media as platforms that facilitate the production, distribution, and consumption of user-generated content. Meanwhile, Dyer's (2020) chapter titled 'Defining social media ... It's complicated' is helpful in its narration of social media complexity. Dyer describes the term 'social media' as a misnomer as it implies the multifaceted nature of these platforms spring primarily from being 'social'. In the present day, we may think of sociality as just one small piece of an ever-evolving networked landscape on social media platforms. This is witnessed, for instance, in the research of Pereira et al. (2022) who demonstrated in the Brazilian context that 'WhatsApp has become adopted ... as a platform-turned-infrastructure' (p. 24) that is relied upon by communities for multimodal communication and economic purposes. Along this infrastructural vein, boyd (2014) acknowledges that our physical realities are reorganized by these complex virtual spaces where our relationships and identities may be shaped and reshaped. We may, therefore, think of social media platforms as *architectures*, facilitating social, cultural, and economic spaces that are never 'off', and that are maintained by algorithmic structures and the private organizations that own them (Quinn & Papacharissi, 2014).

While we have noted Quinn and Papacharissi's (2014) acknowledgement of social media *architectures*, boyd (2008, 2010, 2014) and others (Baym & boyd, 2012; Ito, 2008; Marwick & Boyd, 2014) discuss the concept of *networked publics* in relation to social media. Reflecting the writing of Fraser (1990), who discussed the importance of publics in the growth of individuals as they provide spaces where identities may be formed and enacted, we may consider networked publics as public spaces that are reconstructed, and redesigned, by contemporary interconnecting technologies. Networked publics are, therefore, designed spaces (e.g., they are developed and updated) that are maintained by an assemblage of hardware, software, and algorithmic structures, and which come with a certain set of parameters within which people can present themselves and interact with others. As boyd (2010) discusses, networked publics offer many of the same characteristics as traditional publics, meaning they enable a collectivity of people to congregate in an online space for purposes we might have typically associated with in-person interaction, such as organizing and partaking in activism.

It must be noted, however, that while social media holds potential for positively engaging with others, there is a significant body of literature which offers a more critical stance. For instance, the work of Fuchs (2021) draws attention to how social media provides space for big data capitalism, surveillance, and a rise in right-wing authoritarianism. Social media use has also been linked to body image concerns (e.g., Fardouly & Vartanian, 2016) and to potentially diminishing connections to the natural world (e.g., Fletcher, 2017; Flynn et al., 2022). For us, these acknowledgements are important, as they temper our understandings of social media as they relate to environmental activism. However, while we remain

mindful of them, this chapter seeks to explore a small microcosm of the social media monolith. Although it may be desirable, we cannot fully capture the socio-cultural and political nuances present within more macro interpretations of social media and its users.

Following the above, we view social media as a designed virtual space that offers a pillar of significant social, cultural, economic, and infrastructural authority (Reed & Dunn, 2022). Importantly for our purpose here, social media platforms diffuse temporal and spatial boundaries, meaning that content may be engaged with on a global, time-liberated scale.

### **Social media and activism**

Social media spaces can offer insight, and are significantly influential, in the exchange of information and in the development of trending issues and personal perspectives surrounding the climate and ecological crisis (Roxburgh et al., 2019). As Allsop (2016) describes in their review of literature on social media and activism, there has been a debate on whether social media provides a new space for civic engagement, one that is isolated from traditional activism, or whether social media amplifies pre-existing activist discourse, but in a networked public where global engagement may be achieved. One such example comes from Becken et al. (2021) who documented through Twitter the global spread of the ‘flygskam’ movement in Sweden, which seeks to shame those who fly. Through analysing 15,249 Tweets, the research indicated that Twitter offered a networked space that challenged the dominant need for overseas travel and in-person connectivity, while offering a sense of belonging and strategic alliance between peer groups. What we do note is that much of what is discussed in the literature on social media as a space for activism is grounded within Global North contexts (e.g., Jenkins, 2016; Velasquez & LaRose, 2015). Recent writing has, however, centred on political activism on social media in Indonesia, Pakistan, and Uganda (Ida et al., 2020; Selnes & Orgeret, 2020), alongside activism on social media within indigenous cultures (Carlson & Berglund, 2021).

Social media have undoubtedly developed an alternate and public-facing space where people may participate civically and politically. The role of networked publics and activism is also discussed by Lee (2018) in the Cambodian context. They present how social media activism is undertaken in a deviant or hidden manner in order to circumvent state control and suppression. Akin to Marwick and boyd’s (2014) work on ‘social steganography’, which is a tactic employed by American teenagers to disguise the true meanings of social media posts from parents or teachers by employing subversive codes only understood by ‘those who are in the know’ (p. 1059), Cambodians engage in political activism on social media through subversive and double-layered engagement that avoids the attention of state authorities.

The #FridaysForFuture movement has also been assessed to gauge the influence of social media in the mobilization of millions of people the world over.

Beginning with Boulianne et al. (2020), who analysed Twitter trace data during the March 15th, 2019, global ‘School Strike 4 Climate’, Twitter was considered the critical link between the experience of local climate action and a global movement of young people. Meanwhile, Sorce and Dumitrica’s (2021) text on Fridays for Future activism in Europe on Facebook during the COVID-19 pandemic highlights the role of social media in framing a sense of solidarity and collective identity during periods of social isolation. A sense of belonging, support, and continued action are, therefore, conspicuously linked to activism on social media.

While other sources may continue the discussion (e.g., Fridays for Future, 2021; Haßler et al., 2021), turning to Olesen (2020) on Greta Thunberg’s iconicity and performance offers us a point of departure into our assessment of adventure sports, social media, and environmental activism. Olesen (2020) suggests that social media audiences are no longer passive recipients, as we might expect if drawing on a theatrical foundation of stage and audience, but are instead co-performers who can actively like, comment, repost, and pin, thus generating a continuous and ever-growing flow of information. Indeed, social media users have been labelled *prosumers*, as they both produce and consume content (Hayes et al., 2019). Importantly, Olesen (2020) identifies five domains that are important when considering the shifting nature of activism on social media:

- 1 The cost of setting up activist performances are drastically reduced through social media platforms.
- 2 Social media platforms allow accompanying *visual media* to be shared alongside posts. Visual representations such as images, films, and GIFs may generate new meanings and interpretations of content associated with activism.
- 3 As we noted in our definition of social media, networked spaces reduce the *distance* between the producer and the audience. As described by Rojek (2016), this can offer an illusionary sense of intimacy with the producer and, in some cases, develop one-sided or ‘parasocial’ relationships.
- 4 Traditional media is no longer the place to forge one’s perspectives and engage in the ‘story of the day’. Social media provide latitude for the *global distribution* of up-to-date information.
- 5 Activistic performances can occur across *numerous platforms*, each bringing with it a certain set of affordances. For instance, the character limitation on Twitter is very different to the more visually oriented nature of Instagram.

These five domains offer clarity as we seek to understand the role of social media in environmental activism. From here, we now depart into a more applied approach. This focuses on a series of adventurous individuals and organizations who we have identified as engaging with both adventure and social media for activist purposes. We therefore explore who ‘they’ are and what ‘they’ do. From here, we offer some thoughts on the efficacy of these efforts as they intersect with adventurous activities and networked social performances.

## Who are ‘they’?

We have deliberately chosen against using a formal methodology, as our principal aim is to start an academic conversation about the intersection between outdoor adventure, environmental activism, and social media. We do, however, draw on Kozinets’ (2019) netnographic approach to collating, curating, and analysing web-based data. In this short section we highlight five adventure activists who exemplify the phenomenon under investigation. Some of these agents are high performance athletes, while others position themselves as being people who use adventure as a means to raise awareness, and who have felt compelled to take action. As we shall see, their feats often centre on long-distance ‘ultra’ style adventures.

All of these activists have Instagram accounts, which pointed us to their own websites. Our engagement with these adventurers was likely influenced by algorithmic structures which take into account our personal interests and backgrounds. Our previous searches, who we follow, and what we have previously liked will have shaped how we found these adventurous environmental activists. We would therefore like to make it explicit that our finding of these adventurers on Instagram was undoubtedly filtered through an algorithmic mesh, which will have influenced who was positioned at the top of our search lists and which would have potentially obscured our scholarly engagement with publicly available data. More directly stated, we are very aware our digital footprints as able-bodied, white men of a certain privilege, with an interest in adventure sports, will have influenced our search results. Despite us searching with intentions of finding a broad and diverse sample of adventure activists, our search results feature people who are white and live in the global north. There is also a slight bias towards men. It may also be that this is a loose, emerging profile of an adventure activist, but that conversation is for another time.

- Mike Elm is a cyclist who rode from Vienna to Mongolia in order to find and share stories from the frontline of the climate crisis. He writes, ‘I thought that in all sorts of places there must be incredible human kindness, generosity, compassion, innovation and joy targeted towards the greatest challenge we face as a species: the climate crisis. The New Story Ride was created to share that truth with everyone who needs to see that not only is this new story possible, but it is happening’ (Adventure Uncovered, n.d., para 2).
- Rosie Watson is a runner who collaborates with Mike Elm (above). She aimed to run from the UK to Mongolia, mostly solo and unsupported with the aim of ‘searching for and telling stories of better ways of living, working and meeting our needs in the climate crisis’ (New Story Run, n.d., para 3). She is also an activist who fights against proposals for new coal mines in the UK, and has co-authored a report on the subject (Willis et al., 2020).
- The Balkan River Defence (BRD) is a group of kayakers in the Balkans who use their adventures to highlight the climate and ecological crisis. Their

mission is to ‘DEFEND the remaining free flowing rivers of Europe, EXPOSE hydropower as unsustainable energy, PROVIDE alternatives through science, education, creativity + adventure sports, and SUPPORT a network of local river activists’ (BRD, n.d., para 1, capitalization original). The organization was founded in 2015 in order to speed up the action needed to stop 2700 dams that were proposed to be built in the region.

- Jessie Stevens is a cyclist from the south of England who formed the movement People, Pedal, Power. She mobilized a group of people who cycled over 500 miles to COP26 in Glasgow in October 2021. The organization aims to ‘highlight the need for more diverse decision makers at the summit’, as youth are usually not part of these global conferences, ‘despite the impacts of climate and ecological breakdown impacting them the most’ (People Pedal Power, 2022, paras 1 and 2).
- Jeremy Jones, highlighted in the opening paragraphs, founded Jones Snowboards. The company strives to ‘Design innovative mountain gear that sets new performance standards and be a leader in manufacturing sustainability, environmental outreach and backcountry education’ (Jones Snowboards, 2022, para 1). He has over 330,000 followers on his individual Instagram account.

### **What do ‘they’ do?**

What becomes clear when scanning the Instagram profiles and websites of these adventurers is that their environmental activist posts are centred around the adventurous activities themselves. In essence, what these activist adventurers do is partake in adventurous journeys and challenges with the explicit purpose of demonstrating to their publics significant sociopolitical and environmental injustices through the lens of adventure. What emerges on Instagram, where these adventures are often shared on a moment-by-moment basis, is a sense of activist storytelling; the adventurer intentionally brings their audience along with them and generates a sense of intimacy between the adventurer and the audience. This indicates the power of storytelling as a critical factor when making sense of what Mike Elm (2019) describes as ‘climate adventurism’ (para 4). Sticking with Mike Elm’s ‘New Story Ride’ and Rosie Watson’s ‘New Story Run’, we see the central role storytelling played as their activist adventures unfolded on their Instagram profiles. Collectively, hundreds of posts are shared during their adventures, documenting personal stories and the stories of the communities and landscapes they travelled through. As Watson describes on her website ‘New Story Run’, ‘as with tackling the climate crisis, I don’t know for sure how far I’ll get, or if I’ll make it all the way to Mongolia – but I am prepared to try’ (para 6). Together, the power of consistent storytelling about their adventures and their activist purposes presents a compelling account of the role social media has when sharing narratives of climate adventurism.

The role of storytelling on social media is not new, but, drawing on Page (2012), is worthy of attention given that stories on social media represent both current and archived sociocultural and political insights that demonstrate and generate reality for both the storyteller and their followers. Leaning on Nah et al. (2021), the ways in which adventurers shape their activist stories on Instagram reinforce the notion that ‘social media could become an important storytelling agent’ (p. 441). We see Instagram as a space where stories of adventurous activities with activist purposes can be told.

The ways in which activist adventure stories can be told through Instagram brings us back to point three of Olesen’s (2020) five domains of activism on social media: networked spaces reduce the *distance* between the producer and the audience. On the BRD (2022) Instagram, adventures, typically undertaken with kayaks, are shared on Instagram for activist purposes. While the broad focus of the BRD is on the ecological impacts of dams and broader river conservation in the Balkan states, posts on Instagram bring this story to the digital doorstep of worldwide audiences. In particular, this is seen during the summer of 2021 when the BRD undertook what they called the ‘Balkan Rivers Tour Five’ – a 258-kilometre paddle on the River Sava in Slovenia. Accompanied by a film crew and photographers, the four kayakers posted updates ‘from the riverside’ each day as they made their way downstream. Over 11 days, 15 posts are shared that summarize each day, each telling the story of how the River Sava is being affected by human activity, while highlighting some of the research they undertook during their journey (e.g., a waterbird survey).

While the narrative element reinforces the importance of storytelling, the striking imagery shared alongside these narratives offers insight into how the distance between the BRD and its audience was reduced. Across the 15 posts, 130 striking images are shared, documenting not just the journey, but also their activist efforts, the wildlife they saw, and the striking difference between the river and its industrial neighbours. The audience is, therefore, engaged through compelling visual content that, alongside textual descriptions of the day, brings to life the river and the kayaker’s activist engagement with it. While a more thorough micro-analysis of each post could provide further insights, what became apparent when scanning the Instagram posts associated with the Balkans River Tour Five was a sense of intimacy between the BRD and the audience. Interestingly, intimacy is identified by Berryman and Kavka (2017) as a defining factor in the construction of being an influencer on social media. However, we remain unconvinced that the activist adventurers we focus on here draw on a sense of intimacy for personal gain, monetization, or fame. Instead, it appears that intimacy with the adventurer’s public is employed to help engage the audience and encourage civic reflection and action.

While McGlotten (2013) notes that the dominant cultural perception of intimacy on social media platforms is that ‘they’re trouble, a diminished and dangerous corruption of the real thing’ (p. 7), the BRD engages in a level of intimacy that further brings the audience with them on their journey down The Sava.

For instance, in a follow-up post about the trip (BRD, 2021), we see an image of a crew member drinking a Laško beer from a shoe, and see underwear drying on a windscreen wiper of a van. This, in alignment with literature discussing the merits of digital intimate publics (e.g., Dobson et al., 2018), further closes the gap between the adventure activists on Instagram and the audience. This, we posit, extends the importance of storytelling, whereby adventurous stories not only recount what happened, but which invite audiences to sit around the digital campfire with the adventurers, make connections to their own lives, and – ideally – take actions towards environmental justice themselves.

With storytelling, reductions in distance, and intimacy positioned as three factors that play an important role in the sharing of activist adventures on Instagram, we can now take a more macro approach to the role of Instagram within these communities. Following the work of Davis (2019), we may begin to think of Instagram as having a place in the tactical repertoires of adventure activists. Alongside on-the-ground adventure activism, platforms such as Instagram are employed as one more arena for activist encounters and messaging for adventurers. As Milan (2017) aptly asks, ‘How do these new forms contribute to changing the tactical repertoire of social movements?’ (p. 159). To assess this, we turn to the movement ‘People Pedal Power’ (2022), a group of people who cycled 570-miles from Devon in Southern England to Glasgow for the COP26 climate summit. The motivation for the journey is captured on the People Pedal Power (2022) website:

It is clear that People want change and we want the truth from our leaders. People Pedal Power wants to make this happen by creating a group of people cycling to the COP, shouting our message loud and clear so it can't be ignored any longer.

(para 6)

What emerges is that this long-distance adventure was not *just* about social media, it was a movement of people coming together in-person to demonstrate the power of collective voice and action. It may be reasonable to assume, then, given the emphasis on in-person action, that social media engagement will have naturally faded into the background. We put forward that quite the opposite happened. Posting on Instagram provided a further networked space to share the messages and purpose of the adventure. In our attempt to understand this, in April 2022, we contacted Jessie Stevens, the founder of People Pedal Power, to ask whether and/or how Instagram was employed as part of an activist repertoire. In response, Jessie suggested that:

Socials were used as a way to mobilize individuals and reach people ... It was also a really accessible way to tell the stories of the ride and share the voices of the community and people who made it happen. And so yes, [People Pedal Power] definitely did use social media as part of its activist repertoire.

(Personal communication with Jack Reed, reproduced with permission)

What comes to the fore here aligns with Van Laer and Van Aelst's (2010) suggestion that online spaces may generate internet-supported spaces for in-person collective action. It is this that emerges in relation to the adventure activist. Instagram equips the activist adventurer with 'new information and action repertoires that go beyond offline communities' (Young et al., 2019, p. 1). It is suggested, therefore, that while these contemporary forms of adventurous activism are place and in-person essential, sharing on social media facilitates an extension to the activist messaging behind these adventures. Networked spaces such as Instagram could be considered as supplying additional online environments for adventurers – environments where they can share their activist stories and engage with audiences, both nearby and far-away. Our assessment of Instagram has demonstrated that the platform can and does provide a supporting mechanism for activist adventurers as they go forth and tell their stories.

### **How do they do it?**

While the above text demonstrates that activist adventurers are using Instagram in diverse and meaningful ways to share their stories and purposes, the question remains, how do they do it? As Rotman et al. (2011) provocatively ask, 'When people partake in activism via social media, are they doing anything meaningful?' (p. 820). Their question, focussed on simple acts such as altering one's social media profile image in response to a crisis, is an important one. Further, the longevity of activism on social media is called into question by Selander and Jarvenpaa (2016), when they state that while 'digital action repertoires can mobilize tens of thousands and even millions of supporters to protest against the injustices, such support is often transitory' (p. 348). In relation to activist adventurers, then, it is necessary to consider how questions of effectiveness are navigated.

Allsop's (2016) literature review offers a threefold framework that characterizes the *types* of activism present on social media. There is the slacktivist (see Ralston, 2022, for a postdigital critique of this term), which, by blending the words 'slacker' and 'activist', identifies social media users who engage in forms of online activism but who, in reality, put in very little effort. Superficially, we might see this through changing one's profile image, through hashtagging, or liking certain posts. It is clear, from the activist adventurer's Instagram profiles we have scanned, that the adventurers we have profiled are *not* slacktivists, as they are engaged in on-the-ground activist activities far beyond the social media domain and use adventurous activities to achieve this. We may, however, begin to see levels of slacktivist engagement *in response* to these posts on social media. For instance, before COP26, Danny MacAskill's (2021) posted about #ClimateGames, where he performed bicycle tricks around a wind turbine factory and on a wind turbine itself. We do not know very much about if and how this post was backed-up by the athlete engaging to any depth in the debates associated with the COP event. While at the time of writing this post had over 270,000 likes and over 4400 comments, it remains unclear exactly how effective such posts and hashtags are



in generating meaningful, applied, and sustained behaviour change and activist engagement in the audience. Indeed, the measurement of such changes are inherently difficult and pulls into question whether portions of these audiences are engaged in passive slacktivism.

Second within Allsop's (2016) framework is the idea that social media has offered a paradigm shift for activists, as new and exciting spaces where individual and community empowerment can challenge authority and power. While the activist adventures of the people and organizations we have considered undoubtedly seek to challenge and raise awareness of planetary injustices, we remain unconvinced that it is a paradigm-shifting move toward social media that is achieving this. Instead, adventure is perhaps being used as a medium through which to demonstrate how natural environments are being affected, and to help seek out, as the adventurers did in the 'what do they do?' section, alternative and hopeful stories that demonstrate ways forward in addressing climate and ecological crises. A more stinging possibility could be that imbuing ones existing adventuring career with shades of environmental justice can serve to legitimize what could have been critiqued as a self-serving, narcissistic lifestyle based around having pleasurable adventures, sharing this with adoring masses, and reaping the commercial rewards associated with this.

It is therefore the third and final aspect of Allsop's (2016) framework that sheds some light on the effectiveness of activist adventurers on Instagram and what they do. Allsop puts forward that some activists use social media as a facilitation tool and that these platforms are complementary to, and support, pre-existing activist activities. It is this that we see activist adventurers engaging in. And so, the question remains, how effective are their efforts? Well, we put forward that questions of effectiveness may not be the correct metric for these forms of activism. The Instagram posts must be considered in tandem with the on-the-ground actions of adventurous activists. What is created is a blurred on and offline space where contemporary forms of adventurous activism are as equally reliant on both the adventure itself and social media for success. The literature describing the collapsing binary between on and offline spaces provides scholars and adventurers with new terrain to consider. As Bolander and Locher (2020) suggest, a collapsed on and offline binary 'underscores the need to take seriously that users increasingly do not view or treat offline and online communication as separate' (p. 6). This speaks to the outlining of networked spaces as a form of *interreality* (Reed et al., 2022), whereby actions and engagements in online environments directly affect offline spaces and vice versa – notions of hybridity and the inescapably blended nature of on-and-offline lives naturally come to the fore here.

The activist adventurer may intentionally occupy both the physical (e.g., kayaking the Sava River) and the virtual (e.g., Instagram) at the same time in their quest to undertake and disseminate activist activities. The adventurous activist may, therefore, be positioned as delicately balancing on the bridge between the physical and the virtual; the adventurous activist occupies, and engages with others, in multiple environments. Importantly, each environment is mutually

dependent on the other as, without the adventurous activity, there would be little to share and, without Instagram, adventurous activists would have a limited audience. This mutual importance means that measuring the effectiveness of effort is fraught with nuance and challenge as adventurers navigate their activist interrealities.

## Conclusions and implications

This chapter has explored the intersection of outdoor adventure, environmental activism, and social media. By focusing on the stories of a handful of adventure activists, we suggest there are commonalities in their aims and the ways in which they endeavour to inspire their followers to take environmental, justice driven action.

While other chapters in this volume may speak to the notion of sportification more directly – whereby non-sport activities (such as some of those engaged in by our adventure activists) come to be organized and regulated like mainstream sports in order to lend them greater audience appeal (see Heere, 2018) – we do not see this discussion as being especially germane to our topic. While it is certain that adventure activists very deliberately seek to increase the size of their audiences, and to influence the actions their audiences take, we do not see any compelling evidence suggesting that cycling the length of a country to increase public awareness of the climate emergency is becoming regulated by external governing bodies. Indeed, the actions and overall ‘missions’ of many adventure activists can arguably be viewed as forms of resistance to the very threats of sportification.

Social media permits adventure activists to occupy previously unreachable territory that exists in the blurred boundary between offline and online activity. Jandrić et al. (2018) explanation of how digital technology and media are no longer separate from typical human and social activity, moves us away from a human/technology binary into a ‘postdigital’ era. Seen this way, the adventure activists who employ social media to achieve their aims, inhabit what DeLanda (2006) views as ‘complex assemblages’, where social, technical, and cultural spaces are created and sustained. It is within these socio-technical assemblages that followers are able to accompany adventure activists on their particular quests. Some may be slacktivists who engage in activism on a superficial level, while others may be deeply inspired by these adventurers to take action over the long term.

The musings contained in this chapter are speculative in nature. The field is ripe for a systematic mapping of the demographic make-up of both adventure activists and their followers; a critical investigation into the economic and commercial influences on these activists; and the actual, practical effectiveness of their actions.

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# The Changing Landscape of Sport Facilities

## Consequences for Practitioners and the Environment

*Erik Backman, Daniel Svensson and Itai Danielski*

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### Introduction

Knowledge about the relationship between sport and environmental sustainability has grown stronger in recent years (McCullough & Kellison, 2018; Wilson & Millington, 2020). For example, in discussions about the construction of golf courses and the staging of global sports events such as the FIFA World Cup and the Olympic Games, environmental perspectives have been rhetorically highlighted but not sufficiently implemented in practice (see, e.g., Del Fiacco & Orr, 2019; Millington & Wilson, 2016). One area that has only started to be investigated is how *artificial* sports facilities, in the form of artificial ski tracks, artificial turf surfaces, artificial rapids, ice hockey arenas, indoor ski slopes, and indoor surfing facilities, influence people's relationship to environmental sustainability. Studies within this area primarily deal with how the *actual construction* of, for example, a stadium affects the environment (see, e.g., Salome et al., 2013; van Bottenburg & Salome, 2010). We know far less about how an active presence in these artificial facilities influences sporting practitioners' thoughts about the environmental impact of their own practice in their sport.

In this chapter, therefore, we aim to critically discuss environmental issues connected to sports facilities in a general sense and more specifically in relation to *artificial* sports and outdoor facilities. In doing this, we will use several theoretical models and concepts (Engström et al., 2018; Millington & Wilson, 2016; Sandell, 2016) to discuss the current research with examples taken from the illustrative artificial landscapes of cross-country skiing, canoe slalom, and turf-based sports. What makes artificial sports facilities especially interesting from the perspective of environmental sustainability is the ambiguity they involve. On one hand, the actual constructions (both indoor and outdoor) involve direct interventions in nature. On the other hand, there is still a lack of knowledge about the impact these facilities have on health, environmental awareness, and travel.

In this chapter, we use a wide conceptualisation of the sports facility to include more than just traditional sport stadiums. Our definition of public spaces includes facilities such as "bowling alleys, health clubs, sportsplexes, park and recreation facilities and numerous other natural and man-made environments" (Fried

& Kastel, 2021, xi). To some extent, all sports facilities can be claimed to be more or less artificial. What was artificial yesterday is perceived as natural today. Therefore, it can be difficult to talk about “natural”, “original” or “authentic” facilities for sport. When *artificial sports facilities* are addressed in this chapter, we mean facilities where the basic condition for the activity, for example in the form of snow, ice, or grass, have been produced artificially. Previously, we have seen the global scale of this phenomenon in the spread of ice hockey arenas and more recently in the intensive growth of artificial turf surfaces for sports such as football, tennis, and baseball. To some extent, the prevalence of certain sports and artificial sports facilities is culturally connected to certain countries. For example, in Sweden, artificial cross-country ski tracks are very common, whereas artificial rapids for canoeing and kayaking do occur but are more common in other countries in Europe and the US. This links artificial sports facilities to their geographical and cultural origins. Even though an artificial ski tracks could be built in many places, they are linked to the historical background and long tradition of skiing in countries such as Austria, Norway, Sweden, and Switzerland. We will return to the context of sports facilities later in this chapter.

Another central concept in this chapter is *environmental sustainability*. In an effort to bring clarity to the discussion of this idea in relation to, for example, social and economic sustainability, Morelli (2011) defines environmental sustainability as “a condition of balance, resilience, and interconnectedness that allows human society to satisfy its needs while neither exceeding the capacity of its supporting ecosystems to continue to regenerate the services necessary to meet those needs nor by our actions diminishing biological diversity” (p. 5). We find that this definition is useful for further discussions of artificial landscapes from the perspective of environmental sustainability.

We will begin this chapter by problematising the meaning of an *artificial sports facility*. Thereafter, we will describe three theoretical concepts and models that are relevant to this topic. The first is Klas Sandell’s *eco-strategic framework* for landscape relations (Sandell, 2016). The second is Lars-Magnus Engström’s concepts for *meaning-making logic* within the sports and movement culture (Engström et al., 2018). The third is Brad Millington and Brian Wilson’s concept of *contextual sport* for discussing the geographical placement of sports in relation to environmental sustainability (Millington & Wilson, 2016). We will, in addition, use these theoretical models and concepts to discuss the state of knowledge regarding the relationship between artificial sports facilities and environmental sustainability more thoroughly. Finally, and in light of the current state of knowledge and the described theoretical models, potential future scenarios will be discussed.

### **What is a sports facility?**

Throughout history, sports facilities have been associated with man-made buildings as well as with more or less constructed open areas. Before the turn of the nineteenth century, swimming facilities, halls for gymnastics, open fields for games, as well as



natural ice for skating were a common phenomenon in Sweden. After this period, the conventional idea of a sports facility as a constructed building began to spread. More halls for Ling gymnastics (internationally better known as Swedish gymnastics) were built as were a growing number of fields for combined football and track and field activities. Although some strong criticism of this early standardisation and indoorisation of physical activity and training was voiced, there was already in the Swedish gymnastics movement a desire to control and adapt the training landscape (Ljunggren, 1999; Svensson, 2022). After the Second World War, the construction of indoor halls increased as a consequence of the spread of various indoor rackets and other ball games (Blom & Lindroth, 1995). Still, many sports continued to be primarily conducted outdoors, in spaces where the level of adaptation was still fairly low. Football, swimming, skating, and bandy are good examples of this. However, the overall sportification process eventually started to affect these traditional outdoor sports as well. Arenas for bandy and ice hockey were gradually standardised and specialised, moving from frozen ponds and lakes via outdoor maintained rinks to indoor arenas. This was a more controversial process in bandy where its links to a Nordic tradition of outdoor sports slowed its move to an indoor location in comparison to ice hockey, which, as a “modern” North American import, was already a well-established indoor sport (T. Andersson, 2020).

Today, the increased differentiation of activities in competitive sport and spontaneous physical movement has opened up a wide and inclusive view of what defines a sports facility. According to the Swedish Sports Federation, a sports facility can be a “constructed or allotted area” which can include “free air, land and water” (Riksidrottsförbundet, 2015, p. 6). In this chapter, the concept of a sports facility will be taken to include man-made buildings as well as more or less constructed landscapes.

### **Artificial sports facilities: A new phenomenon?**

When considering, for example, an indoor downhill ski slope or an indoor surfing centre, it is easy to understand artificial sports facilities as a modern phenomenon. However, seen from a historical perspective, there are many examples during the twentieth century of sports in which humans have adapted nature and landscapes to their needs. Cross-country ski tracks, downhill ski slopes with lifts, golf courses, football fields, ice hockey rinks, and swimming pools are just a few of these types of spaces. This process of adaptation has developed in parallel with the increased *sportification* of sports. This means that the practice of sports now follows more or less formalised and articulated contracts for how to perform, assess, and value sports, often in terms of quantified measures. As a consequence, sport has become more specialised, organised, and professionalised (Guttmann, 1978; Svensson & Sörlin, 2019; Yttergren, 1996). Seen from a historical perspective, increased sportification has been a driving force in the development of artificial sports facilities. There has been an overall trend towards increasing levels of adaptation, standardisation, and specialisation of sports facilities and training landscapes. From the

traditional mountaineering, games, and leisure of the nineteenth century, where the role of nature was strong (Fabian, 2021; Schut, 2016), to the outdoor sports of the first half of the twentieth century and to the artificial and even virtual training landscapes of today, the role of weather and geographical context, with all of its variety and uncertainty, has been controlled and limited in favour of predictable, reliable, and comparable conditions (e.g., Fouché, 2017; Svensson & Sörlin, 2019; van Bottenburg & Salome, 2010; Vertinsky & Bale, 2004).

Today, we see that the definition of what is or is not an artificial sports facility is being renegotiated. For example, a cross-country ski track is not what it was 30 years ago. The development of artificial snow and ski track-machines, the introduction of fees for ski tracks, as well as the possibility of saving snow (both artificial and natural) for the next skiing season have placed increasing demands on ski facilities, both from elite and amateur skiers. In Sweden, there are already several indoor facilities for cross-country skiing and more are being planned. This development of artificial ski tracks reflects the status of cross-country skiing in Sweden and its position as a carrier of cultural values in Swedish sport and in Swedish society in general. It also points to the growing urbanisation of sports landscapes, a process that sees sports facilities constructed in greater proximity to major cities and adapted for use in urban or suburban environments. Similar developments have been analysed in other European countries, for example, in France (Schut, 2017).

Another example of the changing human impact on the construction of the sporting environment is the canoe slalom. At the beginning of the twentieth century, competitions were held in white water rapids without any obstacles to negotiate. During the interwar period, gates were introduced as an extra challenge. Initially, these consisted of buoys or poles floating on or rising above the water's surface but for security reasons, these were later changed to hanging gates (Endicott, 2007). Today, all international canoe slalom competitions are conducted on artificial rapids where the water flow can be controlled. The Swedish town of Falun has recently become host to the only artificial canoe slalom course in Scandinavia (Falu Vildvattenpark, 2021). Even if canoe slalom is not a big sport in Sweden, artificial rapids are rather common in other European countries.

Probably, the most common example of the human impact on sporting artifice is the development of artificial turf to replace the natural grass surface used in many sports. Designed to imitate grass in both performance and appearance, it was first introduced in 1966 as the roof cover of the Houston Astrodome baseball stadium blocked out the natural light that is required for the growth of the natural grass field below. The new artificial surface was dubbed "astroturf"; the product was made of nylon and consisted of fibres sewn onto a backing mat. It became a success in the world of baseball and soon spread to other sports. In 1969, it was used for the first time by the NFL and soon spread to field hockey because of its superior playing characteristics. When compared to natural turf, artificial grass was found to improve ball roll, bounce, and predictability. In 1976, the hockey field stadium in Montreal was the first to use artificial turf at an Olympic Games.

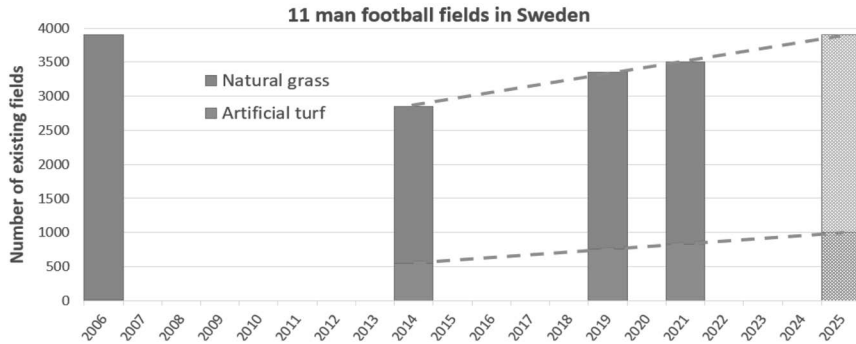


Figure 4.1 The number of 11 vs. 11 football fields in Sweden, excluding hybrid fields.

Source: Danielski (2021).

Artificial turf technology has improved steadily since the 1980s. By adding a shock pad to decrease surface hardness and sand infill to increase pile durability, sports performance improved significantly. When European football entered the scene in the early twenty-first century, and thus prompted the development of third-generation artificial turf, artificial turf technology quickly spread all over the world. In Sweden alone, about 830 new 11 vs. 11 and over 250 smaller football pitches with artificial turf were constructed between 2006 and 2021, a number that is expected to increase (see Figure 4.1). There are no exact global figures for the number of sports pitches with artificial turf, but it is estimated that there are more than 50,000 artificial pitches in Europe with a combined area of 112 km<sup>2</sup>. There is an additional 24 km<sup>2</sup> in the US.

The developments illustrated by the sporting environments described above show that some outdoor sports that were previously performed in “natural” environments are now being played in facilities, both indoor and outdoor, because they are secure, predictable, and controllable (Salome et al., 2013; van Bottenburg & Salome, 2010). This chapter argues that artificial sports facilities are not a new phenomenon. They have multiplied in response to changes taking place in contemporary society (Sandell, 2011). We believe that labelling sports facilities as artificial or natural must be understood in relation to historical, social, cultural, and technological contexts.

## Concepts and models

### ***How can landscape relationships be influenced by the sporting environment?***

In a discussion of artificial facilities for sport, outdoor recreation, and physical exercise, Sandell (2011, 2016) and Sandell and Öhman (2013) outlined an eco-strategic framework that could contribute to a deeper understanding of the relationship between humans and nature. Although Sandell’s framework

is primarily used in relation to outdoor recreation, we also find it useful as a way of understanding outdoor sports, especially since the performance of outdoor sports in artificial facilities is becoming more common. Sandell argues that there are two common approaches to nature in contemporary outdoor sport: the *active domination style* and the *active adaptation style*. The active domination style sees the landscape as a factory to be adjusted to the activity, for example downhill ski slopes, adventure landscapes, and climbing walls. The active adaptation style, however, views the activity as subordinate to the landscape with regard to weather and season, for example cross-country skiing in natural snow tracks. The active domination style means that the activity can be performed even though it is taken out of its context, a phenomenon Sandell (2011) calls the *de-contextualisation* of the activity.

Sandell suggests that these different approaches to nature and the landscape are important for understanding how human lifestyles are adapted to the environment. Using Sandell's framework, the artificial facilities, in focus in this chapter, can be seen as an example of the active domination style. Sandell's work suggests that it is unlikely that the active domination style will lead to care for the environment. Our ambition in this chapter is to elaborate on the unintentional environmental consequences that derive from artificial sports facilities. As of yet, there is a lack of knowledge of the potential social benefits that might come from artificial sports facilities, such as improved health, greater participation levels, and decreased travel costs.

### **How is the logic of sport compatible with the logic of perceiving nature?**

A basic assumption within pedagogy is that humans acquire certain behaviours, habits, and lifestyles if they are found to be meaningful. With physical activity, for example, the reason a person might carry out this practice might be to compete, to get fit, to practice a skill, to play, conquer challenges, or experience nature. This is what Engström et al. (2018) refer to as *the logics of the movement culture*. According to Engström, when people move it can be because they, consciously or not, find one or several of these logics meaningful. The process of acquiring a logic is often the embodiment of childhood experiences. When sporting leaders and coaches encourage their adepts, for example, to “just go out there and enjoy yourselves” they can only to a certain extent influence the logics they hope will characterise an activity. Even though the logics of the movement culture are individually created, Engström argue they can be studied on a group level, and that people who find certain practices to be meaningful often gather in the same contexts, such as, in competitive sport (Engström et al., 2018).

In what way can ideas about the logics of the movement culture be relevant for understanding and explaining the relationship between sports facilities and environmental sustainability? According to Sandell, the landscapes with which we engage can either limit or enable our attention towards, and awareness of, the natural world that surrounds us. This attention and awareness can in turn

influence our execution (or not) of environmentally sustainable actions (Sandell, 2011, 2016; Sandell & Öhman, 2013). With Engström's and Sandell's ideas in mind, it is in the meeting between what individuals find meaningful and the environments for sport and movement (sometimes in the form of facilities) in which they engage, that we can find the potential for sport to contribute to wider questions about environmental sustainability. Recently, Backman and Svensson (2022) found that artificial sports facilities are adjusted so that they fulfil the criteria of standardisation, control, and the minimisation of risk within competitive sport. Furthermore, they emphasise that this adjustable design attracts some people more than others, usually those who find the logic of competition meaningful. The meeting between dominant movement logics of performance and competition, on either an individual or group level, and an artificial sports facility cannot be expected to result in either a thoughtful or a caring approach to nature.

### **Contextual sport – A radical proposal against artificial sport facilities?**

There has been a discussion in recent times about the extent to which it is reasonable that all people should have access to all kinds of sports independent of location, climate, or context. Millington and Wilson (2016) introduced the concept of *contextual golf*, which means that in order for golf to be environmentally sustainable, it might be necessary to construct golf courses only in locations where their negative environmental impact can be minimised. For example, one crucial factor in the construction of golf courses is access to water, suggesting that for golf courses to be environmentally sustainable, they perhaps ought not to be built in desert areas, where water is scarce. Given the discussion about the environmental sustainability of artificial sports facilities, this idea of contextual golf could be expanded to *contextual sport*. Environmental considerations would then trump the drive for predictable, controllable, and optimised sporting conditions. If sport is to be contextual, indoor facilities for cross-country skiing and downhill skiing cannot easily be justified and the construction of golf courses or canoe slalom courses without access to natural water becomes highly problematic. To some extent, *contextual sport* implies a return to historical sporting conditions, when many sports emerged in response to local, regional, and national geographic conditions. Skiing became popular where there was snow, surfing where there were waves, and climbing where there were mountains. A less romantic, but perhaps more accommodationist interpretation of *contextual sport* would be to conduct sports only in places where not too much harm can be done to the environment. The question following this framing of *contextual sport* is how to define *too much harm* with regard to the construction of artificial sport facilities. The idea of *context-dependent sports*, sports which aim for an equitable balance between the respective demands of competition and environment could then be closely linked to the United Nations Sustainable Development Goals, thus activating a relationship between sports facilities and training landscapes on the one hand and the environment on the other.

## **Research on environmental sustainability and sport facilities**

There is no doubt that the construction of sports facilities comes with environmental stress. International research has pointed out that negative environmental impacts in the form of pollution, water consumption, electricity usage, and waste management are difficult to avoid and that it is of the utmost importance that ecological considerations are taken into account in facility planning and construction processes (Grant, 2014; McLeod & Holden, 2017). We will now turn to the case of football, which will be analysed from various perspectives in relation to its environmental impact.

### ***Technical and material aspects***

Studies that consider the whole life cycle of artificial turf used in football fields have shown that third-generation artificial turf technology may use more energy resources and emit more GHG emissions in comparison to a similar-sized field with natural grass. Given artificial turf's higher utilisation rates, per activity time it may in fact have the opposite results, especially in cold climates. (Cheng et al., 2014; Itten et al., 2021). The environmental effects of artificial turf can vary considerably depending on technology, location, and level of maintenance.

Most of the current third-generation artificial turf systems in use today are made of fossil-based plastics. These are divided into three primary components: backing, infill, and grass. The carpet backing is made of a blend of polypropylene, polyamide 6, polyolefins, and/or polyurethane. The most common infill materials are made from styrene butadiene rubber (SBR), ethylene propylene diene monomer (EPDM) and thermoplastic elastomer (TPE). Bio-based materials are also used, but only in limited amounts. Plastic infills are usually placed on top of a sand infill layer. The purpose of the sand is to weigh down the carpet and keep the pile vertically oriented. The artificial grass fibres are made of polyethylene (PE) or polyethylene (PE)/polypropylene (PP) which is intended to provide a feeling of natural grass. In total, a full-sized 11 vs. 11 football fields with third-generation artificial turf may include more than 100 tonnes of fossil-based plastics (Bø et al., 2020).

Maintaining artificial turf for sports activity can be an intensive task involving personnel time and the use of special machinery. First, the whole artificial turf surface needs to be replaced every ten years or every five years, if used for professional football. The infill needs to be regularly replenished because of compaction and loss. Artificial turf also requires the extensive use of surface brushing machinery to ensure uniformity of the infill, prevent its compaction, remove debris, and replenish it when necessary. Removal of the moss, algae, and weeds which can often grow on the surface may also require the use of chemicals. Artificial turf requires irrigation. During a single match, as much as 21 m<sup>3</sup> of fresh water is needed to reduce the turf's surface friction, improve play quality, and reduce the

risk of burn injuries by keeping the turf at an acceptable temperature. Still, the use of freshwater may be lower in comparison to natural grass pitches, especially in warm climates.

In cold climates like Sweden, extending the playing season of artificial turf fields into the winter months can add additional maintenance work due to snow-fall. Removing the thousands of cubic metres of snow required to maintain artificial fields after the winter months involves the significant use of machinery. Snow removal is also considered the main cause of the spreading of microplastic (Anderson et al., 2016; Bø et al., 2020). Some football fields are equipped with under-soil heating so the surface is kept frost-free. Such technology reduces the amount of snow to be removed, but at the cost of energy use. Such a field can use heat energy in the range of a few GWh annually. The production process of such an amount of energy contributes to hundreds of tonnes of CO<sub>2</sub>e that are emitted as GHG into the atmosphere (Danielski, 2021). An additional cause for the spreading of microplastic to nature is the players themselves because the infill materials attach to their clothes and shoes and carry them out from the field. The maintenance work involved and the use of materials both contribute to the negative environmental impacts over the life span of an artificial turf field, as discussed above.

When comparing the environmental impact that the spread of artificial turfs during the last decades (see [Figure 4.1](#)) can have to a relatively new phenomenon, like the construction of artificial water rapids for canoe slalom, it is possible to see that artificial facilities for outdoor sports are to a large extent historically and culturally dependent phenomena. Today, artificial turf is almost considered the “new normal”, something that is not yet the case for artificial water rapids. Although artificial turfs have a considerable environmental impact, they are seldom problematised as an example of an *active domination style* (Sandell, 2016; Sandell & Öhman, 2013), nor is there much discussion around whether or not these environmental consequences are a price for playing sports that is too high to pay (Millington & Wilson, 2016). While a football pitch has a long tradition of being understood as artificial, in the sense that it has long been a constructed and delimited space, the shift from non-standardised natural grass fields to highly standardised arenas with artificial turf has shifted the environmental impact of playing the game, as well as the game itself (H. Andersson et al., 2008).

### **The work in sport federations**

Even though environmental work in relation to sport facilities is an area under development, there are several good examples that can already be highlighted. The National Hockey League (NHL) regularly publishes a sustainability report in which the measurable results of rink energy and water consumption, as well as the League’s management of waste, are presented (NHL, 2018). The German football league Bundesliga is currently working on a sustainability index where club

carbon dioxide emissions during matchdays are listed and compared (Bundesliga, 2021). In Sweden, several sport federations are working with environmental sustainability. For many, this has been limited to a general policy description of their environmental commitments, but some federations have gone a step further and have described their actions in a more concrete manner, partly in relation to their facilities.

For example, the Swedish Football Association supports football clubs who want to make their turf environmentally secure by helping them to implement the design guidelines for reducing the spread of microplastics, such as those provided by the European Committee for Standardization (SIST-TP CEN, 2020). The guidelines include recommendations for field design, snow storage compounds, the cleaning of maintenance machinery, and the use of brushing stations for clothes and shoes, among others. In addition, they offer financial support to clubs that would like to make their facilities more energy efficient (Svensk Fotboll, 2021). Two other sports federations that have taken steps to measure their energy and water consumption and waste management levels are the Swedish Ski Federation and the Swedish Automobile Sports Federation (Svensk Bilsport, 2019; Svenska Skidförbundet, 2021).

### ***The work in clubs, networks and communities***

There are both top-down and bottom-up approaches currently underway that seek to promote sustainability within contemporary sport. Initiatives to build better facilities, coordinate, and collaborate on change efforts can be seen across Europe and in Sweden. For example, in football, a *top-down approach* through guidelines and regulations have been used to govern clubs and organisations to include environmental sustainability into their work.

In Sweden, a unique network was established in 2017 to collaborate on reducing the environmental and health impact of artificial turf and similar surfaces, with a focus on the problem of emissions and the spread of microplastics. Financed by the Swedish Environmental Protection Agency (Naturvårdsverket) and bringing together representatives from 30 different municipalities, real estate companies, sport facilities, football associations, and local clubs, the network conducts various types of feasibility studies, investigations, and tests to increase knowledge about the environmental impact of artificial turf and how it can be minimised (Beställargruppen för Konstgräs, n.d.).

The Green Sports Alliance is an international trade organisation that seeks to raise awareness of environmental issues in sports and to encourage stakeholders to promote healthy and sustainable sports communities. They are dedicated to creating meaningful change towards a more sustainable future. The alliance has members in both industries and across a range of sporting bodies, such as academies, leagues, clubs, and stadiums. Together with other stakeholders, the Alliance encourages collaboration as a way of promoting behavioural change and raising awareness of what is environmentally possible in sports.



Enhancing sustainable development in sports organisations can also follow a *bottom-up approach*, where the focus is on sports clubs themselves to work actively with environmental issues. According to Robertson et al. (2019), the primary goal of a sports club is to deliver a sporting experience that provides opportunities for people to practice sports and maximise participation while remaining financially viable.

The new carbon-neutral football stadium recently constructed by the German FC Freiburg has been put forward as an example of how football clubs and communities can collaborate around the building of an environmentally sustainable sport facility. Part of the recipe for its success has been described as its consideration of human needs combined with its sensitivity to nature, the surrounding patterns of bird and animal movements and its effect on local air quality and sound levels. The aim has been to achieve the label *stadium sustainable*, a concept that demands that the ecological, social, and economic interests of all affected species (human and non-human) must be reconciled in a sporting arena's construction process (Bunds et al., 2019).

In Sweden, all major football clubs accept that promoting integration and inclusiveness are part of their social responsibility and they work actively to provide clear information about their efforts in this direction on their websites. As many as one in ten Swedes is a member of a football club, that in turn have membership in the Swedish Football Association. As the national coordinating body for football in Sweden, the Swedish FA is a powerful force with a large audience it could impact with a positive environmental message. However, environmental responsibility is not mentioned on any of these clubs' websites. A recent study showed that none currently have an environmental coordinator or any environmental programs or goals and player knowledge about the environmental effects of football facilities seems to be low (Danielski, 2021). In another Swedish study that aimed to identify what individual athletes in cross-country skiing and canoe slalom perceive as meaningful logics when practicing sports in artificial landscapes, Backman and Svensson (2022) found that sport practitioners who train in artificial landscapes demonstrate the dominant logic of performance at the expense of alternative logics, such as nature experience or environmental sustainability.

Existing research makes it possible to draw some conclusions about what is experienced as meaningful within sporting organisations, clubs, and communities, particularly with regard to their interactions with sports facilities. The research appears to show that if the logics of preserving environmental resources and experiencing natural surroundings are to be experienced as meaningful (Engström et al., 2018) and are expected to play a decisive role for decision-makers as well as for practitioners, *top-down* regulations and changes will not always be the most effective approach. Instead, we argue that *bottom-up* initiatives, that build on the idea that people will start to make the environment a priority if they find it meaningful, will likely be a much more powerful force for change.

### ***The effects of the Covid-19 pandemic***

Recently, a few studies have been conducted in Sweden that have focused on how sport and outdoor areas were affected during the Covid-19 pandemic. Skriver Hansen et al. (2021) have shown that many Swedes took on new outdoor habits during the Covid-19 pandemic and that nature was experienced as a safe place to be. However, these new outdoor habits came with a price. Increased visitor numbers at popular outdoor areas and national parks increased the human impact on them. Outdoor areas that were already popular became even more so while more experienced outdoor practitioners moved into less frequently visited areas. In another study, Armbrrecht et al. (2021) discovered that during the pandemic, sport clubs prioritised economic sustainability before all else. Environmental sustainability was last on their list of priorities, falling below their concerns for social sustainability. This study also showed that one potential positive outcome following on from the Covid-19 pandemic could be that the sports movement will reduce the quantity of travel and use their facilities in more effective and climate-friendly ways in the future.

### **Is there an environmental potential in artificial sport facilities?**

The overall picture that emerges from the combination of Sandell's eco-strategic framework, Engström's meaning-making logics, and Millington and Wilson's concept of the ecological relevance of the geographic locations of different sports, is that there is a viable theoretical critique of the environmental impact of artificial sports facilities. The critique lies partly in the construction of the facilities themselves and partly in the meanings these facilities create for the people who use them.

The critique against artificial sports facilities can be viewed from both a commercial and a socio-economic perspective. For example, Salome et al. (2013) have shown that cost savings and improving market image and reputation could be prominent drivers for the "greening" of the companies responsible for artificial sports settings. The political perspective is yet another important angle. Is it possible that political pressure might come to bear in the building (or not) of these facilities? For example, the widespread popularity of football gives football culture a strong political voice in society. Their demands relating to football facilities can carry great weight in local politics. One common demand by football clubs is the construction of additional artificial turf fields that can be played on even during the winter season when natural grass pitches are not usable. Municipal decision-makers often find themselves trapped between cultural and environmental politics, or as Danielski (2021) describes them, "pawns in the political game". Further research needs to be conducted to determine who benefits from these facilities and in whose interest they are built. This becomes especially pertinent when socio-economic arguments are included and when the money and attention that specialised artificial sports landscapes and facilities require are compared to

other areas where training and physical activity can be conducted. The pandemic highlighted how the use of specific sport facilities can change quickly, and not always in the most predictable ways (Book et al., 2022).

One perspective that has not been present in the discussion so far or in the research conducted to date is the potential positive consequences that might follow on from artificial sports facilities. Despite the lack of research, there is reason to assume that the increasing accessibility that artificial sports facilities provide might be the health benefits they offer for a greater range of individuals. Sandell (2007) also suggests that an artificial sports facility has the potential to be exiting and attractive, not least for young people. Perhaps new groups can be targeted? Perhaps activities in artificial sports facilities can encourage an interest in practicing sports in outdoor environments? It is still not yet established how many of the people who use artificial sports facilities would seek other options if the artificial facilities were not available or what a lack of facilities might mean for the extent of sport-related travelling. Perhaps it is possible to be uninterested in nature and still desire your sport to be environmentally sustainable? A problematisation of Sandell's (2016) and Sandell and Öhman's (2013) thesis that an active domination style is built into artificial sports facilities would be to raise the question of whether or not it is better for the environment to have a few large outdoor sport centres where many people can gather compared to many smaller outdoor centres with fewer visitors. These are just some of the issues that would need further investigation before well informed and ecologically justified decisions could be made about the construction of any future sports facilities. From what we know today, the active domination style as well as the ambition in sport to design all facilities according to certain prescriptive standards needs to be challenged. Future sports facilities, both artificial and authentic, will need to stimulate more logics than competition and physical achievement if sport and outdoor recreation is to be environmentally sustainable. The process of sportification, which has prioritised the growth of sport economies and encouraged ever higher performance levels, would need to shift its focus to incorporate environmental concerns. This would imply a development of the concept of *contextual sport*, in which sport must learn to exist in harmony with the political priorities and environmental context in which we find ourselves today. Sports are no longer context-dependent on only a local or regional scale. They are also part of a global society in which environmental questions can no longer be disregarded.

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# Environmental Sustainability in a Fast-Emerging Sport

## The Sportification of Padel

*Johan Carlsson*

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### Introduction

This chapter uses the development of padel in Sweden as an illustrative case to discuss the conditions of a fast-emerging sport and some of its consequences in relation to sportification and environmental sustainability.

The sport padel, often described as a combination between tennis and squash, has rapidly become popular in Sweden and has exceeded both tennis and ice hockey in number of indoor facilities (Schüllerqvist, 2021). Never has Sweden seen a sport emerge and increase in popularity in such a short period of time – more than doubling the courts for six years in a row, from only 40 courts in 2015 to 3,500 in 2021 (Elitepadel, 2022). In comparison, during the Swedish tennis boom of the 1960s, it took ten years to go from 450 clubs to 900 (Wijk, 2010). This was considered fast at the time, but it is slow in comparison to padel today. Far from being only a Swedish success story, padel has grown rapidly in several countries – for example, Italy, with a fivefold increase in number of courts during the COVID-19 pandemic (Jones & Tondo, 2022).

Sportification incorporates both classic and new elements of a development perspective to a modern sport, making it a suitable tool to frame a fast-emerging sport such as padel. Sportification invariably influences many sports and sport activities – regardless of origin or geographic place – and comes with environmental consequences (Svensson et al., 2020). Padel is one example of how a new sport sportifies, challenges existing organisational and physical infrastructures, and creates new ones (Demi & Aarden, 2022). Another example of this in Sweden is e-sport, which is also becoming more organised and systematic. However, unlike the more (post)modern e-sport, padel is a traditional (racket)sport and may potentially clash with tennis and the Swedish sport system. Therefore, it is important to understand the obstacles, as well as the potential, padel has in relation to environmental sustainability.

Using padel in Sweden as an example, this chapter aims to discuss environmental sustainability processes and challenges related to different aspects of sportification such as institutionalisation, eventification, and commercialisation. It investigates where, when, and how sportification can be a fruitful perspective to

understand these challenges. It also explores how the lack of sportification can hinder or enable solving such challenges. Lastly, it examines how an internal sport-development process such as sportification interplays with external societal driving forces, especially commercialisation.

### **Reasons for studying padel in Sweden**

Why is this racket sport – still unknown in parts of the world – relevant to study, and why in Sweden? First, the rapid increase of padel courts and interest for the sport is a reason for looking further into padel. Moreover, as an extreme or unique case (Yin, 2003), padel can deepen our understanding of sportification processes when its specific development is compared with other traditional popular sports, such as tennis or soccer, that have also undergone sportification processes. Although the development of padel in Sweden cannot perhaps be generalised in relation to other sports, discussions can be transferable or can highlight general relations between sports, society, and both contemporary and future environmental challenges.

Second, and linked to the fast arrival of padel, the birth of padel in Sweden – in 2010 – coincides relatively well with the increasing environmental sustainability demands on sport in light of climate changes and global warming. Sport, as any other part of society, is nowadays expected to be environmentally responsible, although the results hitherto have not been impressive, neither globally (Wilson & Millington, 2020) nor specifically in Sweden (Book & Carlsson, 2011). However, a recent report shows that environmental policies and checklists are currently being initiated among Swedish sport associations (Larneby et al., 2022). Many sport federations claim they find this work important despite it not having a clear place on the agenda and, therefore, not being considered a natural part of their work.

Third, Sweden as a case study is logical because it is one of the countries with the most padel players and courts per capita. Accordingly, Sweden stands out even if a similar development takes place in other countries in Europe. Although the Swedish sport system shares common features with how sport is organised in other European countries, the way padel has been organised has made the padel boom in Sweden different to many other sports. In fact, in the Swedish sport model, sport is traditionally governed and administered by the non-profit sector, even if it is financially funded by the public sector. The model consists of associations on three different levels: a national level (The Swedish Sports Confederation, SSC [in Swedish *Riksidrottsförbundet*, RF], and sport federations); a regional level (regional and district sports federations); and a local level (sport clubs). Most sports, for example, soccer and tennis, are organised in this way. Padel does not follow this model; instead, the driving force is corporations that have built facilities and courts. This can partly explain the rapid increase. Without entrepreneurs from the corporate sector, it would have been highly unlikely for a padel boom to take place as neither local tennis clubs nor other non-profit organisations and



public actors would have been able to facilitate it. This circumstance – that most padel organisers are not bound by the traditional Swedish sport model – can also have implications on environment issues. Namely, the lack of traditions and the existence of economic incentives in corporate padel centres are conditions that may work both for and against environmental sustainability.

### ***Sportification and environmental sustainability***

One way to understand the characteristics of the development of a sport is the term *sportification*. Although not using the term himself, Guttman (2004) describes seven steps of how a sport develops from a traditional game to a modern sport: secularism, equality of opportunity, specialisation, rationalisation, bureaucratisation, quantification, and pursuit of records. Other processes have been added to understand more recent developments of sport, such as medialisation and technologisation (Pargman & Svensson, 2019). For a detailed view on sportification, see the introduction chapter of this book and Svensson et al. (2020).

The sportification of padel has impacts on environmental sustainability challenges. In this chapter, “environmental challenges” refer to a wide spectrum of impacts on nature. Further, “sustainability” is addressed with a focus on environmental rather than economic or social aspects. Economic and social aspects are discussed briefly but not as a part of overall sustainability. Establishing a delimitation, this chapter will not discuss the whole concept of sustainability. Lastly, sustainability has an implicit future aspect; namely, what is viewed as sustainable today might be unsustainable tomorrow, and this chapter uses historical and contemporary sources in order to also look into future challenges.

### ***Disposition, scientific approach, and sources***

This chapter contains five different sections. The introduction is followed by a short global historical background to padel, followed by examples from the Swedish contemporary case. The third section focuses on the corporate sector and padel centres, and the fourth on the material used in equipment and facilities. In the last section, an overall conclusion is presented.

The sections can be read separately; however, they are intentionally placed in a certain order to create and build up contexts for each other. United, these sections can also be understood as a “story of padel”, where links can sometimes be visible between places, actors (organisations and players), and time. This story, or chapter, references written documents (mostly by sport actors, in both the non-profit and corporate sector) that have a relevance to sportification, that is, looking backward, and environmental sustainability, that is, looking forward. Contextualising the documents in time and space is crucial to avoid seeing them in a too narrow perspective (Fairclough, 2003). Inevitably, width is consciously favoured at the expense of depth – in order to cover several aspects of sportification and different environmental concerns and to extract discussions between them.

Methodically, the documents were chosen to highlight different perspectives and to promote discussion. The documents not only include reports, news articles, and web pages (including social media) about padel specifically, but they also include sources such as statues from the Swedish Sports Confederation that are relevant for the aim of the chapter. In addition, academic literature is used to deepen the discussion. Since there is a knowledge gap of research that is focused on padel, especially that linked to environmental sustainability, student-based theses are also included. This broad spectrum of documents is used to avoid a one-sided perspective. Furthermore, it is important to critically view the documents' senders and their purpose (see Fairclough, 2003), especially when the texts come from padel organisers, who have self-interest in what information they present. Therefore, some sources are reviewed in the chapter when they are introduced.

### **Sportification of padel – Point of departure**

This section briefly describes the sportification of padel from a historical perspective, both on a global level and on a Swedish level. The latter provides a background for the Swedish case which is the focus of this chapter. The environmental aspects are emphasised throughout but especially in relation to the Swedish Padel Association's effort to gain membership in the Swedish Sport Confederation. In addition, a micro-eventification is also identified as a sportification aspect that has environmental implications.

### ***Global and local historical background and context***

Different processes of sportification such as specialisation, standardisation, and institutionalisation came to characterise padel not long after its birth. The first padel court was built 1962 in Mexico by the businessman Enrique Corcuera – the “inventor” of padel – in his own backyard (International Padel Federation [IPF], 2017). According to Corcuera himself, he wanted to give his friends something simple and joyful to play. His wife Viviana wrote the rulebook, and a new sport was born. Corcuera's friend Prince Alfonso de Hohenlohe brought the sport to Spain a few years later and started to organise tournaments.

Padel began to be sportified already in the 1970s, moving from a recreational, backyard, or holiday game to a modern sport. When the sport arrived in Argentina, different rules and court features in Spain and Argentina became an issue for padel organisers (IPF, 2017), creating a need for both standardisation and institutionalisation. Thus, the International Padel Federation was born in 1991, arranging the first world championship the year after. By 1997, the rules of padel were unified and court regulations were modified; for example, all courts must have the same fence height. Nonetheless, the standardisation processes in 1997 did not include choice of court material: “Materials were left at own discretion” (IPF, 2017, p. 6). In Spain, padel was played on synthetic turf, while Argentinian courts had a plain concrete surface, which made the ball move faster and accelerated

the game (IPF, 2017). The diversity in surfaces at the time included even parquet, tiles, and clay.

Further, the sport went through a process of technologisation of the material, which can be seen in its rackets, for example. The first rackets, called “bats”, were wooden paddles. Different materials such as plywood, aluminium, rubber paint, resin, and fibreglass have been used for the rackets to improve the game (IPF, 2017). Today, a padel racket consists of different types of material as a result of technical development. Regarding the balls, tennis balls were used in the beginning, but special padel balls have been used for the past 20 years. Material and equipment in padel today are discussed in-depth in the fourth section of this chapter.

From a specialisation perspective, the overall relation between tennis and padel is interesting not just in terms of balls and equipment. Historically, padel has often been played close to tennis courts. During the 1980s, San Juan Tennis Club in Buenos Aires built two padel courts alongside their tennis courts “that became a landmark of Argentinian padel” (IPF, 2017, p. 4). Despite the foundation of separate and distinct national padel federations – starting in 1988 – padel has remained built, organised, and administrated close to tennis in several countries. For instance, in the Netherlands, the tennis and padel federations are merged, and a large part of the growing physical infrastructure of padel, starting in 2010, was located at non-profit tennis clubs rather than corporate venues (Hoeijmakers & Romijn, 2018). Nonetheless, there has been an increase in commercial padel courts in the Netherlands over the past few years. In Norway, the situation is partly the same as in the Netherlands in terms of institutionalisation: padel was integrated to the Norwegian Tennis Federation in 2015. In contrast to the Netherlands, Norway has a large number of corporate courts (similar to Sweden).

We gain much from this short description of the historical sportification of padel – a development that is mostly built upon a narrative shaped by the IPF, perhaps aiming to portray a positive development of their sport. In brief, the global emergence of padel has clear elements of sportification connected to standardisation and technologisation in material and equipment, to institutionalisation through organisations, and to specialisation in relation to tennis. There are environmental implications for many (if not all) of the sportification processes of padel. Above all, specialisation and the relation between tennis and padel ought to be considered from an organisational point of view – not least seeing that the organisational structure can be crucial to understanding preconditions for environmental actions.

Prior to the official organisation of padel in Sweden, and similar to Mexico and Spain, Swedish padel started to develop alongside tennis. In Båstad, a village in the southwest that is most famous for hosting an annual professional tennis tournament, two of the first padel courts in the nation were built in 2008 and 2010. The latter, located at a main street, functioned during the summer as a “display window”, so to speak, in that it presented the “new” sport to tennis enthusiasts and other holiday visitors that crowded the village (Håkansson, 2021). The sport

then spread to different parts of Sweden as tennis clubs, private enthusiasts, and the first corporate entrepreneurs invested time and money to build courts.

Today, padel in Sweden is mainly a market-driven industry with small facilities (local companies operating only one or a few padel centres), alongside larger facilities (larger businesses owning many centres). Padel courts are mostly provided by the corporate sector, but a few are run by non-profit tennis or padel clubs. Some of the padel clubs are members in the Swedish Padel Association, which will be discussed below.

### ***Institutionalisation, SSC membership, and environmental concerns***

The institutionalisation of padel in Sweden started early in relation to the number of courts in 2010. The Swedish Padel Association (SPA) was founded in 2010, and by 2021, it had 120 clubs with 24,000 members and 2,100 licensed players (Svenska padelförbundet, 2021). However, these numbers do not represent the whole picture because most padel players are not members in a padel club in the non-profit sector. According to the SPA, less than 5 per cent of the total number of players (540,000) that played padel 2021 were members in padel clubs. This tells us that padel in Sweden is mainly a commercially organised sport and indicates, on the one hand, that the SPA so far is a subordinated actor compared to the corporate actors.

In 2021, the SPA finally became a member of the Swedish Sports Confederation (SSC), the sport movement's common umbrella organisation. For organised sport in Sweden, membership in the SSC is important for many sport federations because it means both recognition and access to various forms of public grants. The SPA had applied twice before but was denied membership in the SSC on the grounds that padel as a sport showed too many similarities to tennis. However, in 2021, the SSC stated that padel had developed into a sport that can no longer be considered closely related to the Swedish Tennis Association's sports activities. The membership is crucial for SPA, not only to strengthen economic resources but also to gain access to knowledge and competence from the SSC (Andersson, 2021).

The SSC has many criteria for membership, but none of them concern sustainability (RF, 2020). Besides specialisation – namely the requirement of constituting a unique sport – there are three criteria that must be fulfilled to gain membership in the SSC. One of them is especially interesting from an environmental perspective: the association's activities must be in line with the business idea, vision, and values decided by the SSC (RF, 2020, p. 22). In the SSC's six-page "Policy for a sustainable Swedish sport movement" (RF, 2022), there are visions and values related to environmental issues, but environmental responsibility is not addressed as an important criterion in the membership process. This is not surprising since the Swedish sport movement historically has focused directly on organising sport and only indirectly, as a by-product, on social sustainability (to include as many

people as possible, based on the principle that sport clubs should be open for everyone). One argument for not emphasising environmental sustainability in the membership process could be that knowledge and competence can be shared by the SSC at a later stage, after the membership is approved. In summary, today there are no requirements from the SSC on new members regarding environmental sustainability, apart from the fact that they are expected to follow the organisation's common value base. Consequently, steering sport organisations towards environmental sustainability is weak.

Similarly, the SPA's ambition to govern their clubs towards environmental sustainability is also inadequate. On their webpage, the SPA states the value of social sustainability, but no environmental policies are visible (Svenska padelförbundet, 2022). Without neglecting the importance of social issues, an increasing number of other Swedish sport federations are now able to focus on environmental sustainability (Larneby et al., 2022), and some also communicate its importance externally.

From institutionalisation of padel, we now head to a recent step of the sportification process: eventification.

### ***Micro-eventification and Americano***

Eventification can be seen as a trend both in society in general and in sport. Therefore, it can be considered another aspect of sportification. Eventification, characterised by its focus on excitement and entertainment, has challenged the one-sided focus on results and records in traditional competitions (Carlsson et al., 2022), for example, by adding new formats to competition.

A certain kind of eventification, in a local micro-format, can be found in Swedish padel. Sport events in general are usually associated with major competitions, often with an audience, but as padel in Sweden has grown, and with it the number of players and courts, padel centres and non-profit clubs now offer local micro-events with minor competitions. Some padel players may only informally compete with their friends, colleagues, or family members, but for those who are interested in playing tournaments, an increasing number of opportunities exists. Thus, padel events are different to how competitions are organised in Swedish tennis, where there is a traditional system with mostly regional and national competitions and fewer local ones. In general, tennis tournaments are dominated by youth categories and fewer adults participate. However, in padel, the situation is more complex. SPA-sanctioned contests do exist, but mainly for elite and advanced players and with a traditional ranking system to divide players into different tournament categories. However, most padel players in Sweden are adult recreational players (Ekvall & Karlén, 2021), and if they want to start to play tournaments, they can participate in minor, local competitions.

For example, one common form of padel competition is *Americano*, an event where all players are lotted into different teams for every match and get to face each other during the event, instead of playing with the same partner all the time.

In such events, players do not leave the tournament after one lost match, as in a traditional tennis or padel tournament. The overall winner is the player who wins most points in all matches together. For players, the results are still important in an Americano event, but they are trumped by the joy and excitement of playing with new partners. Moreover, the level of play that is reached in the constantly renewed teams is not optimised, compared to when players that know each other well form a team and compete in a traditional tournament. In summary, this type of event challenges the typical drive to make a sport reach as high a level as possible.

In contrast to tennis, padel has different classification systems for player levels. The most common system, provided by MATCHi (Elitepadel, 2021), contains ten levels: from players who struggle with getting the ball into the court (level 1) to players who compete in national or international tournaments (level 10). The players use this categorisation in digital applications to find other players on a similar level, to team up with or play against. According to Demi and Aarden (2022), players are not very accurate in their self-categorisation on this scale, so the use of such categorisation by tournament organisers might be problematic because the categorisation is not built upon actual results as in a traditional ranking. On the other hand, in Americano events, all players play with all players, regardless of their ranking or classification. Accordingly, an Americano micro-event can also be interpreted as a form of resistance to sportification, as the ranking and classification of players (i.e. a form of standardisation) are less important.

What implications for environmental sustainability can this local micro-eventification have? In contrast to larger events, where people travel long distances, micro-events require less transportation since players compete in their own town or region and do not need to travel far to play matches. The widespread geographic padel infrastructure in Sweden also facilitates competing locally, and for some players, this will meet their need for competition. For others, local and non-traditional tournaments like Americano might be a gateway to climbing further up on the “competitive ladder” – to playing traditional regional, national, or even international tournaments. This will then lead to more transportation as these players improve and want to test and raise their playing level.

Transportation is a crucial element in environmental sustainability. However, the overall character of the event is important to consider, not just in terms of players’ transportation but also what kind of food and drink is served at the event, what kind of balls are used, and how waste is taken care of by the organiser. This leads us into the next section, the most common place where padel is played: a commercial padel centre. Why, how, and when do they relate to environmental challenges?

### **Padel centres – Commercialisation, speed, and sustainability**

This section focuses on the commercialisation of padel and indoor courts in corporate padel centres – one of the main driving forces behind the Swedish padel boom. The relation between commercialisation and sportification is discussed

with regards to speed and sustainability. Finally, three examples of environmental efforts in padel centres are presented.

### **Overview of physical infrastructure**

A majority of the approximately 3,500 courts in Sweden are corporately owned and can be found in indoor padel centres, which may have one or several courts (Svenska padelförbundet, 2021). There are 700 padel centres; the majority of them are newly built facilities, but some have repurposed existing industrial buildings. A padel centre consists of courts, dressing rooms, often a seating area, and sometimes a shop or a cafeteria. They are, in general, relatively spartan buildings without stands for spectators; hence, they do not function like stadiums, and their purpose is often only to host everyday games and local micro-events, as mentioned in the previous section.

These facilities do not have to comply to any standardised demands from the Swedish Padel Association, apart from court-related standards when they want to host a sanctioned contest. In contrast, in a “stadium sport” such as soccer, Swedish clubs have to meet demands from both the Swedish Football Association and FIFA, which sometimes causes conflicts with municipalities since many stadiums are publicly owned (Alm, 2017). Nonetheless, padel centres are most often privately owned, and owners are free to design their facilities as long as they have building permits and follow general construction laws from the municipality. According to the Swedish environmental legislation in connection with physical planning, an environmental impact assessment must be conducted in all projects which can have an impact on the environment (Environmental Act, 1998).

### **The relationship between commercialisation and sportification**

The foundation for building and operating a corporate padel centre is principally financially motivated according to the logic of commercialisation – the search for profit. The commercialisation of sport can be viewed as a part of sportification (Pargman & Svensson, 2019). This is the case when commercialisation is used as a tool to develop a sport in terms of performance, for example, when a corporately owned soccer club uses a part of the profit from sales and sponsorships to strengthen the team and players by investing in human and technical resources. This is mainly relevant on an elite level.

However, the commercialisation of padel as a sport in Sweden works on a recreational basis, renting courts to players or non-profit clubs. The commercialisation and its profits may not directly develop the sport in terms of improving performance, but they do promote the development of a physical infrastructure – especially in regions where padel centres compete to attract players. Competitions and contests on equal terms are a central part of capitalism and of sportification, too, according to Guttmann (2004). Moreover, the fundamentals of going “faster”, aiming “higher”, and becoming “stronger” expressed in the Olympic motto – a

precondition for sportification – can also be said to be the logic in a market economy. Therefore, commercialisation and sportification have an intertwined relationship where the profit is sometimes used to develop sport but sport is also used to generate profits. In padel, the latter scenario is more likely to occur than the former based on the recreational play in padel centres, where elite performances are rare. However, in the long run, more (youthful) players can lead to better performances.

As stated, corporate padel centres have environmental implications, but in what ways? To understand these implications, we must first look at the motives of padel centre owners to minimise their negative environmental impact.

### ***Why should they care?***

As with any owner of sport facilities, owners of padel centres must consider their environmental impact; leastwise, they must comply with regulations and laws. This includes choice of location; material used in the construction of buildings; and everyday operations, for example, energy use and water consumption.

“Why should we care more about the environment”, the owners of a padel centre might ask themselves. Do they have a larger responsibility (than public or non-profit actors) because they are new or corporate actors? Arguably, a non-profit club with public subsidies ought to take a larger responsibility than corporate actors in terms of social sustainability (i.e. including as many people as possible). This is mainly because the municipalities provide non-profit clubs with public means to promote youth training. While non-profit clubs are occupied with social issues, corporate businesses ought to have a corresponding emphasis on environmental issues, if nothing else, to strengthen their brand as socially conscious companies, in line with the concept of CSR (corporate social responsibility). Thus, the motives regarding the question of responsibility among different actors are relevant but demand more room for reflection, beyond this chapter.

Despite not being among the worst environmental “sinners”, sport has an environmental impact in different ways. Can padel centres act as new potential role models in environmental issues, as McCullough and Kellison (2017) propose for sport organisations? We cannot demand – only hope – for more sustainability-oriented actions from new actors in sport. Although they cannot be forced to take extra care of the planet, new sport organisers can be encouraged. Financial motives play an important role here.

Sanderson and Shaikh (2017) state that there are several different reasons, in addition to purely altruistic motives, for why organisations work for environmental sustainability. The first is “direct return”, for example, upgrading an energy system can quickly yield a profit with lower energy consumption. “Indirect return or reward” concerns the PR, sponsors, and reputation that in the long run give a profit. A third reason concerns the regulation and laws that force an organisation to take a measure to avoid, for example, being punished with a fine, while a fourth is the other way around: the measure is positively rewarded by receiving



municipal or state support, for example, to build a new arena. The motives of indirect return and reward can be connected to being a role model (McCullough & Kellison, 2017) and show that there need not be any opposition between having economic motives and being in the forefront of working for increased sustainability: in this scenario, they can point in the same direction.

However, are commercial padel centres inclined to take the lead in environmental issues? The overall picture is difficult to grasp, but it does not look too bright. The two largest corporate actors in Sweden at present, Padel united and PDL, do not mention the environment on their websites. On the other hand, selling a service, such as leasing padel courts, is not necessarily benefitted by marketing green efforts. On the contrary, some efforts might be performed even though they are not marketed, for example, using low-energy lamps or offering recycling bins.

### ***Examples of environmental efforts***

There are a few examples of more substantial environmental efforts in some padel centres. Two of them are presented and discussed here. The first is Hede padel centre, located in Kungsbacka, not far from Gothenburg. Hede padel centre is certified with Miljöbyggnad's silver level based on three overall areas: energy, indoor climate, and choice of material (Castellum, 2021). Miljöbyggnad (green building) is one of a few widely used Swedish environmental certifying systems. Certification systems are used as a proof that buildings meet certain pre-set standards or rules from a sustainability and environmental perspective, and they provide certification when buildings go further than what is required by the law. The reasons to meet these standards can differ, but in the case of Hede padel centre, this certification is not visible on their website and not used as a selling argument to padel players. Information about the certification of Hede padel centre is only available on the website of the real estate company, Castellum (2021). On this site, one of the owners of the padel centre also says that they offer electric chargers for cars and fair trade products as more examples of sustainable work, which can have both direct and indirect return. Electric chargers, unlike energy and material, can be seen as having a direct consumer value, and fair trade products also appeal to the well-educated middle class that is often seen playing padel in Sweden (Ekvall & Karlén, 2021).

Another interesting example is found in Höllviken, in the tip of the southwest of Sweden. Built in 2018 with roof solar panels, heat pumps, and geo-energy, Padelcourt No. 9 has taken a step towards sustainability through energy independence (Sydsvenskan, 2021). By using geothermal energy, this padel centre lowered the costs of the climate operation of the facility – that is, cooling the temperature in summer and heating in winter. The initial investment was considerable according to the owners, but it paid off quickly because of the low operational costs. This can be seen as an example of direct return. In comparison to Hede, Padelcourt No. 9's energy information is not visible via the centre's own website

but through an advertisement for Skånska energi, the energy company that built the system. Therefore, neither the centre in Kungsbacka nor in Höllviken can be accused of displaying measures which can be regarded as greenwashing. The term “greenwashing” is used to describe when an organisation shows a minor sustainable effort to hide a larger unsustainable activity, a phenomenon discussed in relation to other sports (Miller, 2016).

How can we contextualise padel centres’ environmental efforts? McCullough et al. (2016) present a conceptual model for how the sport’s organisers approach the work for ecological sustainability. They describe it as a wave motion without an end and distinguish three waves. The first is about *awakening*, establishing education and simpler activities, such as recycling. In the second wave, the awakening becomes *knowledge* when the education is spread and activities become more advanced, such as environmental certification. The third wave involves the knowledge being translated into *strategy* and still working systematically, sophisticatedly, and proactively.

This model is extensive but mainly applicable for larger organisations. To categorise single padel centres according to the three waves is difficult by only looking into documents and web pages. Based on them, Hede padel centre seems to be in the second and third wave, and the Höllviken padel centre somewhere in the first and early second wave. The question is, have most centres even reached the first wave? More research is required to answer this question.

To conclude, there are some signs of technical, environmentally friendly initiatives among a few corporate padel centres. However, it is not plausible to consider them representative for the whole population of padel centres. Environmental sustainability efforts are not likely to be at the top of many corporate businesses’ agendas – unless they have a significant impact on profit, as Sanderson and Shaikh have stated (2017).

### **Speed, size, and sustainability**

As described in the introduction, speed characterises the development of padel in Sweden. When and how can high speed and environmental sustainability fit together? With the corporate sector’s ambition to optimise profit, a short-term perspective and environmental sustainability can be difficult to combine. Going through an environmental certification process or aiming for a sustainable energy system might have been not only costly in the short term but also too time-consuming for many padel centre owners. When you want to reach potential customers (padel players) as soon as possible, short-term financial logic necessitates building a padel centre in just a few months, as quickly and as simply as possible, so that no one else can get ahead on the market. Speed and short-term profit perspectives can therefore be a large hindrance for a greater environmental concern.

Another obstacle can be lack of capacity. Stevens (2017) argues that the process of environmental sustainability requires financial, structural, and strategic capacity. Capacity describes the opportunity (through knowledge and ability) for

people, institutions, and practitioner to build a sustainable business in the long term. Size, in terms of large enterprises, ought to be neither automatically a precondition nor an obstacle for sustainability. For example, Padel United, a company that owns more than 100 padel centres in Sweden, ought to have greater financial and human resources and capacity to invest in environmental sustainability than small businesses. On the other side, in a small and local company, the personal engagement with the community and environment can be crucial: “We have never been interested in having some courts in old, worn-out buildings and then making money for a couple of years”, says Edward Cornell, CEO for Järvsjö padel (PadelDirekt, 2022). Järvsjö padel is a company in northern Sweden that has built an all-wooden padel centre, with the ambition to stay in business for 50 or 100 years. Although this says less about the daily operation and environmental management as in Hede or Höllviken, it declares a long-term goal that might be lacking in the padel boom in Sweden.

However, there is an uncertainty regarding how long the interest in padel will remain. This is further discussed in the conclusion of this chapter. In the next section, we will take a closer look at the environmental aspects of material.

## **Materials matter – Performances, choices, and hopes**

As we saw in section two, the material used in courts and equipment has changed throughout the history of padel. The technologisation of material interacts with the sportification logic and commercialisation of padel and has important environmental sustainability implications. In addition, the players’ purchase of new equipment to improve their performance can be seen as a materialisation of wishes and hopes.

### ***The role of material in sustainability***

Environmental sustainability in padel is not limited to the construction of buildings and energy systems or the player’s transportation (dealt with in the previous sections). Material also matters; the amount of carbon dioxide emission from four people playing padel for one hour – when walls, artificial turf, and balls are included – is similar to the amount produced when driving 30 kilometres with an Audi A4 run by petrol (Ring & Wiklund, 2022). This is a simplified material flow analysis, forming part of an LCA (Life cycle analysis), based on several assumptions and results in numbers that might be uncertain. Nonetheless, it shows that material might be an equally important factor to the players’ transportation regarding carbon dioxide, assuming each player drives 4–5 kilometres back and forth to the padel court. In addition to courts and balls, rackets, clothes, shoes, and other equipment also contribute to emissions and are not included in the calculation, which strengthens the argument for the relevance of emphasising material in a sustainability discussion. The aim is to emphasise material that is directly linked to the sport – unlike material used for buildings. Some materials

have additional direct environmental effects besides carbon dioxide, for example, micro-plastic emissions from artificial turf (Fleming et al., 2016).

Importantly, when looking at the organisation of padel, material is highly relevant not only in numbers but also in relation to sportification. The logic of sport – higher, faster, and stronger – applies in padel as well, and technologies of sportification are important at the elite level (Svensson, 2016). The development of new material can be seen as one way to achieve better results. For a discussion of material in relation to sportification and environmental sustainability, see also the chapter by Isgren Karlsson and Backman in this book.

### ***The court – Walls and turf***

New materials for courts have been an essential part of the development of padel. The original concrete walls and variety of different surfaces (IPF, 2017) created a game where the bounce of the ball and movement of players were most likely in a wider spectrum than today, when padel is played mainly on standardised artificial turfs with walls of either toughened glass or plexiglass.

Plexiglass walls have made the game safer, slower, and therefore easier for players to perform well. However, these walls have positive and negative environmental implications. On the one hand, concrete is more durable than plexiglass; on the other hand, a padel court in concrete, once built, cannot be moved. In contrast, using plexiglass walls with a steel construction enables flexibility, allowing courts to be dismantled easily. From an environmental perspective, this presents the possibility to move and reuse a padel court in a different place instead of building a new one. For instance, if or when padel interest in one region decreases but increases in other regions, such courts can be moved to meet demand, generating a second-hand market.

Increasing the lifespan of materials is important in minimising environmental impact, as long as the material has no acute ongoing negative environmental effect, because it reduces the need to produce new material. Furthermore, when a material (such as the artificial turf's playing surface) is worn out, recycling is a better option than incineration (Nielsen et al., 2021). However, recycling streams are inadequate, so the turf from most soccer fields is commonly sent for incineration, which generates a lot of CO<sub>2</sub> emissions (ibid); the padel turf is assumed to be treated similarly.

In padel, there are different sorts of artificial turfs with different characteristics. In the World Padel Tour, a curly, more compact, and smooth plastic grass is used, which enables faster play. Recreational courts tend to use upright grass, which has a lower plastic content but a higher volume of sand infill. The type of grass that is best from an environmental perspective is contextual and depends on factors beyond the material itself (where, when, and how it is used and taken care of), but the connection to sportification is relevant for the choice of turf.

As also discussed in the chapter by Backman, Svensson, and Danielski in this book, soccer clubs tend to choose the type of turf that has the “best”

characteristics to play on, regardless of whether the purpose is professional or recreational (de Benardi & Waller, 2022). Suitability and environmental impact are factors of lower importance in the choice. If the choice of padel turf is made in a similar way, sportification does not only affect the elite level of the sport but also has a general effect on padel at a larger scale. Most likely, the choice of turf is also based on several other factors such as price, availability, and delivery time, but turf characteristics could be fundamental for a commercial padel centre that wants to attract many players. Therefore, they cannot be neglected.

### ***Repressurised balls and increased life span***

In the early era of padel, tennis balls were used before special padel balls were developed. This can be seen as a specialisation process where the padel game was refined. The differences between the tennis ball and padel ball are small but distinctive in terms of pressure and bounce, making the ball movement in padel slower than in tennis. Technologicalisation might have played a minor role when the padel ball was developed – since it is similar to a tennis ball – but it might now be more important in extending the life span for a padel ball. Different types of repressurisers can be used by players to regain pressure in used padel balls and, therefore, increase the total number of hours the balls can be used. Further, when a ball is considered unusable depends on the context; for instance, old, slow balls can potentially be usable for children or beginners.

Balls are contained in pressurised plastic cans of three or four balls. Unlike the balls – which consist of several different material – some plastic cans are recyclable. Head, a global manufacturer, produces tennis and padel balls in a can that can be re-used multiple times. The company also states that the “performance of the product is paramount ... if tennis players aren’t happy with the product (e.g. balls), they simply won’t accept it, regardless how sustainable it is” (Head, 2021). For many players, this may be true. A few decades ago, unpressurised, hard tennis balls were popular, but these long-lasting balls, which do not have the same feel or touch as pressurised balls, are rarely seen in shops nowadays. Some of the padel balls you can buy today are similar to the balls used on the professional World Tour. One reason for the overall dominance of pressurised balls might be that players at recreational levels are “pickier” these days and want to optimise their game in both performance and enjoyment. Consequently, they seek more knowledge, partly through social media, as we shall see in the next section.

### ***Rackets – Performances or materialised hopes?***

A padel racket can be worn out after a year or earlier, depending on care and level of use. Carbon fibre or glass fibre in an outer layer is combined with an inner layer of soft plastic or foam material. Different components make the racket, like the ball, difficult to recycle. Most harm for nature comes from the things we do not use, so it is important that they do not end up like the clothes at bottom of the

wardrobe. The commercialisation of padel equipment is extra evident when we look at the large number of rackets in different combinations of colours, forms, and material.

Padelfamiljen (The Padel Family) is the name of a Swedish Facebook group with almost 20,000 members, and some of their posts concern rackets. The exchange of knowledge and opinions among the group's members is related to how to improve your game and, in the jungle of rackets, find the one that fits you and your padel skills. Voices from the group express a need to try a lot of different models to be able to find the balance between speed and control, based on the individual playing style.

Certainly, to reach a higher level, the player might need to change the racket. At the highest level, every detail must be optimised and modified according to the sportification logic, but at a recreational level, the factors for becoming a better player are many (physique, technique, tactics etc.) and most likely more important than the choice of racket. However, consumer behaviour might be less rational and more connected to hopes and feelings with an attraction to new things. In addition, social media can increase players' desires by sharing reviews, desires, and thoughts of other players. Contradictory or critical voices that tell players that material does not make a substantial difference in making them better players are rare but exist: "Give me a frying pan and I'll beat you all", a man posted in a discussion on Facebook when he seemingly got frustrated at discussion about rackets and improvements of play (Bjurstedt, 2022). This quote effectively punctures something that I would call *materialised hopes* that players also buy when they buy a racket. Thus, the players' relations to their rackets and balls appears to be important for understanding consumer behaviour. Therefore, research is needed for a deeper understanding of this subject.

In summary, sportification, impacted by technologisation and commercialisation, seems to trickle down from the elite to the recreational level and creates a desire for actors at different levels to buy the "best" material or explore the diversity of products on the market.

## Conclusions

Sooner or later, another major trend in sport will make a journey from "ritual to record" (Guttmann, 2004), from unstructured play to refined sport, fast or slow. However, the development in terms of increased popularity cannot be taken for granted for any sport, including padel. The question "Anyone for padel?" might be met with more silence in the future. An over-establishment and possible decreased interest in playing padel in Sweden in 2022 have led to bankruptcies among corporate padel organisers. In the coming years, in cities and countries, more padel centres are in danger of being closed. If this occurs, the physical infrastructure – buildings and courts – can in best cases be sold and re-used for other activities; otherwise, they must be torn down. For example, in Lindome, a town with 14,000 residents, the two padel centres are now permanently closed. However, there are

still many courts to choose from, in reasonable driving distance, and padel will likely persevere as an established sport in the region, and in Sweden.

What can we conclude and learn from a fast-emerging sport such as padel, its sportification, and its impact on environmental sustainability? This chapter shows that the central aspect of sportification – the drive to improve performance that interacts with commercialisation – cannot be neglected when studying either owners of padel centres or players. It is important to recognise this logic of modern sport because, while the steps of sportification have changed, its core to perform and develop seems relatively stable. Nevertheless, compared to tennis, padel shows some resistance or at least flexibility in relation to sportification. The self-classification system for player levels (from 1 to 10) is interesting as it can, on the one hand, be seen as a step away from a centralised and systematic categorisation. On the other hand, a standardised system for *all* players, from recreational to elite, makes standardisation in sportification even more difficult to escape from. Who wants to categorise themselves at the very bottom (level 1)? If constantly buying new material or frequently travelling long distances for padel courses/competitions is considered the best solution by the individual to perform better, this categorisation has potential negative environmental implications.

In summary, studying institutionalisation and commercialisation in Swedish padel and discussing motives for different actors reveals that environmental sustainability awareness and work among actors appears to be inadequate. What these actors in these processes may lack is systems and cooperations that make it easier to make good environmental decisions, both in the short- and long-term decisions, and at the same time allow players to perform well and organisations to develop and grow. How can padel actors get more motivated to employ systems for environmental sustainability that can both recognise the force of sportification and, when needed, have the courage to challenge it? This may be the core issue for the future.

Ideally, the next step in sportification would be “greenalisation” – in which actors compete to be the most environmentally friendly. However, this seems utopian when briefly looking at the padel actors in Sweden: organisations in the Swedish sport system, corporate centres, providers of material and equipment, and players. In general, there is a conflict between environmental sustainability and sport development. Nevertheless, exceptions exist, for instance, when technologisation and commercialisation combined forces to develop the repressuriser for padel balls. Why not let these yellow balls – that have received a new life – be guiding stars for the future, not only in padel but also in all sport?

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# **A Diagnosis of Sportification and Indigenisation in the History of Sámi Lassoing**

*Isak Lidström and Bo Carlsson*

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## **Introduction**

The Sámi are an Indigenous population residing in Sápmi, an area stretching across the national borders of Norway, Sweden, Finland and Russia in Northeastern Europe. It is an Indigenous people with a rich sports history, not least when it comes to skiing and other winter sports with deep roots in the Nordic countries. For several decades, skiing has played an important role for the Sámi, both as a means of transport and as a competition tool (Lidström et al., 2022). Skiing in the early-twentieth century Sweden also reflected a colonial discourse, where racist notions permeated the explanations of Sámi success in ski sport contexts (Lidström, 2021). Thus, the racialisation of Sámi athletes corresponds largely with a general western attitude towards aboriginal athletes in the modern history of the sport. As pointed out by King: “For well over a century and a half, Indigenous athletes have been marked as uncivilised, even savage, undisciplined, physically gifted yet psychologically weak” (King, 2005, p. 248). In the wake of the marginalised position that the Sámi eventually got in Swedish ski sport, a cultural revitalisation process emerged in the mid-twentieth century, resulting in a separate Sámi sports movement with competitions and events where only Sámi took part. These sports traditions commenced in traditional Sámi reindeer husbandry, which for several centuries has been a central part of Sami culture. Lassoing as a practice related to work has, as follows, developed into a modern sport, similar to the progress of reindeer racing. With a particular focus on lassoing, this chapter will consequently examine how the development of traditional Sámi practices could be grasped and comprehended in relation to concepts such as ‘sportification’ – a regular concept when analysing historical development of modern sports – and ‘indigenisation’ – a concept which works, in this context, to characterise a contextualisation of sport in a postmodern (and post-colonial) era.

## **Aim and general departures**

The sportification process is regularly connected theoretically to Allen Guttmann’s trace of seven characteristics in the progress of modern sport (cf. below), in which the strive for equality – or better expressed, in fairness, in fair conditions of

competitions – seems to be crucial. In connection to this authoritative characteristic of the ‘sportification process’, sport philosopher Sigmund Loland has used John Rawls’s work *A Theory of Justice* as an important inspiration to discuss the rational and the justification of fair play in sport (Loland, 2002). Notwithstanding this interesting contribution, the impact of Rawls in sport science, and thus, the ethical/philosophical foundations in the Guttmannian reasonings on equality and fairness as elements in the sportification process, is rather unemployed or undeveloped. Yet, as an initial departure for our chapter, Rawls’s ‘transcendence’ is puzzling as well as supportive, at least figuratively. To emphasise, Rawls relied on a hypothetical transcendence of everyday life, in an ‘original position’ in a ‘veil of ignorance’, to generate ‘justice as fairness’ (Rawls, 1971). According to Rawls, this philosophical experiment builds on procedural rationality that will, by definition, initiate and offer equality even in an egoistic society and, thus, generate fair and equal opportunities for all individuals (Rawls, 1971). In a rather similar manner, albeit in a real-world context, the sportification of Sámi lassoing places the experiences, professional skills, and context of the reindeer herders in brackets in favour of the general ‘athletic talents’ related to throwing a lasso, as such, due to the process of generating fair, standardised and unpredictable competitions. This ambition becomes, in some sense, a twisted replica of the historical ideals of amateurism, in which professional skills were considered unfair<sup>1</sup> and almost as ‘cheating’. In certain aspects, this issue could be grasped in the Baudrillardian perspectives of the decontextualisation of social and cultural life (Baudrillard, 1981, 1994), in which reality, events, and settings, become altered and transformed, by various simulations, to become replicas or artificial settings. The concept has been used, for instance, to describe the decontextualisation of signs (Baudrillard, 1981; cf., Genesko, 1994) and professional skills (Carlsson et al., 2022). Backman and Svensson, as well as Sandell (2011) have, in their analysis of outdoor sport, described the decontextualisation of the landscape. In our approach towards Sámi sports, we will add culture and professional skills to the perspectives of the landscape. In this respect, the decontextualisation of Sámi reindeer herders’ work, skills, experiences, environment, and culture become blended into a form of modern sport.

In another view, Sámi sports, such as reindeer racing and lassoing onto reindeer’s antlers, are regularly considered part of an Indigenous culture and, thereby, conceptualised and described as ‘Indigenous sport’, which we here define as competitions that have a focus on the local, the situational, and the culturally distinct, and act as a marker of cultural and ethnic identity. Moreover, the process of indigenisation also highlights a potential new direction in which the material culture of sport shifts from a dependence of universal material types, for example, plastic or rubber, into a conscious utilisation of natural resources of the local ecology within the production of sports equipment and sporting spaces. The concept of indigenisation thereby touches upon the increasing efforts to design sports cultures in accordance with environmental sustainability (cf. Lidström et al., 2022; Skogvang, 2021).

Accordingly, the principal aim of this article is to demonstrate and discuss a) the sportification, b) the indigenisation of Sámi lassoing, and c) its implications and internal paradoxes of 'contextualisation' and 'decontextualisation'. In this respect, we must first present the theoretical perspectives of sportification as well as indigenisation. We start, briefly, with a critical inquiry of the concept of sportification and the sportification process.

## **Sportification**

The tension of the uncertainty of outcome is a vital prerequisite as well as an advocated attraction in sport (Loland, 2002). The results should be unpredictable, but the actions are still conducted in a predictable manner. In addition, the motto 'citius, altius, fortius' works as an engine in the progress of (modern) sport and generates the ideals of competition and concurrence (Lindfelt, 1998). Due to the claims to universal knowledge of the interrelationships of achievements, all jumps and every goal should be measured and numbered in distinctive ranking systems or tables, which enables authoritative and legitimate comparisons of results (Møller, 1984). To complete these embraced ideals, various sports have undergone and experienced a sportification process and, thus, have entered the category of 'modern sport' (Guttman, 2004).

The process of sportification is identified by Allen Guttman and described by seven characteristics: secularisation, equality, specialisation, rationalisation, bureaucratisation, quantification, and records (Guttman, 2004; cf. Yttergren, 1996). Regardless of the emphasis on logos, brands, and the celebration of star athletes, modern sport has no professed religious aim and is, thus, a secularised phenomenon. The stress on equality has, in principle, no moral or political origin or reason. Instead, it is a functional motive for equality and fairness that aims to generate uncertainty of outcome and suggestive competitions according to the stipulated rules of the game or competition (cf. Carlsson & Lindfelt, 2010; Lindfelt, 1998).

Furthermore, society's demand for efficiency and success requires more advanced specialisation from modern sport. As the rationalisation processes have generated more advanced rules and principles, modern sport has, in addition, become increasingly standardised, and its equipment, rules, and spaces are now more or less universal. Moreover, the bureaucratisation process facilitates the control of standards and practice. Because of its connection to science and the industrialisation of society, modern sport is now embodied and filled by 'quantification', which means that all results are measured, listed, reported, and compared. Thus, the pursuit of records has become an essential aspect for modern sport.

The theory of sportification has been not only nuanced but also criticised over the years (cf. Eichberg, 1995). Viewed in the mirror of history, the perspective appears to be an image and a conceptualisation of the entire 'modern project' with optimism, record-breaking efforts, instrumental rationality, and increased growth as the engine for economic, social, and political development (Habermas,

1971; cf. Allen, 2016; Alvesson, 2014). The theory of sportification becomes unclear in a postmodern context where the idea of progress has, essentially, come to be regarded as a historical parenthesis. Doping and the diminishing of sex and gender differences as well as the fusion of human/machine/medicine in sports have blurred and questioned the conventions of modern sport (cf. Magdalinski, 2008; Miah & Rich, 2008). Hence, achievements and records can, increasingly, be relativised as well as questioned and doubted (Carlsson et al., 2022).

Still, in the progress of contemporary sports, there exists a call and search for improved sportification, particularly in relation to fair and equal conditions and opportunities, regardless of these critical and sceptical attitudes and the increasing 'eventification' of sport in which the 'show' might replace the record as the drive, reason, and logic (Carlsson et al., 2022).

### **Indigenisation of sport**

Globally, festivals and events with physical activities and competitions influenced by local ethnic and cultural identities have gradually flourished, both as an adaptation and as an alternative to modern sport. Games, plays, and other forms of competition rooted in the everyday practices of Indigenous peoples have, in this respect, played a role in a cultural revitalisation that has gained momentum in the wake of colonial liberation (cf. Dubnewick et al., 2018; Heine, 2005; Heine & Young, 1997; King, 2006; Tang et al., 2016).

In one sense, this movement is an outcome of a sportification process, as local Indigenous practices have been transformed into regulated and result-oriented competitive activities. In another sense, this movement stands in opposition to the western concept of modern sport. For instance, the Inuit sport festival Northern Games has been described as an "oppositional practice because it challenged the naturalness of Euro-Canadian-derived sport as the sole, 'legitimate' form of government-sponsored physical activity" (Paraschak, 1997, p. 13). This alternative method is shaped by a flexible approach to standardised rules, among other factors (Paraschak, 1997, p. 13). Consequently, it has been argued that modern sports "express a logic of practice that partially differs from the practical logic of Inuit and Dene Games" (Heine, 2013a, p. 161). These sports, physical skills, and games with roots in the traditions of Arctic Indigenous peoples fill a "representational function in the cultural narrative validating the land-based lifestyle" (Heine, 2013b, p. 12). In other words, cultural values surpass 'the performance principle', that is sport's focus on competition, results, and records.

In this perspective, the emergence of the Northern Games and the Dene Games seems, on the one hand, like an adaptation of Indigenous cultural practices to the concept of modern sport. On the other hand, these events appear as expressions of cultural resistance to Western hegemony in sport, which has dominated the global body culture in modern times. This is accomplished by taking a more playful and spontaneous approach to the otherwise disciplined ideals and standardised regulations of sport. The competitions are, thus, more flexible

and regularly based in a cultural setting. We conceptualise this process as the 'indigenisation of sport', which makes it possible to describe and analyse the differences between a general concept of sport (sportification) and a situational and contextual concept (indigenisation). The objective of sportification is universal comparability, measurability, and standardisation, whereas indigenisation focus on the local, the situational, and the culturally distinct. Thus, Indigenous sports serve as markers of identity, and their loosely composed concept of sport is not formed by the principle of egalitarian sport and the focus on 'the uncertainty of outcome' where all competitors are able to participate on equal terms and under similar conditions. To emphasise, Indigenous sports are associated with special places and distinguished cultures and/or ethnic groups. However, the concepts of sportification and indigenisation are not to be regarded as dichotomies, as an either-or-situation. On the contrary, they can work as parallel and equivalent processes, but regularly one of them seems to have a temporally command.

## **Methods and previous research**

As implied, our basic subject and empirical case in this article is related to Sámi sport in general and to lassoing in particular. Lassoing as an organised and competitive sport has been conducted since the middle of the twentieth century within an autonomous Sámi sports movement operating in three of the four countries of the traditional Sámi settlement area, Sápmi, is located. As previously mentioned, the progression of this sports movement is rooted in the practice of reindeer herding and the profession's related skills and work experiences. Recently, the Sámi sports movement has developed stronger ties with other Indigenous sporting events and organisations. In this respect, Sámi sport has acted as a catalyst in shaping not only a Sámi identity, but it has also positioned the Sámi as an Indigenous group among other Indigenous peoples in the world (Pedersen, 2011, 2021).

From the 1990s onwards, research interest has increased in the Sámi sports movement, which is organised separately from the usual sports confederations in the Nordic countries (Lidström, 2019, 2021; Pedersen, 2011, 2021; Pedersen & Rafoss, 1989; Skille, 2012). Not least, we are indebted to Eivind Å. Skille (2013), who emphasised the subject in a stimulating manner. Skille has helpfully described and analysed the forms of competition in Sámi sports with ethnographic observations. Focusing on the Sámi identity through sport, Skille discussed two patterns of identity construction, namely 1) specific Sámi activities (such as lassoing and reindeer racing) and 2) 'universal' sport (such as football or cross-country skiing). In the former, the (sportified) Sámi cultural heritage is demonstrated in a public sphere, whereas the latter focuses on rivalry, that is the impact on Sámi identity when individual Sámi athletes or teams beat other (non-Sámi) athletes or teams (Skille, 2013). Diverging from Skille's study, our article takes the subject in an alternative direction, namely the historical perspective in which we focus on the dialectics of sportification and indigenisation, and its effects on, for example, fairness/equality and authenticity.

Our inquiry is grounded in a variety of empirical materials such as published reports in Sámi magazines and newspaper notices about Sámi championships. We have also benefited from unpublished documents and protocols preserved in the archives of the Sámi sports movement in Jokkmokk in the province of Lapland.

## **Sámi lassoing**

Hereafter, we will present our case within a chronological approach. Initially, we shed light on lassoing by focusing on the transfer from professional skills to sport through play and culture. In addition, the section will describe the immature sportification and its relation to functional perspectives on fairness (i.e. equality and justice). Furthermore, questions related to authenticity and specialisation as well as to contextualisation or decontextualisation will be addressed, described, and explained.

### ***From professional skills to play***

The ability to capture a running reindeer, in connection with reindeer separation, is a professional skill with an ancestry and an old tradition among Sámi reindeer herders. Historically, a lasso has been the obvious tool. Noticeably, the technique for using the lasso differs between, for example, American cowboys and Sámi herders.<sup>2</sup> While the former throws the loop over the heads of cattle, the reindeer herders sweep the entire rope or cable-bundle over the reindeer's horns with a significantly wider loop than that used by cowboys but one that can be narrowed by means of a sliding loop when the slack is tightened following the throw (Manker, 1947).

Typically, sports are claimed to have originated from spontaneous play, with a reference to Johan Huizinga's 1938 book *Homo Ludens*. However, the process is not as simple and straightforward when it comes to lassoing.<sup>3</sup> Its roots are, in fact, found in work that has developed into play through Sámi children's imitation of adults' activities. As time progressed, this play took more concrete forms, from which serious competition has evolved (cf. Manker, 1947).

In this respect, the considerable number of ethnographic descriptions of children throwing lassos for pleasure indicate that play has at least as old ancestry as work. For instance, lassoing as a form of play was mentioned by Carl Linnaeus in his *Iter Lapponicum* in 1732. Similarly, ethnographer Rolf Kjellström (1992) states that "some children have been allowed to play reindeer, with fingered or real reindeer antlers on their heads, while other children have been chosen as lasso throwers [...] From time to time, dogs have also fallen victims to the well-directed throws of children" (p. 153–155). Both boys and girls engaged in play of this kind (Kjellström, 1992). Huizinga argued that these acts are to be conceptualised as play because they have no direct material gain; nor do they belong to 'real life' but, instead, appear as an imaginary representation of everyday reality (Huizinga, 2004).



Of course, play does not presuppose competition. But since lassoing is largely about accuracy, it is understandable that those who possess this skill desire to, relatedly, compare their skills with those of others. Consequently, the character of the play shifts from a materially useless ‘symbolisation of reality’, in a Huizingian conceptualisation, to *agon* [a combat], a state in which the activity is practiced with competition and ranking systems as the motive force (Caillois, 2001).

### **Primary sportification**

Lassoing had been conducted in a spontaneous form, but in the 1940s, it became increasingly organised. In 1944, special sports days for Sámi people were organised in the Sámi village of Mittådalen, with competitions in athletics, football matches between Sámi villages – and lassoing (Svenska Dagbladet, 1944).

Two years earlier, the Sámi Folk High School (*Folkhögskola*) in Sorsele had been established with the priest Lennart Wallmark (1910–1994) as its headmaster. Physical education played an important role in achieving the school’s mission, which, in Wallmark’s words, was to “preserve and develop their [the Sámi] own tribe, their professional activities and culture” (Jago, 1942, p. 1). In this respect, skiing, like lassoing, was given much emphasis in the curriculum. After the school moved to Jokkmokk in 1945, the sports activities were intensified with Wallmark’s encouragement. Notably, he himself was not a Sámi, but he strongly defended the Sami lifestyle, which he believed should be preserved according to traditional customs (Lidström, 2017a).

Later, a proposal to organise a special Sami sport contest was raised, and this was realised in 1948 as the first Sámi Championship. The focus was on a number of practices with roots in the reindeer herding culture that came to be formalised and adopted according to modern organised and competitive sport. In effect, the 1948 Sámi Championship could be regarded as the start of the sportification of lassoing. When the lassos were swung at these championships, it was no longer a playful game but a sport focused on the seriousness of prestigious rankings.

At first, lassoing was not a uniform and specialised section of Sámi sport. Instead, it was part of a general reindeer herding competition, with teams of three men equipped with skis, ski poles, lassos wrapped around their upper bodies and rifles on their backs. The teams trekked along a common route on skis and stopped at two stations. At the first, a Mauser rifle was fired at a target representing a wolf. At the second stop, a lasso was thrown at a set of reindeer antlers (Lidström, 2017b).

According to sport historian Jens Ljunggren (2020), the development of sports towards increasing competition, bureaucratisation, and record hunting has frequently taken place at the cost of excluding women. Hence, women were not included in the first organisation and the sportification of Sámi lassoing. Yet, lasso throwing was initially a play in which boys and girls participated jointly and joyfully. The sportification of the skills and the play changed this condition.

In this respect, the competitions at the Sami Championships have become a display of Sámi' masculinity; presenting the ability to shoot, to ski and to throw a lasso. Still, from the start in 1948, women were permitted to participate in the Championship, but only in cross-country skiing. A reindeer herding competition for women was introduced in 1974, at the Sámi Championship, but without any forms of shooting (Samefolket, 1973). Thus, 1974 could be considered as the start for Sámi women's lassoing.

When summer championships began to be organised in the late 1970s, separate lassoing competitions, both for men and women, were also established (Lidström, 2019). At first, these competitions were quite simple. It was about catching as many reindeer antlers as possible on a certain number of attempts. Since there was no time limit, it could take a long time before all throws were completed. For that reason, a time limit was introduced which was later followed by a new change which meant that timekeeping became even more decisive for the result. The increasing importance of timekeeping, in regard to lassoing, is a clear expression of the sportification process.

As far as the sportification process is concerned, the competitions at the Sami Championships illustrate two other characteristics, namely the organisation and design of competition rules. Hence, lassoing and other Sámi sports at the events were given an organisational structure in connection with the formation of the Swedish Sámi Ski Federation (in 1950), whose member association comprised all Sámi villages that participated in the competitions. In the following decades, the organisation matured gradually, particularly in light of the ski federation's reorganisation of the Swedish Sámi Sports Federation in 1973 (Lidström, 2019). And through the formation of Sámi sports clubs, Sámi sport has formed a long-term vision and practice with both competitions and training activities (Eriksson, 2013; Heikka, 1982, 1984; Lidström, 2021). Thereby, the statutes and rules for how competitions should be conducted have subsequently been discussed, established, and updated continuously at annual meetings held in connection with the Sámi Championships.

### ***Equality and fairness in competitions***

If the organisation and initial regulations for lassoing seem to be relatively straightforward regarding the sportification process, we encounter difficulties in terms of the concept of equality, which is another of the identified characteristics in the concept of sportification. As a rule, Guttmannian researchers use 'equality' to emphasise that everyone shall compete under the same conditions and that the principle of equality and justice should be introduced in sport (Guttmann, 2004; Lindfelt, 1998; Yttergren, 1996). The aim is, thus, to create structures and conditions so that, at least theoretically, it can be possible to, for example, establish that a world champion is indeed the best in the world in his or her sport. But more importantly, 'equality' is a functional imperative to generate fair and equitable conditions among those who participate in a contest in order to offer uncertainty

as to its outcome and the possibility to rank and compare various performances or games. Hence, the concept of 'justice as fairness' would certainly be more than sufficient (Rawls, 1971; cf., Loland, 2002).

Unfortunately, the concept of equality also has political and moral connotations of being all-inclusive, which is supported as well by a significant number of commendable policies, such as 'Sport for All'. But sport is not for all in a phenomenological sense (cf., Skille et al., 2022). In addition to difficult – and morally doubtful – selection processes and social exclusions (Collins & Kay, 2002), there exist legitimate and officially stipulated mechanisms of inclusion and exclusion. For instance, the Paralympics are formed and shaped by these conditions as a prerequisite for creating fair contests among relevant athletes with various disabilities and, thus, an uncertainty of outcome. Furthermore, boxing and wrestling have developed weight classes to generate fair and unpredictable contests. In a different way, the world championships in football for authors or for doctors and even for homeless people stand as other examples where participation is limited or conditional due to special qualifications or interests (e.g. leisure for a specific profession or social position). For that reason, we must distinguish between 1) fairness (fair conditions) among the adequate participants as a functional imperative to generate excitement and unpredictability in sports and 2) the legitimate and stipulated processes of inclusion or exclusion of relevant/specified participants. Of course, all these principles can be interpreted in moral terms and given moral meanings and implications beyond the functional imperatives in sport and the sportification process.

The progress of Sámi sport can, illustratively, be grasped in this context because it is not for everyone. The Sámi Championship is a contest exclusively for the Sámi, which means that, even if someone outside their community might be the most adept at throwing a lasso, he or she cannot be named a Sámi champion. This identity criterion can be considered an early expression of indigenisation of the sport. Hence, the question of who has a Sámi identity becomes at least as central as the competition itself. As a result, the regulations include an identity criterion indicating who is entitled to compete at a Sámi Championship, in addition to, for example, regulations for how competitions are to be conducted and how participants will be categorised into competitive classes to generate fair and unpredictable contests.

This form of inclusion or exclusion has caused recurring problems. Questions have arisen about whether certain participants have been entitled to compete because of the applicable regulations (Svonni, 1996). In the early decades, only those who had the right to conduct reindeer husbandry, according to the Reindeer Herding Act (*Renbeteslag*) of 1928, were allowed to compete. This group of entitled participants were a minority among the Sámi, and thus, the majority were excluded from the championship despite being a Sámi by identity. In sum, conflicts arose between the ideals of sportification and the magnitude of the identity criterion, thereby leading to the indigenisation of Sámi sports.

### **A quest for authenticity**

The concern of authenticity might arise when a professional practice, such as lassoing, becomes a competitive sport due to, for example, its roots in the context of reindeer husbandry. Rather unexpectedly, studies related explicitly to authenticity in sport are not as frequent as one might assume. Although this is a primary review, for instance, the technological developments in sport have been called into question in light of authenticity and by the question of what a genuine sporting experience or phenomenon might be (e.g. Bedná, 2014; Breivik, 2010a; Holowchak & Reid, 2011; Hurych, 2009). We can also find several works addressing athletes' experiences during their performance (e.g. Breivik, 2010a; Ronkainen et al., 2015; Zhang & McDowell, 2020), the morality of doubtful enhancement substances (e.g. Malloy et al., 2007; Parens, 2005), the characteristics of and motives in adventure and lifestyle sports (e.g. Breivik, 2010b; Rickley-Boyd, 2012; Salome, 2010; Wheaton & Brown, 2003; Zhang & McDowell, 2020), and the blend of cultural and sports events (McCartney & Osti, 2007). However, what happens with 'authenticity' in the transition from professional skill to sport is rarely discussed, perhaps because most sports have moved from play to sport and, thus, have become more serious in an 'imaginary setting' (Elias & Dunning, 1986). Still, on the contrary, we find sports that have its origin in work as well as war, with vast seriousness, as for example Sámi reindeer lassoing or STIHL Timbersports® (Carlsson et al., 2022).

To reaffirm, for Lennart Wallmark, it was crucial that the forms of competition should, to the extent possible, represent lassoing as it was practiced in the genuine work of reindeer herding. The competition, in his opinion, aimed to increase Sámis' skills in lassoing to benefit reindeer herding in general. In his homage at the opening ceremony of the 1950 Sámi Championships in Vilhelmina, he stated:

The heterogenous Swedish sport [will] become enriched by a competition for aficionados which will develop to become as natural and genuine as possible. It is very likely that this particular element can help to increase the skill of lasso training among the Sámi as well, thereby benefiting reindeer herding [...] is very likely.

(Wallmark, 1950, p. 8)

Wallmark and many who agreed with him regarded the reindeer herder competitions as contests in professional skills (Rosén, 1951a). Consequently, early on he put forth a proposal to establish separate championships in lassoing with moving targets as realistic and authentic as possible. At the opening ceremony of the 1951 Championship in Arvidsjaur, he noted:

Since lassoing is so important and, according to a lot of older people in a lot of places, in decline among the young, why not set up special championships only in lassoing and try to experiment with a competitive form with moving goals that better correspond to the conditions in reality?

(Wallmark, 1951, p. 4)

In this respect, for Wallmark, ‘authenticity’ implied that the sport activities should have a natural resemblance to the professional skills and context of reindeer herding. Hence, in this perspective, authenticity is equated with – as well as limited to – reality (cf. Taylor, 1992). Despite this appeal for authenticity, the development of lassoing took a different direction, with a focus on specialisation, an added characteristic of the sportification processes.

### **Specialisation vs. authenticity**

The competitive elements of lassoing are basically constructed as an image of a professional practice. These are skills to be demonstrated in an environment different from the original context or cultural setting. Hence, the skills presented at a sports arena can be described as part of a decontextualisation process in which new types of skills emerge that align with the competitive context but are released from the professional context.

Although there were serious plans to introduce moving targets at the lasso throw, these were never realised, most likely because of the lack of logistical, technical, and financial resources of the organisers. The targets have been stationary from the beginning to the present day and have consisted of a set of reindeer antlers at a certain distance from the throwing area. Contrary to Lennart Wallmark’s appeal for authenticity, it would turn out that throwing at stationary targets was a disadvantage for those who, as active reindeer herders, were accustomed to throwing a lasso in their profession at a moving target in their profession. They had great difficulty throwing the lasso at a fixed-position reindeer antler instead of a running reindeer. More fortunate in the early years were, paradoxically, Sámi athletes who were not active as reindeer herders. Yet they were legally permitted to run reindeer herding according to the Reindeer Herding Act and could, thereby, participate in the Sámi Championships. Hans Korak was very successful in the lassoing competitions in the 1950s and 1960s. The fact that he was highly competent in this skill without being an active reindeer herder received much media attention. In 1963, when he became an individual champion in the reindeer herder competition, the competition was observed by an American reporter from the broadcasting company CBS. In light of this journalist’s visit, the Swedish newspaper *Dagens Nyheter* stated that “it may be disappointing that Korak is by no means a reindeer herder, but a technician at Vattenfall” (an electricity company, our remark.) (Lid, 1963, p. 6). Even *Norbottens-Kuriren* pointed out that:

Hans Korak only throws lasso at reindeer herder competitions and maybe occasionally as training. But when it comes to throwing lasso, there seems to be no Swedish Sámi who can beat him. Maybe a little embarrassing for the reindeer herders.

(Åke, 1963, p. 12)

At an early stage, the Sámi athlete Sjul-Axel Nejne realised that lassoing, as a sport, required a different technique than the one used among the reindeer herders. In doing so, he was at the forefront of issues related to rules and throwing techniques. Thus, it was possible to practice a technique that was originally adapted to lassoing as a sport and not as a profession. This throw was straight and went over the head, while reindeer herders used to apply the same technique as in the work, one with straight arm and a sweeping motion along the side of the body. The invented 'sport technique' hit the antler straight from the front, while those applying the herder technique hit the target from the side.<sup>4</sup>

As a result of the decontextualisation of lassoing from the professional skill set to the sports arena, it was possible for Sámi, who were not active as reindeer herders, to specialise as lasso throwers in the context of the sportification of the competitions. They were thus able to bypass the techniques that reindeer herding Sámi practiced in their professional lives, that is the skills that were insufficient or disadvantageous when throwing towards stationary targets. This was the first step in the specialisation of lassoing.

### ***The dilemma of standardisation***

In the sportification process, standardisation produces a uniform competitive structure in which the dimensions of the sport's playing field, competition forms and the criteria for judging are predetermined according to stipulated but still authoritative rules (Guttmann, 2004; Lindfelt, 1998; Loland, 2002; Yttergren, 1996). In this respect, striving towards standardisation and the pursuit of fairness works simultaneously to achieve uniform and impartial conditions for the competitions.

Accordingly, a meaningful form of competition presupposes that the distance from the goal is determined in advance and that the goals are reasonably similar for all competitors since lassoing is a precision sport. However, meeting and maintaining this criterion has been challenging because the objects of the lassoing have been authentic reindeer antlers. Since every antler is unique, standardising the contests has been difficult, which has affected the virtue of fairness and, thus, the significance of the sportification process. This has been the standing dilemma of lassoing during the 70 years the sport has existed.

Furthermore, for a throw to count as a hit, the loop must be placed around at least one of the tags on the antler when the line is stretched. It is a close call, in borderline cases, when it is the position of the tags rather than the skill of the lasso thrower that brings about this result. Solutions to this problem have been proposed on recurring occasions over the years, especially by Sjul-Axel Nejne. His suggestion was, basically, to replace the reindeer antlers with straight posts or plastic horns. In this way, there would be no doubt whether the throws were hits or misses, and in addition, the targets would have a standardised, uniform format and, thereby, improve the fairness of the contests. However, Nejne's proposals were regularly rejected (Doj, 1986; Pihl, 1990). Throwing at authentic

reindeer antlers has been important for promoting the Sámi identity in sports, at the expense of the conditions of competition not having been quite the same for all contestants. As a result, the beliefs in increasing sportification have been overpowered by the policy of indigenisation.

Over the years, the unresolved dilemma of standardised antlers has occasionally been on the agenda. Most recently, it was revived on the initiative of a previous chairman of the Sámi Sports federation in Sweden who discussed the topic with Lars-Ove Kuorak, whose long experience of participating in the Sámi Championships, combined with his profession as an orthopaedic engineer, inspired a technological innovation. Based on his professional knowledge and experience, Kuorak was familiar with the method of scanning body parts with lasers in the manufacture of prosthetics. His experiences inspired the idea of scanning reindeer horns in a similar manner to achieve a uniform and standardised plastic lasso target. Encouraged by the idea, the Swedish Sámi Sports Federation contacted Nord Polymer AB, a company that develops products in plastic. Since the right competence was not available for the production, a request was sent to Luleå University of Technology (Håkansson & Nergård, 2012). Using laser scanning, the researchers managed to produce a fitting digital copy of a reindeer antler, despite the difficulty of scanning organic material. In collaboration with Nord Polymer AB, a prototype of a standardised reindeer antler was produced in plastic (Granberg & Karlsson, 2012). Quite appealingly, Jean Baudrillard has described the common practice of adding or altering the reality by various representations – ‘simulacra’ – in which the copies turn out to be our primary and mundane experiences, and thus, more ‘real’ than the originals (Baudrillard, 1994).<sup>5</sup> This is, of course, an interesting thesis in relation to the current attempts to ‘sportify’ Sámi lassoing, and thus to generate fairness among the athletes, at expense of the Sámi working skills and Sámi culture.

However, the new plastic target was never introduced in a competitive context. The reason for this is somewhat unclear. A combination of lack of funding for the project and divergent views on standardised antlers appears to be a probable reason. The main reason why the sport has retained genuine reindeer antlers, however, appears to be the desire to maintain a local character where the sports equipment both reflects, and is made from, materials from the surrounding biota. It is at this unresolved issue that we find the sportification and indigenisation process of lassoing today.

### **Discussion: Provisional sportification**

There exist several motives for competing in lassoing. These are captured in the following opinion based on a competition in Malå in 2012: “We compete in bloody seriousness as well as in amusement. And it is exciting that the Sámi culture is clearly visible in Malå during the weekend” (Andersson, 2009, p. 3). Thus, in a somewhat contradictory manner, lassoing incorporates the seriousness of sport with playful elements that subsequently relativise the modern sports

emphasis on hard work and discipline. In addition, the quote underlines the role of lassoing as an expression of ethnic identity and a platform for communicating the Sámi culture and identity to the world. This platform has come to be increasingly important in the positioning of the Sámi as an Indigenous people (Pedersen, 2011, 2021).

Accordingly, lassoing is not a sport with a claim to universality; the sport is not for all. Essentially, it is a sport for Sámi people, and even if someone from the outside could, potentially, be the most skilled, it is of little importance at a Sámi Championship where a Sámi identity is imperative. This kind of ethnic boundary and its related considerations was also a crucial issue in the initial formalisation and standardisation of the Sámi sport and its sportification. Thus, in addition to the skills of the athletes, the legal permission of reindeer husbandry was a vital and commanding factor when deciding the opportunity to compete at the initial Sámi Championships in the 1940s and the 1950s.<sup>6</sup>

At first, the regulations resulting from this demarcation were rather unproblematic. The reindeer herder competition was considered a contest of professional skills or a ritualisation of the reindeer herding life, placed in a public context in the form of a competition.

However, when athletes who, admittedly, possessed reindeer herding rights but were not active as reindeer herders discovered a more successful throwing technique for competitive purposes, this Sámi event moved from festival and custom to sport. Ironically, the innovation of modern techniques for separating the herds has made lassoing a somewhat outmoded professional skill. In this respect, traditional skills of the past seem to have endured only as a sport in this Sámi context (cf., Eskola, 1993; Naess, 2012).

## Conclusion

Summing up, to illustrate and understand the progress of Sámi lassoing, we have examined two parallel processes that can ideally be presented in a typology, without being held as dichotomies, and thus, dualistic concepts. Instead of considering the development of lassoing as a competitive activity a linear process, we can better understand its change over time as a dialectical process between sportification and indigenisation, with the following characteristics:

<i>Sportification</i>	<i>Indigenisation</i>
Fairness/Equality	Cultural distinctiveness
Decontextualisation	Contextualisation
Simulacra/Simulation	Authenticity
Universality	Exclusivity

Taking a cultural perspective, the concept of sportification is not enough to explain the development of Sámi lassoing despite its competitive form and logic. Hence, the use of indigenisation can help us grasp the development of locally and



culturally distinct forms of sport, where the competition as well as the settings is ultimately aimed at emphasising the identity of ethnic groups. In the latter case, the competition becomes merely a means to a higher purpose, that is the advocacy and support of a collective identity. In this light, the optimisation of the performances and striving towards fairness and universal measurability, due to the sportification process, might collide with the values of indigeneity, authenticity, and cultural distinction. This is clearly captured in the dilemma of the character of the target at which the lasso should be thrown, that is, whether it should be a straight post, a standardised plastic reindeer antler (sportification) or a genuine reindeer antler (indigenisation), or even a reindeer in action – in an authentic context – that highlights the uniqueness and the distinction of both the reindeer antler and the Sámi sport.

Authenticity can be interpreted as well as experienced in different ways and be distorted by various intermediations (Taylor, 1992), such as cheating, technical substitutes, ballyhoo, and virtual reality. In our case, the question of authenticity is understood and related to realism such that the sport represents professional skills in a proper manner. But in the case of Sámi sport, reindeer lassoing is not only a skill or a practice. The throw is also marked with an ethnic and cultural insignia, which complicates the sportification process beyond the question of realism. Hence, all interventions in this skill reduce the signs of and the authority in authenticity. A throw aimed at a (plastic) replica can, due to the cultural significance of the sport, hardly be experienced by the athletes as ‘authenticity’, despite the skills required.

Bente Ovedie Skogvang (2021) has demonstrated how Sámi festivals, with lasso throwing as a crucial event, have increasingly been marked by an environmental awareness. The search for authenticity and cultural distinctiveness in the indigenisation of Sámi lassoing could, in a similar manner, be considered as a response to the increasing demands on environmental sustainability in sports. We find, consequently, an emphasis on local resources and authentic antlers. The cultural characters are, in this respect, more important than the sportification process’s universalistic claims on measurability and fairness. To stress, Sámi lassoing points to a potential trend in which sport’s global uniformity – in regard to measurements and material – may stand behind the emphasis on less standardisation and, thus, local and ecological utilisation of resources. In this case, the indigenisation and ‘environmentalisation’ of sport constitute two intertwined processes.

Of course, the concept of indigenisation will complement – as well as challenge – the concept of sportification in the understandings of sports in transition. Its function emerges, in particular, when modern sport’s inherent pursuit of uniformity and conformity is challenged by movements that, in the words of Henning Eichberg, “express identity, difference and change through bodily practice” (Eichberg, 1995, p. 3).

As we have understood the chapter’s issue, the ideas of sportification contain problems similar to Rawls’s ‘original position’ and ‘a veil of ignorance’ and, thus, the universal ambition of justice as fairness.<sup>7</sup> Leaning on a broad vision of ‘the

uncertainty of outcome' as a categorical imperative of fairness and development, the concepts run the risk of neglecting vital and imperative contexts, and thus, decontextualise culture and, for example, the need for identity as markers for humans and cultures. Apparently, a focus on the indigenisation of sport, in relation to the sportification process, makes this dilemma visible.

## Notes

- 1 In a historical perspective, training seems to have been considered a form of 'cheating' or unfairness in various contexts. Thus, the Ancient Greeks considered being born an athlete a natural and hallowed gift, and that training might have destroyed that 'divine order'. Even British aristocrats, due to their 'virtues of being gentlemen', regarded training as an unwarranted infringement on proper and fair competitions. The first ideal of amateurism bears a resemblance to this opinion. Surely, the natural genius – the talented individual – has always been glorified in comparison with a 'training product'. In early cycling, working as a bike messenger /postman was considered 'professional' due to the exercise and preparation involved in the everyday work life. Even fishermen, by the same logic, were disqualified from taking part in rowing competitions.
- 2 Another difference between the progress of rodeo and Sámi sport is that being a cowboy was basically a profession, whereas reindeer herding is, in addition to a professional skill, related to an ethnic culture, which might explain the difference in character and progress, that is the show and eventification of rodeo and the indigenisation of Sámi sport.
- 3 Huizinga's thesis is also questioned in relation to the progress of timbersports, with an origin in work and professional skills (cf., Carlsson et al., 2022).
- 4 See Rosén (1951b) for a visual demonstration of Sjul-Axel Nejne's technique.
- 5 In this respect, Jean Baudrillard has philosophically and captivantly grasped the obscuring mixture of society and virtual reality and the representations in various replicas and simulations. Hence, as a resemblance to Plato's tutorial tale 'The Cave', Baudrillard presents an interesting narrative in relation to the archaeological findings, in 1940, of spectacular caves in Montignac (Baudrillard, 1998). The original caves, Grotte de Lascaux, have been closed to the public since 1963, as their condition was deteriorating. However, there are now several replicas (Lascaux II–IV) situated in the surroundings of the original cave, which tourists are limited to visit at their tour to Lascaux. Thus, the authentic cave (no. 1) is the destination but not the genuine event and experience, but still, in a circumvented sense, the reason and the attraction. Yet it will be the replicas that stand as the real experience and the appeal to authenticity. In Plato's allegory, the individuals were dependent on and limited by their beliefs and imaginations, whereas in the epoch of Baudrillard, we are offered a simulated world, a 'simulacrum' (Baudrillard, 1994).
- 6 The regulations have since been liberalised and become more inclusive; see Lidström (2019).
- 7 Rawls' theory of justice (1971) as fairness is deduced from 'the original position', which is a hypothetical assumption that should direct our thoughts or rights and justice in a 'veil of ignorance'. Thus, the 'veil of ignorance' starts from the hypothesis that they know nothing about their private history, their skills or their future possibilities. These kinds of qualities are, thus, put in brackets. According to Rawls, justice as fairness develops out of the original position in which individuals are not aware of their background or future possibilities. Nobody runs the risk of being a victim of an unjust system. Since all individuals fear being the worst off, they will

have a self-preserving egoism that will contribute to fairness. Of course, the capitalistic gospel of material welfare – and instrumental rationality – stands as the a priori determinant of Rawls's theory. Consequently, Rawls's history-less 'original position' disregards cultural differences as a positive value as well as, for example, ecologism and feminism. Sigmund Loland (2002) has offered an interpretation of Rawls's philosophy of law in relation to the foundation of general rules in sports and their role in the support of the sportification process and the 'sweat tension of the uncertainty of outcome'.

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Part III

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# Education and Sport Sustainability

Pedagogical, Social, and Environmental  
Challenges in School Sport and  
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# Environmental Sustainability in Physical Education

## A Study of Physical Education Teachers' Perceptions and Attitudes Towards Environmental Sustainability in Physical Education

*Andreas Isgren Karlsson and Erik Backman*

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### Introduction

Society has always had an influence on education. The school subject physical education is no exception (Welch et al., 2021). Over the past few decades, environmentalisation has emerged as an important movement that influences all sectors of society. This movement has had a huge impact on the content and delivery of education, be it primary, secondary, or higher, on many different levels. Teaching environmental sustainability is nothing new. Fauville et al. (2014) describe how modern environmental education builds on the work of philosophers such as Jean-Jacques Rousseau, John Dewey, and Maria Montessori, who have long linked environmental issues with school and education. They also highlight the release of the United Nations' (UN's) environment program in 1975 as an important milestone. In this program, it was stated that education should provide a link between an awareness of the environment and environmental attitudes, skills, and participation. In 1977, the United Nations Educational, Scientific and Cultural Organization (UNESCO) stated that environmental education should also have an international and local dimension that should be characterised by an interdisciplinary approach. These directives have contributed to the fact that environmental sustainability is obligatory in schools within the European Union and is also specified in many education standards (Fauville et al., 2014).

Environmental sustainability has recently been highlighted within sport. According to McCullough (2015, p. 13), the idea of sustainability within commercial and professional sport has been "expanding at a steady pace" but when it comes to schools and education this expansion has been moving slowly (Thorpe et al., 2021). How sport education is progressing towards environmental sustainability and what curriculums in sport education that include environmental sustainability might look like have only started to be investigated (Dingle & Mallen, 2020). There is a lack of research with regard to environmental sustainability in pedagogy, especially within the school subject physical education (Dingle & Mallen, 2020; Taylor et al., 2016, 2019; Welch et al., 2021).

Environmental sustainability is often included in general school policies and in the overarching educational statements for many different school subjects. However, this is rarely expressed in the policies concerning the subject physical education. Based on a study of the Swedish educational context, therefore, we have investigated the impact formulations regarding environmental sustainability in general school curriculums can have for the implementation of teaching practice in physical education. More specifically, the purpose of this chapter is to analyse the relationship between the representation of environmental sustainability in Swedish school policy documents and Swedish physical education teachers' perceptions of the relevance of implementing environmental sustainability in a physical education context. While environmental sustainability is distinctly expressed in the Swedish general curriculum for compulsory (grade 1–9) and upper secondary school (grade 10–12), there is a lack of conceptualisation regarding *whether*, *what*, and *why* environmental sustainability should be taught in school physical education. With regard to environmental sustainability, Sweden has sometimes been suggested as setting an important precedent (Larsson Heidenblad, 2021). An investigation of these issues in a Swedish physical education context has, therefore, a global relevance.

We have analysed the data taken from a questionnaire conducted with 143 Swedish physical education teachers. The quantitative and qualitative analyses we carried out on these data followed a version of a mixed method approach called the *explanatory sequential approach* (Creswell, 2013). Using Bernstein's (2000) concept of *classification*, the data were discussed in relation to how environmental sustainability is formulated and included in the Swedish school system, particularly in the physical education context. This will enable us to contribute to the discussion of how physical education teachers enact the requirements of governing school documents concerning environmental sustainability.

## Concepts

Environmental education has been variously defined in research and practice. According to Dingle and Mallen (2020), there is no single, universally agreed definition of the environmental perspective in school physical education. Concepts such as Environmental Sustainability (ES), Environmental Education (EE), and Education for Sustainable Development (ESD) are commonly used, sometimes interchangeably. In many educational systems, Education for Sustainability (EfS) is considered to be an integrative concept where the ecological dimension of environmental education is supplemented with contributions from social and economic dimensions ( UNESCO, 2020).

In this chapter, we use the concept *environmental sustainability* as a collective way to describe these different approaches. In the general curriculum that covers both compulsory and upper secondary school in Sweden, environmental sustainability is emphasised as one of the four perspectives (together with ethical, historical, and international perspectives) that should permeate all teaching

(Swedish National Agency for Education [SNAE], 2018). According to the UN's (UNESCO, 2020) definition, being able to act in an environmentally sustainable way is about ensuring that future generations have the natural resources available to live an equal, if not better, way of life than current generations. The UN's definition is to some extent a standard and has been expanded over the years to include not just the maintenance of natural resources, but also the protection and encouragement of other non-economic elements essential for human needs and well-being, such as education and health, clean air and water, and natural beauty.

### **Environmental sustainability in education**

Environmental sustainability education obviously plays an important role in preparing citizens for participation in discussions surrounding a more sustainable society. It is widely assumed that environmental sustainability is a modern initiative arising from growing concerns about the environment. Scholars and practitioners alike have identified environmental sustainability as a global concern since a few decades (Dingle & Mallen, 2020). Environmental sustainability is often connected with school subjects such as geography, home economics, and natural and social science (Stokes et al., 2001; SNAE, 2018). According to Stokes et al. (2001), environmental education is a compulsory area of the curriculum in primary and lower secondary education in many countries and is clearly presented and specified in many education standards, of which the current Swedish curriculum for primary education is just one example (SNAE, 2018). However, Swedish studies investigating the school subjects geography (Molin, 2006) and the natural sciences (Sund, 2008), along with a report on the presence of environmental sustainability in different subjects and at different teaching levels (SNAE, 2001), display a wide variation in how environmental sustainability is expressed in teaching. Environmental issues do occur in these subjects, however not to the extent expressed in their curricular goals. In some countries (e.g. Denmark and Finland), environmental education is taught via an interdisciplinary approach. In other countries (e.g. Sweden and Belgium), there are a range of specialised environmental study courses at the upper secondary level (Stokes et al., 2001).

### **Environmental sustainability in physical education**

Rodrigues and Payne (2017) have shown that, when the federal government in Brazil tried to “environmentalise” physical education programs, the knowledge areas in physical education teaching that were most closely connected to environmental sustainability were the “nature” sports and that outdoor and adventure activity education were the most natural places for environmental sustainability in school physical education. In the Australian physical education curriculum, sustainability is one of three cross-curriculum priorities. The idea behind the inclusion of sustainability in a physical education curriculum is to collectively provide it with a “future orientation” and to enable

student engagement with, and learning about, human and environmental health and sustainability (Olive & Enright, 2021). Australian physical education teachers in primary and secondary school struggled to teach health, for example, from an environmental perspective and looked for alternative discourses about health beyond the ordinary. Physical education teachers have expressed their fears and confusion about these new expectations and have suggested they feel overwhelmed by the addition of sustainability to their curriculum responsibilities (Dyment & Hill, 2015; Dyment et al., 2015; Hill & Dyment, 2016). Another Australian study has shown that physical education teachers understand the relationship between the environment and health from a “more-than-human” perspective. Bodily knowledge, developed through embodied experiences, has the potential to help teachers formulate less institutionalised health and environmental understandings in physical education (Taylor et al., 2019). In the Swedish context, Fröberg and Lundvall (2021) have found that very few of the Agenda 2030 sustainable development goals have clear links to the goals of physical education. Their results show that environmental sustainability is a largely unexplored area in physical education.

Even though studies of environmental issues in general physical education are rare, there are some studies related to one special part of physical education, namely *outdoor education*. Internationally, research points to a weak link between environmental sustainability and outdoor education when it is positioned within physical education (Aksland & Rundgren, 2019; Dyment & Potter, 2015; Quay, 2016; Truong, 2017). In Sweden, outdoor education (*friluftsliv*) is one of three knowledge areas in school physical education (besides *movement* and *health and lifestyle*). Backman (2010) argues that values such as environmental awareness, sustainable development, and cultural perspectives on the landscape could strengthen Swedish physical education. According to Mikael (2017), the extent to which the overarching perspectives which should govern all pedagogical practice – the environmental, ethical, historical, international – has been rather limited in Swedish physical education. Mikael (2017) suggests however that during the last 25 years there has been a discursive shift in outdoor education in Sweden. This discursive shift is a move away from an education based on activities and social development in favour of one with environmental sustainability as its primary goal. However, this discursive shift has not yet reached its full educational potential in practice. According to Backman (2010), physical education teachers struggle to transform this subject matter from their own education (physical education teacher education) into actual teaching.

While the research on environmental sustainability in physical education is limited, there are some potential openings for future knowledge development. For example, if environmental sustainability could be integrated with health or other knowledge areas, rather than seen as a content area in its own, its expression in physical education could be strengthened. Obviously, we need to know more about how environmental sustainability can be implemented in teaching. Therefore, we want to explore the relationship between the representation of

environmental sustainability in Swedish school policy documents and Swedish physical education teachers' perceptions of the relevance of implementing environmental sustainability in a physical education context.

### **Theoretical framework**

Bernstein's concept of the pedagogic device has been used in research to explain how, on different levels, knowledge is implemented in physical education as a school subject (Ekberg, 2016) and how knowledge is transformed and transferred into curricula and teaching (Lundvall & Meckbach, 2008). Other Bernstein-inspired studies have been conducted about the struggle for outdoor education (*friluftsliv*) to find a place in the physical education curriculum (Backman, 2011). In order to examine environmental sustainability in the Swedish physical education context, we have adopted Bernstein's (1975, 2000) concept of classification. Classification conceptualises relations of power that regulate relations between contexts or categories. The concept of classification is one of the key points in Bernstein's theory of pedagogic discourse and practice. Classification refers to "the degree of boundary maintenance between contents" (Bernstein, 1971, p. 49) and is concerned with the insulation or boundaries between curricular categories (areas of knowledge and subjects), including the boundaries between agents, spaces, and discourses. The concept of classification is used to describe and help us understand how social space is constructed and how categories are built with stronger or weaker boundaries. A strong classification refers to a curriculum that is highly differentiated and separated into traditional subjects. A weak classification refers to a curriculum that is integrated and in which the boundaries between subjects are fragile. Power and power relations are displayed in boundaries between categories that, according to Bernstein (2000), can be clear and distinct (strong classification), thus giving each category a unique identity, or blurred (weak classification), in which case the category has a less specialised identity. Regardless of whether it is strong or weak, classification always involves a power dynamic. Where there is strong classification, things must be kept apart. Where classification is weak, things must be brought together (Bernstein, 2000). Bernstein (1975) proposes that strong classification reduces the teachers' power over what is being communicated (taught), and that weak classification enables the teacher to influence their content. An example of weak classification is when schools organise work around themes rather than distinct subject areas.

### **The aim of the study**

In this chapter, the concept of classification is used to analyse the relationship between the representation of environmental sustainability in Swedish school policy documents and Swedish physical education teachers' own perceptions of the relevance of implementing environmental sustainability in a physical education context and their descriptions of this situation. While environmental

sustainability is distinctly articulated in the general Swedish curriculum for compulsory (grades 1–9) and upper secondary school (grades 10–12), there are a lack of agreement regarding *whether*, *what*, and *why* environmental sustainability should be taught in physical education. Of the different educational stakeholders who are involved in the process of reproducing knowledge in one way or another (Bertram, 2020), such as physical education teachers, policy writers, textbook writers, teacher educators, producers of research, and politicians, some have more power and interpretive precedence than others and are therefore better able to influence what environmental sustainability becomes when it is enacted in physical education.

## Study design

This study is part of a larger research project that aims to explore physical education teachers' perceptions and attitudes towards digital tools and environmental sustainability (see Isgren Karlsson et al., 2022). The data collection included the distribution of a questionnaire to a conference for physical education teachers in Stockholm in October 2019, which resulted in 73 participants, and two weeks later an online group for Swedish physical education teachers, which resulted in 78 participants. This study analysed 143 questionnaires in total. Participants, all being physical education teachers, demonstrated a wide range of professional experience and teaching level with a large part having more than 10 years of teaching experience.

To achieve the aim of our study, we adopted a version of a mixed methods approach called *exploratory sequential design* which includes both quantitative and qualitative analyses. In this approach, qualitative and quantitative materials are combined and integrated in order to strengthen and give nuance to the analysis (Creswell, 2013). The purpose of this approach was to gain a more in-depth understanding of environmental sustainability in school physical education (Creswell, 2013). The quantitative analyses were performed in IBM SPSS version 26 and Microsoft Excel using frequency analyses, cross-tabulations, means comparisons, and one-way independent analysis of variance (ANOVA) with post-hoc tests of Games-Howell (to manage the different sample sizes). The thematic content analysis of the qualitative data (answers from open questions in the questionnaire) was designed to promote an understanding of the participants' statements about what environmental sustainability is and why it is relevant (or not). It was also intended to enable us to analyse the factors that seem to regulate teachers' perceptions and attitudes towards environmental sustainability. For this analysis, we used the six-phase model defined by B. Smith and Sparkes (2019) of familiarisation, coding, theme development, refinement, naming, and editing.

The number of comments upon which each theme has been based have been included in the results section, in the heading for each theme. The intention was not primarily to display the domination or marginalisation of certain ways of perceiving the relevance of environmental sustainability in physical education.

However, the number of written comments related to each theme say something about the representativeness of each theme in relation to the total material. More detailed information about the method underlying this study can be found in Isgren Karlsson et al. (2022).

## Results

The findings show that teachers have different opinions about the relevance of environmental sustainability in physical education. Teachers also differ about the knowledge areas in the physical education subject in which sustainability should be located, if it was to be implemented. In the section that follows, the policy documents outlining the teaching of environmental sustainability in Sweden will be discussed. The headings that structure the discussion of the results have been ordered according to the research questions.

### ***What is environmental sustainability in Swedish school policy documents?***

The Swedish school system, like that in other countries, is to a varying degree affected by the global sustainability goals outlined in Agenda 2030. In the Swedish general curriculum for compulsory and upper secondary school, it is emphasised that historical, environmental, ethical, and international perspectives should be addressed in all subjects, including physical education (SNAE, 2018). Through the environmental perspective, students are expected to be given opportunities to take responsibility for the environment and to be able to articulate an overall understanding of global environmental issues. The teaching must show how different functions in society and different lifestyles can be adapted to create an environmentally sustainable development. For example, in upper secondary school, teaching should contribute to students' development of health and environmental awareness, as well as develop their interest in participating in the work on health issues in work life and society. Policy documents in compulsory and upper secondary school are similar and state the school's mission.

*An environmental perspective* provides opportunities not only to take responsibility for the environment in areas where they themselves can exercise direct influence, but also to form a personal position with respect to overarching and global environmental issues. Teaching should illuminate how the functions of society and our ways of living and working can best be adapted to create sustainable development.

(SNAE, 2018, p. 8)

Furthermore, the teaching must give students the opportunity to develop their knowledge of how the different choices that people make can contribute to sustainable development. By enabling students to spend time both in nature and in



society, the teaching should strengthen students' opportunities to take part in an active association, as well as in cultural and outdoor activities (*friluftsliv*) in the local environment.

As mentioned, sustainable development as it is currently taught in Swedish schools is linked to the subjects of geography, biology, and home and consumer studies. This is because these subjects seek to examine how humans influence (both positively and negatively) the environment and nature (SNAE, 2018). However, in physical education, where outdoor education has a prominent position, environmental sustainability is not mentioned explicitly. It is possible to infer environmental sustainability in a reading of the Swedish *The right of public access*.<sup>1</sup> The right of public access has a prominent position in the Swedish physical education curriculum. In the core content, it is stated that "Rights and obligations in nature as set out in the public right of access to land" shall be addressed (SNAE, 2018, p. 51). This could be seen as a way of emphasising environmental issues in physical education, as an indirect way of looking at environmental sustainability. There are, however, some formulations in physical education's content that might signal a tension regarding environmental sustainability. For example, statements that teachers are to use digital technology in their teaching might limit the potential of experiencing physical environments. Also, the demand for increased production of digital devices may have an effect on natural resources.

### ***What is environmental sustainability in physical education?***

The results from the questionnaires we received show that 34 out of 143 physical education teachers have taught environmental sustainability in physical education and had ideas about how environmental sustainability could be taught in this context. Based on the open comments teachers were able to write, we have identified four different themes which express what environmental sustainability could be in physical education teaching. These were "outdoor education and the right of public access"; "energy and natural resources"; "environment and climate"; and "health, nutrition and recycling".

#### ***Outdoor education (friluftsliv) and the right of public access (14 of 34 comments)***

Almost half of the teachers who have taught environmental sustainability in physical education wrote that it had a clear connection to outdoor education. In this theme, environmental sustainability was expressed in the form of *the right of public access* and by expressions about activities in nature. Teacher 67 (grade 7–9) wrote: "When I teach about the rights and obligations of the right of public access, we talk about the importance of saving nature's resources, not leaving an imprint in nature". Other teachers saw outdoor education as a knowledge

area where they could use nature as a resource for outdoor activities. Teacher 14 (upper secondary school) suggested that we need to “understand the need for and importance of sensible natural environments for human recreation and outdoor activities”. Judging by the comments from those physical education teachers who teach environmental sustainability, it is commonly contextualised as outdoor education.

#### *Energy and natural resources (8 of 34 comments)*

Eight of 34 teachers in the study made connections between environmental sustainability and waste disposal, water consumption and power consumption. Teacher 50 (grade 1–6) wrote that in their teaching they “show examples of how land exploitation limits opportunities for outdoor activities in the local environment”. They went on to say that they had “worked on field trips with biology teachers on the water cycle and the consequences of pollution”. Teacher 34 (grades 1–6) drew a connection between the importance of showering after physical education class and the environmental point that shorter showers are equally effective (some pupils used a lot of water). In teaching situations like these, the connection to preserving natural resources and protecting the environment can be made clear. The situation in Sweden can be compared to countries that do not have the same access to clean water. This discussion can develop pupils’ understanding of what we can do in our everyday lives to save water and resources.

#### *Environment and climate (6 of 34 comments)*

The important role that climate plays in the environment was also expressed by the physical education teachers in this study. Some of the teachers had talked with their students about the effects of different forms of transport to and from school. In the comments clustered under this theme, teacher 62 (grade 7–9) taught about “the forest and its importance for the planet and human well-being”. Another teacher (113, grade 1–6) discussed with pupils “how to take care of nature and the environment you are in. We talk about Greta Thunberg and her work for the environment and sustainability”. Teacher 14 (grade upper secondary school) made the suggestion that “in a teaching situation, for example out in the woods and on the ground, point out and address the point that that certain events and problems following our lifestyle today have an impact on nature and our environment, for example littering”.

Clearly, climate issues are one way to implement environmental teaching in the physical education context. In this theme, as well as in others, it should be noted that the physical education teachers describe their teaching interactions with environmental sustainability in the form of *talking* and *discussing*, rather than *doing* in a more practical sense. This observation is something we will discuss further.

### *Health, nutrition and recycling (6 of 34 comments)*

Health is one of the key knowledge areas in the subject of physical education in Sweden. According to the teachers in this study, it is also linked to environmental sustainability. Teachers had worked with projects that promoted sustainable leisure and sustainable health. Teacher 35 (grade 1–6) wrote: “From a health point of view, students also need to understand that they have limited resources in terms of time, energy and performance. They need to take care of their health to be able to be active”.

This theme also included the connections teachers made between environmental sustainability in physical education and recycling. Teacher 21 (grade 1–6) wrote that they taught about “the importance of repairing, exchanging, borrowing, selling and not just buying new, for the sake of the environment, to become aware of how students can contribute to a sustainable lifestyle”. In this theme, comments about nutrition were also linked to environmental sustainability. Teacher 31 (grade upper secondary school) wrote: “In nutrition we debate about resource consumption when choosing different foods”.

As can be seen, environmental sustainability can be expressed in different ways in the subject of physical education. Several of the teachers saw a connection to outdoor education and the right of public access. According to others, environmental sustainability emerged when teaching about energy and natural resources, for example when showering after a lesson. Health and a sustainable lifestyle were also mentioned as areas where environmental sustainability played an important role in physical education.

### ***To what extent is environmental sustainability included in teaching?***

Of the 143 teachers in this study, 34 (24%) had used environmental sustainability in their physical education teaching while 105 had not.

None of the 34 teachers who answered this question indicated that they taught environmental sustainability every week. Nineteen (55.9%) of them answered that they included environmental sustainability in their teaching sometimes every month. Fifteen (44.1%) stated that they taught about environmental issues no more than once a year. In relation to the governing documents which state that environmental sustainability should be integrated in all subjects (SNAE, 2018), it is a reasonable conclusion that (too) many of the physical education teachers (76%) in this study did not live up to this goal. There are several explanations for this weak fulfilment of these aims. One teacher (34, grade 1–6) said: “We talk [about it] and mention it when it feels like it’s a good opportunity to make [the pupils] aware of environmental [issues]. They are children, so it pops up in questions and activities when you least expect it. Then you must seize the opportunity”. Teacher 19 (grade 1–6) wrote: “[It] becomes more spontaneous. If something comes up, we take it here and there”. Judging

by both the quantitative and qualitative responses to this question it seems as if Swedish physical education teachers do not have a strategy for how to implement environmental sustainability in physical education. When it happens, it happens randomly and something that is “caught by surprise”, rather than deliberately and planned.

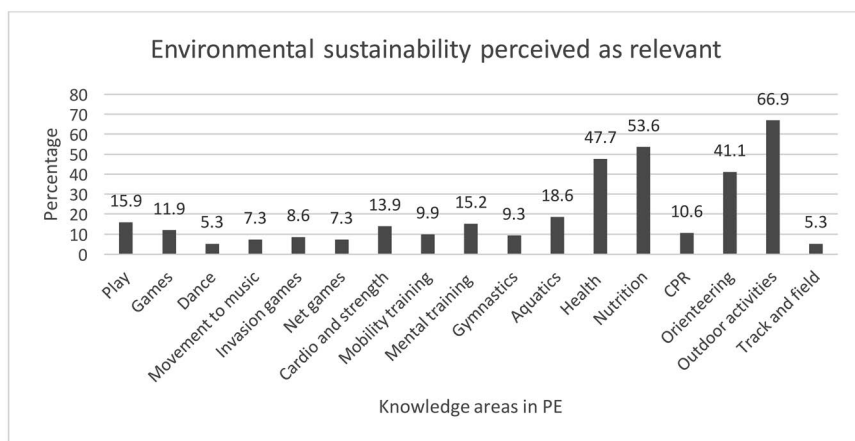
### ***In which educational contexts is environmental sustainability relevant?***

To provide a picture of physical education teachers' perceptions and attitudes towards environmental sustainability in physical education, the data relating to this question have been compiled in a diagram (see [Figure 7.1](#)).

[Figure 7.1](#) indicates that the knowledge areas linked to outdoor activities, orienteering, health, and nutrition stand out as those most physical education teachers (41.1–66.9%) consider relevant for environmental sustainability. Most of the other knowledge areas are taught primarily indoors, making their relevance to environmental issues more tenuous. A relatively low proportion of the physical education teachers (5.3–18.6%) consider these knowledge areas as relevant for environmental sustainability.

### ***Arguments for the relevance of environmental sustainability***

In the questionnaire, we asked all respondents to argue for why (or why not) environmental sustainability is relevant in physical education. Based on the responses, four themes were created: “We can include it in all knowledge areas in physical education”; “I think it works best in outdoor education”; “It’s better



**Figure 7.1** Physical education teachers' perceptions and attitudes towards environmental sustainability in different knowledge areas in physical education ( $N = 143$ ).

suitable to other subjects”; “Environmental sustainability should be included in all subjects”. The numbers in parentheses in the headings below indicate how many answers are linked to each theme.

*We can include it in all knowledge areas in physical education (6 of 53 comments)*

It is well established that in order for environmental sustainability teaching to be successful it should be approached from several perspectives. We also know that environmental sustainability should be taught in several areas and subjects to have a bigger impact. Six of the teachers in this study saw an advantage in having environmental sustainability treated in all knowledge areas of the physical education curriculum and not just in one of them, like outdoor education. Teacher 61 (upper secondary school) wrote: “Environmental sustainability should permeate all teaching in all subjects. It is important content. It is important that we get to work with it on all levels in physical education”. One of the questions in the questionnaire was whether or not the teachers considered environmental sustainability relevant in outdoor education. Teacher 26 (grade 7–9) answered that: “I think it may be part of the content, but there are other parts I weigh more heavily in that area”. Most physical education teachers, however, felt including environmental sustainability in all areas of the physical education curriculum was a positive thing. Something that was missing in the teachers’ answers was how this can be done in the teaching that takes place indoors.

*I think it works best in outdoor education (25 of 53 comments)*

As was also reflected in the results of the first research question in this study, it is within outdoor education that most physical education teachers believe that environmental sustainability is relevant and should be taught. Some teachers see environmental sustainability as a natural part of outdoor education and others see it as a good complement to what is being taught according to the curriculum. The right of public access is part of outdoor education, and several of the comments clustered indicate that teachers see in it a clear connection to environmental sustainability. Teacher 106 (grade 1–6) wrote that “it goes hand in hand with the rights and obligations of the right of public access”.

The knowledge area of outdoor education is connected to being in outdoor environments. Teacher comments in this theme made a connection between environmental sustainability and spending time outdoors. Teacher 73, (upper secondary school) wrote: “Outdoor education includes knowledge of how we take care of the natural environment we have. Valuing nature increases the more time you spend in nature”. Another teacher (75, grade 7–9) wrote: “By showing how we can live together with nature in the teaching of outdoor education, perhaps we can raise awareness of how we can live sustainably”. The teachers pointed out that students needed to learn how to use the environment and the natural world

around them, both for pleasure and benefit, by talking about the parks, forests, nature reserves, and national parks, for example, that they could visit for outdoor activities. One teacher (86, upper secondary school) made a connection between being outdoors and the impact that this can have on the environment: “The choices of outdoor life that ‘our’ ordinary student makes when they are outdoors generally have a fairly high impact on resources, so it is important to highlight how you can change behaviour”.

Comments in this theme suggest that the teaching of environmental sustainability in outdoor education could contribute, not only to the development of knowledge, but also to a change of behaviour. Judging by some of the quotes, it is also as if some physical education teachers believe the outdoor environment can have this transformative potential by itself. Drawing on this logic, environmental sustainability does not need teaching but is simply a matter of taking students outdoors.

#### *It's better suited to other subjects (7 of 53 comments)*

In contrast to several of the physical education teachers in the study who welcomed environmental sustainability in physical education teaching, there were teachers who saw problems and challenges with bringing it into the subject. Some teachers felt environmental sustainability was important but that if it did not already, it should be taught in other subjects. Teacher 85 (grade 1–6) wrote: “It is about taking care of nature, which could be linked to outdoor life, but there are other subjects where it might take a bigger place, such as biology and chemistry”. Other teachers thought that environmental sustainability was better placed in social studies and the natural sciences. One teacher (105, upper secondary school), reasoned that if environmental sustainability was included in physical education, it would add more to the subject’s theoretical content and would thus take time away from physical activity. Another teacher (107, grade 7–9) wrote: “It depends on the purpose. There is a risk that it is forced into the teaching and then there is a risk of it being misplaced in physical education”.

#### *Environmental sustainability should be included in all subjects (6 of 53 comments)*

Six teachers felt that environmental sustainability is so important that it should be taught in all school subjects in accordance with the general curriculum in Swedish schools, and that this included physical education (SNAE, 2018). Teacher 112 (grade 7–9) wrote: “It is important that all subjects take responsibility for teaching about the environment and the curriculum points out that we should do the same [in physical education]. We have a very natural connection through health and outdoor education”. Teacher 149 (grade 7–9) added the following: “We need to bring environmental thinking into all subjects, not least in outdoor education where we teach about how we manage natural resources”.

Although the results do not give a unitary picture on how Swedish physical education teachers perceive environmental sustainability as part of their subject, some general observations can still be made. Although it is expressed as a requirement for all subject teachers, most Swedish physical education teachers cannot articulate a strategy for how to implement environmental sustainability in physical education. When sustainability teaching does occur, it is carried out by a minority of teachers and seems to be randomly implemented by them. Physical education teachers give voice to a strong connection between environmental sustainability and outdoor education, but this is a connection that makes environmental teaching in indoor physical education practices invisible. Regarding the strong outdoor connection, there are also some suggestions that the outdoor environment can teach environmental sustainability “by itself”. There are different challenges built into these observations which we will analyse and discuss in the following sections.

### ***Classification of environmental sustainability in Swedish physical education?***

Bernstein (2000) states that the study of education suffers from the struggle between interests and agents competing to define the field and to define what knowledge is valid. Ekberg (2016) points out that the overall starting point is that knowledge used in school has been recontextualised and produced in the primary field outside of school and in different knowledge disciplines. Knowledge is produced in a non-pedagogical field, from which a selection is made that is subsequently manifested in various school policies. Today, environmental sustainability is a common concept in schools. It has, to some extent, been pedagogised, even though this has not (yet) happened in physical education. Drawing on the way that environmental sustainability is highlighted in the public domain, and to some extent in schools, it is possible to suggest that the concept has a strong classification in the way that it is formulated in policies. When taking practical implementation into account, this strong classification is more questionable. As we have seen in this study, this difference between the (general) policy and the (subject-specific) practice is definitely the case with physical education.

Classification can be studied at a subject level, but it can also be studied as a knowledge area within a subject (see Backman, 2011 for an example). In this study, we have understood environmental sustainability as a perspective that can be studied and is intended to permeate an entire subject. As we can see, environmental sustainability is stated as an overall perspective in Swedish school policy (SNAE, 2018). If our results had indicated that environmental sustainability was taught in Swedish physical education, this perspective would have been strongly classified. However, most of the teachers (76%) in our study do not teach environmental sustainability at all which may reflect a relatively weak classification (Bernstein, 2000).

## Discussion

The results of this study are structured in the following section under two headings which reflects identified challenges to be discussed and possible solutions to be offered.

### ***The influence of sportification as a way of understanding what is not perceived as environmental sustainability in physical education***

The teachers in this study see clear links between environmental sustainability and knowledge areas such as outdoor activities and orienteering. Part of these perceptions may to some extent be a reflection of the idea that being outdoors automatically leads to environmentally friendly behaviour (see Sandell & Öhman, 2013 for a discussion of the relation between outdoor education and environmental concern). Very few teachers see indoor learning areas such as dance, net- and ballgames, track and field, or gymnastics as connected to environmental sustainability. Even aquatics, which includes close bodily encounters with a natural element like water (see S. J. Smith, 2021 for a further discussion), is weakly aligned with environmental sustainability in our study. Perhaps this is due to the fact that, in Swedish physical education, water activities are performed in indoor pools rather than in lakes or seas. Possible encounters with nature, in this way, become decontextualised, making environmental concern unlikely to emerge (see Backman & Svensson, 2022, for a discussion).

More reasons for the lack of connection between environmental issues and indoor sports might be found in the technique-oriented focus that surrounds many indoor sport activities in (Swedish) physical education (Kirk, 2010). This technique-oriented focus might also be stronger because of the increased digitalisation of physical education, for example when students' movements are filmed and assessed (Barker et al., 2016). Outdoor activities may be more easily associated with environmental sustainability because of the physical opportunities to see and feel nature in the form of water, litter, trees, fresh air, and so on. A challenge that arises from this study is how to get the environmental perspective to permeate the *whole* of the physical education curriculum and not only the content related to outdoor activities. Thorpe et al. (2021, p. 372), drawing on post-human and new materialism perspectives, give examples of teaching tasks that "encourage students to understand their sporting, moving bodies, and as always entangled with human and nonhuman forces". Perhaps a questioning of our conception of how sporting objects (balls, racquets, or nets) should be constituted could be one way of widening the possible connections for environmental sustainability in physical education. For example, how do the demands of standardisation, sportification, and digitalisation within sport (Guttmann, 1978; Isgren Karlsson et al., 2022; Svensson & Sörlin, 2019), influence teaching with regards to material sporting objects? How does physical education foster young peoples' care for the sporting materials used in physical education? And what happens



with movement practices if physical education teachers dare to think differently and (re)use sporting objects that are not according to the latest standard? While these questions are beyond the scope of this chapter, they are potential areas for future research. The fact that environmental sustainability appears only in the least sportified part of Swedish physical education (that is, in outdoor education), signals a limited potential for physical education to take on issues of environmental sustainability.

### ***How can the classification of environmental sustainability in physical education be strengthened?***

The limited extent of the teaching in Swedish physical education around environmental sustainability, which is well illustrated in this study and also emphasised in the international research (Welch et al., 2021), reflects the undeveloped potential of environmental sustainability as a component of physical education. A somewhat outdated report from the SNAE (2001) shows that environmental sustainability is taught when also it is explicitly stated in the subject curriculum (see also Molin, 2006; Sund, 2008). Inspired by Bernstein's (1975) concept of classification, we have tried to illustrate this relationship between the references to environmental sustainability in school policy documents and the extent to which sustainability is implemented in different subjects (see Table 7.1).

Environmental sustainability is a broad perspective. It can be used in collaboration with other subjects to make a stronger impact. In subjects such as geography, natural sciences, and biology, environmental sustainability is explicitly mentioned as a content area in the curriculum. Its clear presentation in these policy documents means that teachers probably conceive it as a stronger mandatory task than those teaching in physical education. In both the general curriculum, and the subject specific curriculums for geography, biology, and the natural sciences, environmental sustainability has a stronger classification compared to physical education (Molin, 2006; SNAE, 2001; Sund, 2008), where the classification is

*Table 7.1* Environmental sustainability in Swedish school policy documents and the extent to which environmental sustainability is implemented in the school subjects biography, natural science, biology, and physical education.

<i>Subject</i>	<i>Formulation in policy documents</i>	<i>Implementation in teaching</i>	<i>Classification</i>
Geography	In overall and subject curriculum	To a large extent	Strong
Natural science	In overall and subject curriculum	To a medium extent	Medium
Biology	In overall and subject curriculum	To a moderately low extent	Medium
Physical Education	In overall curriculum	To a low extent	Weak

relatively weak (Ekberg, 2016; Lundvall & Meckbach, 2008). Environmental sustainability is not stated in a clear way in the physical education curriculum. Thus, a majority of the physical education teachers do not include it in their teaching. Our results raise questions about whether or not policy documents (either general and subject specific) are the best way to support and encourage environmental sustainability so that it is reflected in everyday teaching practice.

One way of getting new perspectives implemented in a school subject that have lately proven successful is to place formulations in the subject curriculum (see Isgren Karlsson et al., 2022, for a study on the introduction of digital technology in physical education). However, this logic may not always be applicable. It can lead to crowding, not only of content but also of perspectives, in subject curricula. One alternative to this type of *top-down control* (that is, the stricter specification of environmental sustainability in subject curricula from government down to teachers) would be to try to start a *bottom-up movement* around environmental sustainability among physical education teachers. That is, to make teachers think that environmental sustainability is so important that it cannot be ignored, regardless of what is stated in subject policy documents (governing subjects bottom-up). The results of this study show tendencies that environmental sustainability in physical education has the potential to gain a stronger classification. For example, several teachers show an awareness of environmental issues and a willingness to include it in their physical education teaching. Development of this potential could be done through networking at conferences, campaigns to raise awareness, starting interest groups, working on physical education platforms, using social media, and more.

We have seen a few examples in Swedish physical education of how over time some perspectives become more and more influential in society and in the educational system until they eventually become difficult to ignore in the planning and development of school subjects. The growth and development of gender equality during the twentieth century is one such example (Lundquist Wanneberg, 2004; Sandahl, 2005). Another example is the discursive shift from a subject in which *sport activities are performed* to one where *movement cultures are to be learned* that started around the turn of the millennium and are still ongoing (Larsson & Karlefors, 2015; Quennerstedt et al., 2014). If these examples are anything to go by, the bottom-up inclusion of new perspectives in physical education is a sluggish process that needs to get started.

One reason for the weak influence of environmental perspectives in physical education is probably related to how these issues are covered in physical education teacher education (PETE). Research covering different elements of the PETE curriculum has shown that the transition from PETE to school physical education is a process that can transform and recontextualise content and encourage new perspectives (Backman, 2008; Backman et al., 2021; Tolgfors et al., 2021). More knowledge is needed as to how PETE influences teaching practices in PETE, and how content and perspectives in PETE are selected. If awareness and openness to sustainability issues in school physical education is to be improved, it might be that the PETE curriculum needs to be changed.

## Note

- 1 The right of public access is protected by the law, which gives all people the right to roam freely in nature and to pick berries, mushrooms, and flowers from the ground. The only expectation is to show respect for nature and the animals living there (Naturvårdsverket.se).

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# School Sport Education and Sustainability

## Towards Ecological and Inclusive Student-Athletes?

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### Introduction

In discussing the role of sport in achieving the 17 sustainable development goals (SDG), Lemke (2016) claims that ‘children and young people benefit tremendously from physical activity. Combined with a school curriculum, physical activities and sport are necessary for a comprehensive education’ (p. 7). Sport in school is explained as an important vehicle to empower young people at a global scale. According to the United Nations, education is essential to the advancement of sustainable development (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2014). Further, the United Nations outline how sport contributes to the SDGs (United Nations [UN], n.d.). In relation to SDG 4 on *Quality education*, it is suggested that sport offers alternative physical education and physical activities that support the full learning process, deliver holistic education, offer life skills, and motivate young people to attend and stay in school. In relation to SDG 5 *Gender equality*, sport can raise awareness for gender equality, contribute to abolish discrimination against women and girls, promote inclusion and empowerment, address constricting gender norms, and engage men and boys in achieving gender equality in and through sport (UN, n.d.). Sport and physical activity can be practised in various ways in school: the subject physical education; extra-curricular activities; part of daily physical activity; and different forms of school sport. Lundvall and Fröberg (2022) see a huge potential of adopting educative aspects of sustainable development in physical education. They suggest that a revision of curricula, a reorientation of the learning perspective, and rethinking perspective on health and well-being can challenge and enable a new point of departure. In this chapter, *school sport* is used as an example to discuss aspects of sportification and sustainability. School sport is here described as training and learning (organised) sport as a part of the school curriculum.

Education and sport merge in school sport. In the Scandinavian countries Sweden, Denmark, and Norway, school sport is offered as a subject or a school programme (Kårhus, 2017; Larneby, 2020; Skrubbeltrang, 2018) but is not offered at all schools. In Sweden, which this chapter focuses, school sport is a popular choice. It is not to be confused with physical education. In relation to the

arguments by Lemke (2016) and UN (n.d.) above, school sport could be understood as a contribution to a comprehensive education and sustainable development. Skills taught in sport are described as essential for future participation that can stimulate social cohesion with communities and societies (Lemke, 2016). Ballet et al. (2020) describe social cohesion as a social aspect of sustainability. Nevertheless, no relation between sport, physical activity, and sustainable development is explicitly formulated in the Swedish school curriculum. Education in sustainable development is offered in many countries (Wals & Benavot, 2017). In Sweden, education in sustainable development is a learning content within one of four overall perspectives from primary school to upper secondary school. In the *environmental perspective*, students learn to be responsible for the environment and get a personal approach to global environmental issues. Further, education in sustainability is a specific content in subjects such as biology, geography, and home economics (Swedish National Agency for Education [SNAE], 2022a, 2022b). As Isgren Karlsson and Backman discuss in this volume, education in sustainability is not specified in Swedish physical education. The potential that sport in school might have to contribute to sustainable development is not found in any Swedish syllabus. Nevertheless, school sport students (further on student-athletes) can bring their general knowledge of sustainability into their sport participation in schools and their clubs.

In contrast to sport's positive power, Lemke (2016) admits that sport 'still faces many challenges to the fulfilment of its true potential' (p. 9). Within sport, we still witness intolerance, racism, hatred, and violence, all of which can be placed within social aspects of sustainability. Direct or indirect coerced exclusion from sport is not sustainable, whether it is based on gender, ethnicity, age, ability, or socioeconomic background. In addition to these social challenges, the sport industry affects the environment through building and operating facilities; hosting small and big events; and transporting athletes, coaches and staff, and spectators – all of which have a detrimental impact on natural resources, animal habitats, and the climate (McCullough & Kellison, 2018). The SDG 5 and that sport can raise awareness for gender equality are of relevance for social aspects of sustainability, and can be relevant also for environmental aspects. It is well known that sport has been, and still is to some extent, perceived as a male preserve, as sport in various forms was created by men – for male athletes and male spectators. Matthews and Channon (2019) discuss how sport has constituted male power in structural and symbolic ways. This gender discourse is not only a part of sport, but it is also recognised by Hultman and Pulé (2018) and Connell (2017) as a normalisation of male domination and malestream norms in society. It is mostly men, malestream norms and Western (white) hegemonic masculinities in the Global North, who are the main perpetrators of violence against the planet and people (Connell, 2017; Hultman & Pulé, 2018). The contrast to this is ecological masculinities. Briefly described, ecological masculinities are a new expression of manhood and towards caring masculinities for Earth, humans, and animals. 'We all need to walk the talk of broader, deeper and wider care more so



than ever' (Hultman & Pulé, 2018, p. 241). In this chapter, the construction of masculinities and male norms in school sport and its link to society are discussed.

School sport is part of the sport industry not only as an important factor for physical activity and sport in school but also as talent development in several countries. Therefore, this chapter aims to reflect on and discuss how the merge of education and sport in school sport can have consequences for gender norms and social and environmental sustainability. The next section provides a background on school sport. Thereafter, a framework of sport logics, gender, and some aspects of sportification is presented. This is followed by an analysis based on examples of how sport logics and gender relations are intertwined in school sport. A critical reflection on school sport's relation to sustainable development concludes the chapter.

### **School sport – A background**

School sport has no formal or joint global definition. It is not organised in the same way or with the same purpose, although similarities exist. In summary, school sport is practised within the school curriculum or is organised by schools as an extra-curricular activity. It focuses on *doing* sport and can be organised with or without competition. While school sport is mostly not the same as physical education, they often share similarities. In South Africa, physical education and school sport are described as a means to learn explicitly about sport-specific skills and to participate in interschool leagues (Burnett, 2020). In the United States and Canada, school sport is related to training sport and competing within and between schools, promoting sportsmanship, and leading an active healthy lifestyle. It is separated from club sports (Overman, 2019; Sulz et al., 2021). According to Overman (2019), 98% of high schools in the United States sponsor interscholastic sports programmes. However, just as the objectives and content of physical education may differ between countries, we need to be careful not to compare school sport subjects or programmes in different countries without deeper insight.

In Scandinavian countries, school sport is an optional, formalised school *subject* or *programme*. It is not offered at all schools. As a subject in Swedish secondary schools (ages 12–16), it is not to be confused with physical education, which is mandatory. At the secondary school level, school sport is organised by each school to offer a possibility to do more sport and physical activity during school hours (Ferry et al., 2013; Larneby, 2020). At the upper secondary level (ages 16–19), Swedish school sport is curriculum regulated in the subject Special Sport (*Specialidrott*; SNAE, 2022c), which is organised at a national basis and in collaboration with national sport federations.

In general, school sport in Scandinavia can have an explicit sport direction, where students often choose one sport, but it also has a more sport-friendly recreational direction (Larneby, 2020; Nielsen et al., 2020). In upper secondary school, an elite orientation is most common. School sport is often organised in collaboration with sport clubs and is similar to standardised sport (rules, tactics,

techniques), but without intramural or interschool competitions, which take place in sport clubs outside schools. According to research, Scandinavian upper secondary school sport programmes are fruitful in producing successful athletes (Kårhus, 2017; Nielsen et al., 2020; Svensson, 2021). The elite level of school sport is increasingly gaining popularity in younger ages. In Denmark, Sports Classes (Idrætsklasser) allow talent development also in secondary school (Nielsen et al., 2020). The Swedish school studied in Larneby (2020) had an elite orientation, and this development is also seen in Norway (Norges Toppidrettsgymnas, 2022; Wang, 2022). Importantly, in all three Scandinavian countries, school sport increasingly focuses on enabling the development of student-athletes from the age of 12. Therefore, school sport is in this chapter delimited to refer to student-athletes who *choose one sport to specialise, train, and improve in, often for a future elite investment*.

### **Analytical framework: Performance and gender**

Various logics and perspectives can be used to explain how sport is organised, valued, expressed, and perceived. For instance, logics of sport are used to describe and analyse how school sport is part of a sportification process. This section presents the logic of *performance* and a *gender perspective*, which relate to two of Guttmann's (2004) characteristics of modern sport: specialisation and equality.

#### **Logic of performance and specialisation**

Movement practices can be understood based on how people with different dispositions participate in movement culture. Inspired by Pierre Bourdieu, Engström et al. (2018) formulated three overarching logics of practice in movement culture: performing, improving, and experiencing. Each of these logics of practice also has sub-logics. *Performing* and its sub-logic *competing* are of certain interest for this chapter. The logic of performance means that winning is important, or conquering something and achieving a task. In its sub-logic competing, *ranking* is significant. Thus, in order to compare with others, an achievement needs to be measurable or assessable against pre-established criteria. Further, the logic of performance is here understood as a part of the modern sport characteristic *specialisation* (Guttmann, 2004). Specialisation means that time is devoted to the achievement of athletic excellence in a sport.

#### **Gender and equality in sport**

In her theory of gender as a social institution, Lorber (1994) argues that gender is an overarching social category that organises almost all areas of social life, such as the family, work, state, sexuality, language, and culture. Gender structures every aspect of our lives, and gender precedes an individual's actions and interactions. Gender is a system of social stratification that classifies individuals based on sex

(as male or female). This stratification leads to a differentiation between men and women, where men are classified above women based on a perception that ‘what men do is usually valued more highly than what women do because men do it’ (Lorber, 1994, p. 33). However, Lorber claims that men as well as women need to live up to gendered expectations and that men’s seemingly privileged position is not necessarily so privileged.

As in other parts of society, gender is present and visible in sport. According to Guttman (2004), *equality* is one characteristic of modern sport. Everyone should have the opportunity to compete, and the conditions should be the same for all. From a gender perspective, Guttman argues that excluding athletes from sport based on their sex prevents the emergence of gender-equal modern sport, here referring to the exclusion of women. We need to keep in mind that there has largely (albeit not fully) been a positive change regarding women’s access to sport since Guttman’s book was first published in 1978. Matthews and Channon (2019) claim that sport is no longer a purely male preserve or masculine endeavour. Nevertheless, there are ways in which sport can operate as a male preserve that need to be critically explored. The gap between the *vision* of equal terms and *real* terms needs to be considered and problematised from a contemporary lens. McDonagh and Pappano (2008) argue that dividing sport into ‘male’ and ‘female’ enforces the notion that men’s sport and power are the real thing, whereas women’s sport and power are second class. Furthermore, reducing gender equality into two groups of athletes is to simplify gender equality (Matthews & Channon, 2019); transgender athletes struggle for recognition (Imbrišević, 2022). Nevertheless, the binary categorisation of gender (male/female, masculinity/femininity) is strong within society at large, and it is reflected in sport (Lorber, 1994). Therefore, in this chapter, ‘male/men’ and ‘female/women’ is used as group categories, as this is how sport is most often divided and how it is linguistically categorised in the research presented.

### **The specialised and gendered student-athlete**

The way in which performance, specialisation, and gender are intertwined in school sport and in the sportification process is illustrated in this section with support in previous research. The analysis provides a base to understand school sport before a sustainability perspective is applied. The following subsections present empirical examples based on my ethnographic study of a sport-profiled secondary school in Sweden (Larneby, 2020). Only student-athletes aged 12–16 were enrolled in this school, and school sport lessons were taught by coaches from sport clubs (teacher-coaches). The admission process involved a selection among the applicants based on their athletic ability. The student-athletes I met were ambitious, skilled (according to their teacher-coaches), and motivated. The key findings show that logics of performance (valuing ranking and competition), together with a gender norm stating that boys are better than girls, are dominant and intertwined patterns. The examples below are also presented in relation to other school sport research.

**'I want to be the best' – The specialised student-athlete**

I asked all 29 interviewed student-athletes why they chose school sport and what their thoughts were on choosing one sport to specialise in. Many answers were the same, Kasper, a 15-year-old basketball student-athlete, replied

I think it's fun. I don't see any problems with a school that focus on athletic ability in one sport. I have always loved to play and strive for the elite level, with a lot of training

(Larneby, 2020, p. 122).

Kasper also trained and played games in a basketball club several days a week, and he aimed to be a professional European league player. This experience is similarly expressed by Norwegian and Danish student football players (Sæther et al., 2021; Skrubbeltrang, 2018) and Norwegian student alpine skiers (Sisjord & Sørensen, 2018). The recurring narrative in Scandinavian school sport research is that student-athletes appreciate it. School sport's close relation to training in their clubs is a reason why student-athletes frequently describe positive experiences of school sport.

In school sport studies, student-athletes often explain the choice of school sport in personal terms: I wanted to do this; I chose this to be a part of my education (Larneby, 2020; Sisjord & Sørensen, 2018; Skrubbeltrang, 2018). One of the female football students in Larneby (2020) emphasised that 'I really want to invest in this... To be able to train every day' (p. 75). Similarly, in a Norwegian study, a young girl explained that 'we choose not to be with our former friends to pursue this dream. In order to make it to the top, we need to start now' (Kristiansen & Stensrud, 2020, p. 60). According to the student-athletes I met, the focus on individual development (not results or records) in the school sport lessons enhanced the feeling of being seen and important. Nevertheless, comparison and informal competitions with peers was important, as this spurred them to train and improve. Parallel to the individual focus was also the importance to position oneself as skilled within the student-athlete collective (Larneby, 2020). The link between the logic of performing and ranking, the focus on the individual student-athlete, and specialisation was strong. As Guttman (2004) argues, specialisation is an important feature of modern sport. The athlete invests in one sport, spends a vast amount of time during an extended period, and has access to coaches and sport-specific facilities and equipment. In addition to the time devoted to training and support from clubs, specialisation is often also facilitated by many sport schools (Larneby, 2020; Sisjord & Sørensen, 2018; Skrubbeltrang, 2018). Student-athletes in Scandinavia rarely replace club training with school sport lessons. Instead, the amount of total training hours increases, and specialisation is enhanced. In 1978, Guttman (2004) stated that specialisation tends to be narrower and narrower. The fact that children today, in 2022, choose to practice one sport – not only during club training but also in school sport from

the age of 12 – exemplifies a narrowed and earlier specialisation (Larneby, 2020; Nielsen et al., 2020).

In line with Svensson (2021), the narratives above show how school sport relates to the sportification process, and put the individual student-athlete in focus. Further, Svensson (2021) argues that the effects of sportification historically have ‘applied an external pressure on the Swedish education system’ (p. 8) to contribute to educating athletes in sport and in academic studies. Needless to say, not all student-athletes in my study thought that school sport was the optimal choice, for various reasons. Neither can all student-athletes be among the best in their sport either. However, the educational dimension of school sport – school as a site for development in sport and regulated by curriculums – contributes to legitimising early specialisation in sport (cf. Svensson, 2021). Therefore, we need to take school sport into account when discussing the role of sport society.

### ***‘Play like a boy, don’t throw like a girl!’***

#### ***The gendered student-athlete***

Actions dominated by performing, competing, and ranking among peers appeared to be taken-for-granted ways to behave as an athlete. This was often performed in a joyful and respectful way, but it also involved overt ranking and hierarchisation with patronising intentions, both *between* sports and *within* sport groups (Larneby, 2020). Gender played a significant role in this hierarchisation. At the studied school, the ideal way of doing sport was ‘like a boy’: strong, technically skilled, and fast. These characteristics were explained by the student-athletes as typically male. This discourse dominated even though – in many sports – other characteristics, like stamina and agility, were needed as well. However, playing like a boy did not mean that only boys could and were expected to play like boys. On the contrary, girls were expected to play like boys, with the implicit anticipation that they could do so as long as they were not better than boys. Furthermore, no one should ‘throw like a girl’ or do sports ‘like a girl’. These epithets were used derogatorily among boys. McDonagh and Pappano (2008) argue that as long as the epithet ‘play like a girl’ is used as an insult, women’s and girls’ skills will be underestimated and subordinated. Thus, girls who were perceived to ‘play like girls’ were trivialised by some boys. This can be interpreted as a form of misogyny, which Anderson (2009) claims is part of an orthodox masculinity not unusual in sport. In contrast, playing like a boy was highly valued at this school. When girls were told they played like boys, it was an approval of their athletic skills. It points to an acceptance of girls, but only if their skills and behaviour lived up to the male standard.

Although boys generally acknowledged (skilled) girls, there was an obvious need for several boys to compare and rank themselves and others in some way based on a notion of girls’ inferiority. The female student-athletes were acutely aware that the ‘female way’ of doing sport was the wrong way if they wanted to be (perceived as) good athletes. In addition, many boys seemed to constantly

reassure themselves that they upheld what was expected of them. In this context, to 'play like a boy' can be described as a reverence of a masculine sport characteristic. This power relation was more or less incorporated into and embodied in the way a sport group functioned, as student-athletes and teacher-coaches enforced it.

A study of school sport sailing in the United States and France shows similar results (Schmitt et al., 2021), arguing that the young male sailors 'easily aligned with sailing's broader social codes' which were also reproduced at the school sport level, and that 'masculine domination was supported by everyday micro-practices and power relationships which positioned women as inferior sailors' (p. 127). According to Overman (2019), US high school's image can depend on its male athletes, as they 'may be treated as celebrities, even demigods, deemed untouchable' (p. 94). This was explicitly expressed among the student-athletes in the study (Larneby, 2020, p. 267) and illustrated in this quote by the principal:

Football is ranked over all other sports, then comes nothing... nothing... Next sport is in fourth or fifth place... *Boys' football, only.* If you play in the football club, it is *crazy* what ranking one may get! And if you are the popular boy, from the football club, you are perceived as almost sent by god, almost!

Male norms operated in many directions: in addition to the pressure it put on male student-athletes to (re)produce a certain norm and masculinity, it functioned as a marginalising instrument when used by boys towards girls in some situations and as an empowering tool for girls' development and status ranking in other situations (Larneby, 2020). Sport and gender constituted a symbolic power at this school. Such reverence of the male norm is embodied male power (cf. Anderson, 2009). It was loaned to skilled girls, and at best, they could balance the power relations but never tip them over.

Matthews and Channon (2019) discuss how sport has constituted male power in structural and symbolic ways, which is visible in the examples. School sport is not exempted from male norms and gendered regimes (McSharry, 2017; Schmitt et al., 2021; Skrubbeltrang, 2018). Male student-athletes have many ideals and expectations to live up to, and female student-athletes need to adhere to male norms to be accepted and perceived as skilled athletes. There are positive glimpses, though. In my study (Larneby, 2020), specifically the floorball and basketball boys also demonstrated that they appreciated skilled female athletes and liked doing sport together with them. This parallel behaviour is in line with an *inclusive masculinity*. Anderson's (2009) theory of inclusive masculinities explains how several masculinities can exist simultaneously. There has been a shift in men's construction of masculinities in sport settings. This has resulted in the availability of more and varying masculinities opposed to merely one hegemonic orthodox masculinity. This masculinity emphasises heterosexuality, opposes softness related to femininity and homosexuality, and elevates the male body as superior to that of women manifested through strength and violence (Anderson, 2009). For instance, in inclusive masculinities, men can show emotional and physical

homosocial intimacy towards one another without sexualising these interactions. In addition, boundaries between femininity and masculinity have become more diffused and are approaching each other. Men are also showing an improved attitude towards women.

The examples above are related to equality, which according to Guttman (2004) is a characteristic of modern sport. Gender equality can be achieved at (Swedish) schools that offer boys and girls to choose and apply for school sport and that ensure sport groups get equivalent training contents in lessons regardless of sport and regardless of whether they are gender separated or co-educated. This is in line with the Swedish national curriculum, which states that school shall actively and deliberately promote equal rights and opportunities of students, regardless of gender (SNAE, 2022a). However, the responsibility for schools to counteract gender patterns that constrain students' learning, choices, and development, is not always met. Constraining gendered patterns were highly visible in Larneby (2020), Skrubbeltang (2018), Schmitt et al. (2021), and McSharry (2017). As Guttman (2004) discusses, 'in actual practice there are numerous inequalities, which will occupy us at some length when we consider not the conceptual model but the contemporary state of affairs' (p. 26). Several prerequisites and norms seemed to be set in the boys' favour for girls to follow.

The specialised, performance-focused, comparison-driven, and sportified milieu paved the way for gendered regimes that progressively narrowed down the ideal (elite) athlete: a skilled, masculinised male or female student who plays like a boy. A critical and relevant question to pose is if this is the athlete that nations, federations, and clubs want to produce?

## **Specialisation, gender, and sustainable development**

The following reflection and conclusion discusses how school sport and specifically specialisation and gender relate to sustainable development. Two themes are presented: (1) an environmental approach based on practical conditions for school sport related to specialisation and (2) a social and environmental approach based on gender.

### ***The environment, specialisation, and practical conditions for school sport***

In many countries, school sport has an established place and role in education offering and promoting physical activity and sport. In Sweden, as in Denmark and Norway, school sport is an established talent-development and dual-career system. Early specialisation in collaboration with the educational system results in increasingly younger student-athletes, and presumably also an increase in the number of student-athletes. The specialised student-athletes (most often) invest in their future sport career and are aware that peers in other countries often undergo some kind of training or programme to increase their chances of reaching the top.

### *Facilities*

If school sport programmes in Sweden and elsewhere want to attract young athletes and play a significant part in elite sport development, these schools need a well-developed infrastructure of sport facilities. Adequate facilities need to be within a close geographical range from the school to enable sport lessons on the curriculum. Building and operating sport facilities produce a lot of waste and require energy sources and water supply, but the sport industry has to work towards a climate-neutral position and decrease the environmental impact (Nguyen, 2018). Heinze and Soderstrom (2018) argue that it is of utter importance to consider environmental sustainability of sport stadia, due to the potentially large environmental cost of not only constructing such facilities, but also operating them. Further, they argue that ‘there is an opportunity for sport venues to reduce their negative impact on the environment’ (p. 267). Many well-equipped and flexible sport halls can accommodate several sports in the same arena, which would allow sport schools to offer many sports. Some sports require specific venues. For instance, some Swedish school sport programmes offer golf or equestrian sport. Both sports are strictly regulated in relation to the environment. Thirteen Swedish upper secondary schools offer equestrian sport, and evidently these schools – as with all riding establishments – need to be close to stables and adequate outdoor and indoor riding facilities. These facilities need to follow the Swedish Equestrian Federation’s (2022) sustainability policy and regulations regarding manure management, water supply for horses, and good pastures. Another facility issue is related to snow sports, which increasingly need to use artificially produced snow when winters get warmer and shorter, which requires a lot of energy and economical means. Furthermore, not all existing sport facilities are located where sport schools are. This might be a challenge to federations and communities who want to start sport schools – they need to build more schools or sport facilities (or both) to support the sport school model. A well-functioning school sport infrastructure clearly faces environmental challenges. With an education for sustainability embedded in the Swedish curriculum, student-athletes presumably get basic knowledge to understand the impact sport can have on the environment (SNAE, 2022a, 2022b). Knowledge and insights of the climate crisis have increased young Swedish people’s interest for the issue, and a request for action to take place (Swedish Youth Barometer, 2022). In the future, the call for an environmental-friendly sport industry might be stronger from the athletes themselves.

### *Transportation*

Athletes are fostered within a web of competitions, cups, and leagues already at a young age, in sport club organisation or in interscholastic sport. When the distance to facilities is too far for a walk or bicycle ride, transportation is needed



for training sessions, training camps, and competitions. This especially applies for national and international competitions and has an immense impact on the environment due to emissions. A study on 16 of the 71 Swedish sport federations' work with environmental sustainability shows that transportation is a main challenge, especially since environmental sustainability work is not always prioritised on the federations' agendas. The authors suggest that sport's structure of travelling to train, win, and always improve may be the main obstacle to a successful work and victory for environmental sustainability (Larneby et al., 2022). On the other hand, voices have been raised by athletes that worldwide travelling is problematic, and they hope that their federations can contribute to solutions (Larneby et al., 2022). But what can young athletes do? The Swedish Youth Barometer's (2022) annual survey on young people (aged 15–25) shows that this generation is more anxious and has a bleak outlook compared to previous generations. One reason is the climate crisis. Among the respondents, the second most important societal issue is the environment and climate change (49%), after issues pertaining health care (57%). It is more important for young people to make sustainable and climate-smart choices in their everyday life. For instance, alpine and cross-country skiers face direct consequences of melting glaciers and shorter winter seasons and have made the request to stay in one competition resort for a longer period. The International Ski and Snowboard Federation (FIS, 2022) has signed the Sports for Climate Action Framework. Here, however, the skiers are in the hands of the FIS and national federations, who set policies and regulations for travelling (Larneby et al., 2022). In accordance with other chapters of this book, I argue that school sport today confirms and reproduces a competitive spirit as student-athletes are further educated within (and towards) organised competitions, enhanced performance, and winning – (often) on behalf of values such as exercise and a lifelong healthy activity.

### ***The environment and gender – Power relations in play***

Gender constructions does not exist in a vacuum. They are socialised into our identities and lives from birth (Lorber, 1994). Some of the 14-year-old floorball boys in the study said that 'some boys think they are better than girls, just because [they] a boy' and that boys are supposed to do sport. Further, they said they remembered from a young age that 'all boys were at the football pitch, girls sat on the playground and talked. You have always grown up with that' (Larneby, 2020, p. 178). This last phrase, 'always grown up with that', plays a significant role. If what you learn, see, and hear, is implicitly or explicitly expected of you to do or behave like is gendered, it will form and contribute to a gendered identity. It also adds up to valuing men and women (Anderson, 2009; Connell, 1995; Lorber, 1994). Already at a young age, gendered power relations are embedded in children's consciousness and embodied in actions.

Turning the lens towards the environment before I get back to sport, Connell (2017) argues, 'We do not live in an Anthropocene so much as a

*Sociocene*. Corporations, states, and structures of power and inequality, rather than individual humans, are generating the large-scale environmental effects' (p. 5). Gender is one of those powerful structures (Connell, 2017). Here, social, economic, and environmental aspects of sustainability merge. In line with Connell (2017), Hultman and Pulé (2018) argue that (mostly) men, mainstream norms, and Western (white) masculinities in the Global North, are the main perpetrators of violence against the planet and people. Hultman and Pulé (2018) use the term *industrial/breadwinner* masculinities interchangeably with mainstream, patriarchal, hegemonic, and normative masculinities. The term 'industrial' refer primarily to men and women who 'possess and manage the means of production and support service corporations who are handsomely rewarded by wealth-creating practices that rely on extraction of Earth's natural resources' (Hultman & Pulé, 2018, p. 41). The vast majority of individuals who are fossil fuel and mining executives, financial managers, bankers, and corporate managers are Western, white, and male (Connell, 2017). The term 'breadwinner' is explained as primarily working-class men who work in mines, at manufacturing assembly lines, move goods, and grow crops (Hultman & Pulé, 2018). Needless to say, this mainstream norm does not encompass all men, nor do all women support environmental engagement. Nonetheless, as Connell (2017) emphasises, while top managers of corporations probably do not contribute to emission of greenhouse gas or pollution by inner evil, they are 'working in an insane elite world that institutionalises competitive, power-oriented masculinity, and they are doing whatever it takes' (p. 6). In a way for men to try and reassert their assumed 'greatness', Hultman and Pulé (2018) claim that we now face a mainstream revival by a global authority that reifies kinds of toxic/extreme masculinities.

### **Power relations in play**

What then, does this have to do with sportification, school sport, and the specialised gendered student-athlete? To illustrate this, some terms are worth to pick up from Connell's (2017) quote above on top managers: *competitive* and *power-oriented* masculinity, *doing whatever it takes*. This could might as well be a description of (some) male athletes, who are 'taking one for the team' (Anderson, 2009); use aggressiveness and warrior narratives on the playing field (Adams et al., 2010); resist female athletes in sex-integrated arenas such as surfing (Comley, 2016); or young male student-athletes who consciously marginalise female peers in co-educated lessons because their male position might be challenged (Larneby, 2020). In this context, the 'play like a boy' discourse that prevails on the studied school in Larneby (2020) signals more than a way to play sport. It is signalled as a way to be and to behave. It is not neutral or innocent, it is not restricted to boys. It symbolises a deeply structured and legitimised way (although it might be contested and re-constructed) to put male norms and masculinity in a superior position over femininity, over female athletes who

do not adapt to a male norm, and over male athletes who in some way deviate from this gendered play. In the study discussed in this chapter (Larneby, 2020), as well as in other research on sport and school sport presented above, this is (perhaps unconsciously) enforced by athletes of all ages, coaches, parents, clubs, federations, and school staff.

I argue that gendered regimes in (school) sport potentially do relate to environmental sustainability and masculinities. Although not all school sport is organised based on male norms, this practice does exist. Sport research has presented numerous case studies and analyses of how masculinities are fostered and reproduced in sport. Matthews and Channon (2019) summarise this as that 'sport provided men a site where the formal exclusion of women, and the overt celebration of powerful and aggressive visions of masculinity, enabled them to continue to construct idealised versions of themselves as rightfully dominant' (p. 374). The real man is (naturally) strong and muscular, and competitive, and aggressive. Sport as a male preserve tells us how notions of masculinity could be preserved and used to support the continuation of male supremacy. This type of masculinity – with the attitude that boys and men are privileged, strong(er), expected not to show feelings, and expected to be superior to girls and women – is imprinted in society (Lorber, 1994). The industrial/breadwinner masculinity (Hultman & Pulé, 2018) and masculine culture in sport (Anderson, 2009) portray a certain kind of man and masculinity. Hultman and Pulé (2018) argue that the industrial/breadwinner masculinity is detrimental for the environment at a global scale, as industrial values are prioritised over environmental values. They claim that a masculine socialisation results in patterns of internalised superiorisation, which is destructive for the Earth, for others, and for themselves. Further, they see a link between an industrial/breadwinner masculinity and climate change denial which contrasts Earthcare. For instance, the ones who gain the most from an unfettered industrialisation are those who strongly protest against the suggestion that our planet is harmed by carbon emissions. Everyone who work in industries, organisations, or corporations that contribute to environmental impact are not climate change deniers. For instance, sustainability policies formulated for Swedish sport federations are perceived as important and are progressively used to reduce transportation and to rethink the organisation of events and competitions (Larneby et al., 2022).

As mentioned above, the Swedish Youth Barometer (2022) asked young people aged 15–25 which societal issues they think are the most important. After medical care and healthcare, environment was the second most important issue, and gender equality the third. This is promising. However, there were differences between girls' and boys' response rates. While 58% of the female respondents replied environment and climate, the male response was 38%. Further, 64% of the female respondents and 21% of the male think increased gender equality was important. In both issues, female respondents are of clear majority. It signals that men, to a lower extent than women, think that the environment and climate is important, which also is in line with Connell (2017) and Hultman and Pulé

(2018) above. In addition, gender equality still remains a bigger societal issue to women than to men (cf. Lorber, 1994).

If school sport, and sport in general, continues to reproduce (or at least does not challenge) hegemonic masculinities (Anderson, 2009; Connell, 1995), male and female student-athletes will learn that this is not only the way to do sport, but this is also a way to be and behave in society at large. Sport needs to be scrutinised to uncover how this centuries-old male preserve and the negative effects of masculine hegemony relate to society at large (for instance, violence, lack of emotional competence, and breadwinner mentality), and to environmental sustainability specifically. Schools have a considerable responsibility to counteract gender inequalities and gendered patterns that lie within society's traditional structures (SNAE, 2022a, 2022b). Since school sport is part of school education, gender norms in school sport also need to be taken into consideration.

## Conclusions

The objective of school sport is to contribute to a lifelong physical activity and future performance. Sportification is visible through a focus on specialisation and gendered way to do sport (cf. Guttmann, 2004). Logics and norms are reproduced rather than challenged and transformed. The characteristics of modern sport construct a performance-oriented athlete aiming to win. In this regard, school sport education teaches its student-athletes well. As shown above, school sport also contributes to environmental impact when using and building sport facilities, and transportation to training and competitions, just as other sport do. Importantly, and what this chapter specifically discusses, is that gender cannot be ruled out in explaining the ways sportification contribute to – and inflict negatively on – sustainable development. This form of school sport reproduces a type of male norm and masculinity that potentially may be socially negative for athletes (Larneby, 2020). I argue that it is also potentially negative for the environment, as dominating masculinities in the industrialised and corporate world are similar to dominating masculinities in the world of sport. The idea of sportification and strife to be faster, higher, and stronger might be problematic due to its gendered way to perform, and can be related to leadership characteristics in the industrial sector (Connell, 2017; Hultman & Pulé, 2018).

School sport is popular, and student-athletes are appreciated as ambitious individuals being used to competition (cf. Larneby, 2020; Skrubbeltrang, 2018). They are our future leaders, executives, managers, teachers, and workers. As school sport is located within the educational context, and school has a responsibility to educate and prepare students to be active citizens that also care for the planet, school sport has a potential to address environmental issues. In school, students get equal learning objectives on sustainability in contrast to clubs who more freely can choose how they organise their practice. Some clubs focus explicitly on sustainability, others focus to keep their voluntary leaders.

Hence, school sport is a way to educate young athletes beyond what clubs today can provide. I argue that student-athletes could and should be part of the work towards the sport industry's reduced impact on the environment – not only regarding facilities and transportation but also in attitudes and norms linked to gender. Student-athletes' opinions, influence, and participation can be used as a positive force to further demand for powerful action and actual results from stakeholders, corporations, and industries at a global scale; this also applies to stakeholders hosting big-scale events, such as international sport federations and the International Olympic Committee, as well as local clubs and hosts for small events.

Student-athletes can lead the way in challenging existing norms and structures and decreasing gendered power relations. It is the school's responsibility to counteract constraining gender patterns (SNAE, 2022a, 2022b). This is also mentioned as one of the objectives for school sport in upper secondary school (SNAE, 2022c). If teacher-coaches are aware of the potential consequences that male norms, masculine domination, and gendered power relations might have not only for athletes within sport but also outside of sport and in relation to the environment, this issue can be raised already in school. Boys can adhere to more inclusive masculinities (Anderson, 2009), acknowledging and appreciating not only female athletes but also *all* athletes as equal (and equally valuable) peers in sport. This inclusive approach goes hand in hand with Hultman and Pulé's (2018) ecological masculinities which prioritise concurrent systematic and personal transformations that embraces and enhances care for Earth, humans, and other than humans. Masculine ecologisation is a hope for our common future, as inclusive masculinities in sport give hope for a more inclusive sport (Anderson, 2009). Student-athletes today are our future citizens. A transformation towards more ecological and inclusive attitudes, choices, and actions within sport and in society is needed. This can be provided by using sport's positive and powerful potential to contribute to achieving the sustainable development goals and education on sustainability.

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