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Sustainable elite sport: Swedish athletes' voices of sustainability in athletics

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ABSTRACT

Elite sport is a precarious context and as athletes are pushing their physical and mental boundaries to enhance performance, consequences can be devastating. In contrast to arguments that elite sport cannot be sustainable, some scholars have argued that with certain considerations and precautions, elite sport *can* have fewer unsustainable consequences. However, the current literature has missed to capture athletes' voices regarding sustainability in elite sport. Therefore, this article aims to give voice to athletes and their needs and concerns regarding sustainable elite sport and through this, to extend the existing elite sport sustainability conceptualisation with knowledge from the athlete perspective. Focus-group interviews were conducted with 15 high performance athletes. The findings suggest that athletes need athlete-centred coaching, focus on holistic perspectives, and co-creation of their overall development. However, athletes also seem to adapt and accept commodity structures, as their focus on results overrules most aspects regarding long-term health and well-being.

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Introduction

There is scientific consensus that elite sport is a precarious context. A competition logic that requires athletes to constantly strive for high-level performance has normalised risk-taking and the compromising and neglect of health and well-being (Overbye 2018). As athletes are pushing their physical and mental boundaries to enhance performance, consequences can be devastating. A large body of research shows that elite athletes suffer short- and long-term injuries (Difiori et al. 2014), mental disorders (Johnson 2011), insufficient sleep, overtraining (Jacobsson et al. 2013), and unhealthy diets (Rosen et al. 2017), all of which are likely to affect lives post retirement (Cosh, Crabb, and Lecouteur 2013; Wylleman, Alfermann, and Lavallee 2004).

Based on the competition logic, precarity, and evidenced negative consequences, some sport scientists have turned to sustainability to discuss whether and how elite sport may be sustainable. Two initial publications, by Lawson (2005) and Loland (2001, 2006), adopting an anthropocentric perspective, defined sustainability as a development that should 'secure future human generations the same possibilities to satisfy basic needs as our own' (Loland 2006, p. 146). To ensure indefinite and flourishing human life, and without threatening diversity and the ecological life-support system, this form of sustainability requires the harmonious interplay of sociocultural, ecological and economic systems. Based on this anthropocentric definition, Lawson (2005) and Loland (2001, 2006)

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argue that elite sport cannot be sustainable. First, they see the consequences of continuous hard work at the limit of physical and mental capacity to always cause ill-health and poor well-being. Second, Loland (2006) argues that Olympic sport cannot continue indefinitely because of its record-breaking logic. He regards the limitation of the human organism, for instance in the continued breaking of the 100 m world record, and ever more extreme forms of training and technology to break records (e.g., genetic doping) as clear indications that longevity in elite sport is limited.

To counter these arguments, Lawson (2005) proposes to focus on participation sport, which he believes through its equal opportunities can develop sustainable social relations, overall health, and possibilities for individual 'flourishing'. Loland (2006) also proposes changes, namely the transformation of the competition format and record-breaking logic. He proposes for instance, to implement competitive events that require athletes to be versatile and to have multiple skillsets, rather than the current highly specialised events such as the 100 m sprint. Rather than aiming to break records, the winner could be, for instance, the athlete with the greatest versatility. As a result, Loland (2006) argues that the varied training such a competition format would require would reduce the negative consequences athletes experience because of the overly monotonous and wearisome physical stress a single discipline creates. He recognises however, that the transformations he proposes would change Olympic sport as we understand it today.

In contrast to the argument that elite sport cannot be sustainable, some scholars have more recently proposed that with certain considerations and precautions, elite sport *can* have fewer unsustainable consequences ((Barker-Ruchti and Barker, 2017). An important difference to the anthropocentric definition of indefinite human life as a sustainable outcome, which Lawson and Loland adopted, is the focus on sustainability as a continuous process of democratic negotiation (Wals and Jickling 2002). Sustainable outcomes are not defined; indeed, this is considered impossible because sustainability requires the 'mediation between contesting claims between advocates of incompatible value systems' (Jickling & Wals 2002, p. 222). Incompatibility between value systems applies to elite sport, where many actors (e.g., sport organisations, coaches, sponsors, athletes) wish for regular competitive success, but athletes' safety, economic stability and, importantly, health and wellbeing are also paramount. Given this basis of incompatibility and the need for democratic negotiation, how can sustainable elite sport be developed?

Barker et al (2014) used the opportunity of a special issue to propose that if elite sport is thought of more in fair and morally just terms, such as is the case in organic farming, its resources (i.e., athletes) can generate produce (i.e., results) with fewer unsustainable consequences. The contributions of the special issue provided examples of what such sustainable elite sport may look like. Grahn (2014) showed that coaches who view sport participation as learning for life instead of purely as performance enhancement could positively influence the development of elite youth swimmers, while still being competitive. Barker-Ruchti, Barker, and Annerstedt (2014) demonstrated the importance of reflective learning on trusting and respectful actions in generating inclusive and performance-enhancing processes. Annerstedt and Lindgren (2014) demonstrated, as Dohlsten, Barker-Ruchti, and Lindgren (2018) and Lindgren and Barker-Ruchti (2017) have later demonstrated outside of the special issue, that coaches' caring and holistic thinking can positively influence health and well-being while performing at the highest levels of sport.

Still, we miss further pieces of knowledge on how sustainable elite sport can be developed. The existing literature has mostly been developed from the coach and sponsor perspectives and a key gap is the lack of voice given to athletes and their needs and concerns regarding sustainability and sustainable elite sport. Thus, the purpose of this article is to give voice to athletes and their needs and concerns regarding sustainable elite sport. Specifically, we aim to answer two research questions: 1. What needs do athletes in elite athletics express in order to practice sustainable elite sport? 2. What challenges do athletes in elite athletics express in relation to practicing sustainable elite sport?

We consider the athlete perspective important in extending the current knowledge of sustainability because sustainability thinking demands that stakeholders involved in social situations co-construct what sustainability and sustainable outcomes mean (Wals and Jickling 2002). In answering

the above research questions, this article is able to extend the existing elite sport sustainability conceptualisation with knowledge from the athlete perspective. In what follows, we adopt and outline the sustainability perspective that Barker et al (2014) have developed based on Learning and Knowing in Pursuit of Sustainability (Peters and Wals 2013, p. 87).

Theorising sustainable elite sport

The sustainability strand we draw on in this article has emerged from Jickling and Wals' (2008) attempt to capsulise sustainability in higher education in order to better understand the relationship between sustainable development, democracy and education. The authors aimed to challenge the approach on sustainable development from traditional perspectives with outcomes that are predetermined and prescribed, into socio-constructivist perspectives where learning and knowledge are co-constructed by those within particular social contexts (Jickling and Wals 2008). This approach refers to sustainability without a stated end-goal (Peters and Wals 2013). Instead, the potential for sustainability can be accomplished by considering sustainability as a vision to work towards, rather than a goal to achieve (Wals and Jickling 2002, p. 127). Peters and Wals (2013) present two different orientations that reflect trends in the context of science in higher education. The first one is based on a commodity approach, which builds on prescription, management, control and accountability. The second one, which is described as emerging (and not hegemonic as the first one), is based on a community approach that builds on integration, self-determination and learning. While the commodity approach may challenge complex practices relating to sustainability, the community orientation requires critical awareness from stakeholders' own frames, which could provide understanding of specific value judgement about ends and means in complex practices. Hence, this enables stakeholders to negotiate solutions through co-creation of knowledge and democratic processes.

To move towards sustainability in sport, Barker et al (2014) have in the above-mentioned special issue *Sustainability in high performance sport*, adapted Peters and Wals (2013) commodity and community conceptualisation of science in higher education to elite sport. One of the key arguments that Barker et al (2014) make is that although elite sport is characterised with performance and results, it is to 'think about sport in ways to emphasize community and people rather than efficiency and performance' (p. 5). For stakeholders in sport, such as clubs and federations, sustainable solutions mean investing in athletes' personal growth and communal relations. For athletes, sustainable solutions may be more focused on processes that develop athletes through individual context-specific knowledge rather than a 'one size fits all' philosophy (Barker-Ruchti et al., 2014). In Barker-Ruchti and colleagues' (2014) contribution to the special issue, the authors detailed how the commodity and community orientations may apply to elite sport (see Table 1). The sport as commodity orientation focuses on authority and efficiency, and results and athletic progression, which Lawson (2005) and Loland (2001, 2006) have called unsustainable. The sport as community orientation, in contrast, is characterised by a focus on process, athletes as human beings and a focus on individual needs. These characteristics refer to elite sport stakeholders' focus on responsibility, respect and diversity, which offer elite sport the potential to become more sustainable (Annerstedt and Lindgren, 2014; Barker-Ruchti et al., 2014; Dohlsten et al., 2018; Lindgren and Barker-Ruchti, 2017).

We acknowledge that the translation of Peters and Wals (2013) commodity-community orientations of science in higher education to elite sport may not be without tensions. However, in defence of such possible concerns, we would like to point out that most sport organisations aim, and are mandated to, develop athletes beyond sport, including towards social responsibility, respect for universal fundamental ethical principles and human dignity (see for instance, Olympic Charter 2019). Further, and from the side of higher education, Peters and Wals (2013) describe how today's higher education institutions and universities are evaluated against market-oriented criteria (e.g., student acquisition targets; student throughput targets) and are competing in global ranking systems (e.g., Times Higher Education World University Rankings). We also propose that although higher education and elite sport appear as rather

Table 1. Commodity and community conceptualisations of sport.

	Sport as Community	Sport as Community
Purpose of sport	<i>Sport for market</i> Emphasis on international medals; outcome orientation reflects a "market" and "marketability"	<i>Sport for impact</i> Process-orientation; emphasis on social relevance; positive feedback from those that benefit from sport
View of athletes	<i>Efficiency</i> Athletes are seen in mechanistic terms; body-as-machine and economic resource; tight timeframes; cause-effect relationship between training and performance gain	<i>Authenticity</i> Athletes are accepted as intelligent and capable citizens who have a desire to engage in meaningful learning and overall development; involvement
Coach-athlete relationship	<i>Instrumentality</i> Coaching as transfer of predetermined and fixed goals; one coach authority; coach is knower – athlete is learner	<i>Emancipation</i> Athlete-centred coaching; high degrees of self-determination and transformation; room for co-creation and emergent objectives
Purpose of training	<i>Focus on continuous growth</i> Purpose of training is athletic progress and normative targets; all aspects of life are planned in the pursuit of performance enhancement	<i>Focus on dynamic qualities</i> Sporting institutions invest in athletes' athletic/physical and personal growth and communal relations
Epistemological orientation	<i>Empirical rationalism</i> Scientific knowledge represents truth; biomedical knowledge is key; control and elimination of 'distractions' is important <i>Scientific and technical knowledge</i> Used to predict, control and intervene in athletic training; trust in science; particular technical knowledge overrides other ways of knowing and doing.	<i>Socio-constructivism</i> Co-creation of knowledge, pluralist community and working ethics; uncertainty and unpredictability is a given <i>Phronesis</i> Ethically practical knowledge; context-specific value judgements; no 'one-fits-all' philosophy

Source: adapted from and Barker-Ruchti et al. (2014, p. 55)

different contexts, in both there is much at stake today and thus we feel that there is sufficient overlap to justify the translation of the commodity-community orientation to elite sport. However, it is important to understand that an either-or approach to the commodity and community orientations is unrealistic (Peters and Wals 2013). Just as Peters and Wals (2013) found true to science in higher education, Barker-Ruchti et al., (2014) juxtaposed the two perspectives for debate's sake. In reality, elements of the two perspectives co-exist, a situation that is also true for the specific study context from which this paper has emerged, namely elite sport and athletics in Sweden.

Swedish elite sport and athletics

Swedish athletics as well as the Swedish sports movement are characterised by a focus on voluntary workers and peripheral governance (Barker-Ruchti et al., 2017; Ronglan 2014). Well-functioning athletics environments in Sweden include competent coaches, a training community, high-level training facilities, and a relatively strong economy (Fahlström, Glemne, and Linnér 2016). However, there is a dominance of male coaches, and financial support significantly impacts elite athletes' ability to train and compete at the highest level (Fahlström, Glemne, and Linnér 2016). Swedish athletes are rarely employed in athletics and the financial support from national and local federations for athletes is primarily based on recent performance and results, which causes coaches and athletes to adapt as their performance and financial situations change (Fahlström et al. 2013). There are no terms of agreement regarding demands on the education of coaches, responsibilities towards athletes, or collaboration between coaches that represent the national team (Fahlström et al. 2013).

Methodology

This explorative study uses an interpretive research approach (Creswell, 2014; Thorne, Kirkham, & O'Flynn-Magee, 2004). The interpretive approach was adopted because it reflects the epistemological position of our objective to give voice to athletes and their needs and concerns regarding sustainable elite sport. The interpretive research approach uses participants' experiences or voices of the situation being studied, exploring their words by constructing and interpreting them (Creswell, 2014). Interpretive research assumes that social reality is not singular or objective but is shaped by human experiences and social contexts.

This study relied on in-depth interviews to produce empirical data on athletes' complex and shared realities of sustainable elite sport. This study approach is explorative and generates themes that describe phenomena contained in gathered data. However, for the analytic procedure, we adopted an abductive data-analysis approach to strengthen the empirically-based conclusions with theoretical interpretation (Dubois & Gadde, 2002). In concrete terms, we first inductively analysed and interpreted the empirical data, which we present in the findings. In the discussion, we use the theoretical framework for further interpretation to strengthen the conclusions. All authors of this study are experienced in qualitative research methods and have a solid knowledge of the Swedish sport system and sport coaching literature, specifically about sustainability in elite sport, and health and well-being. We have ensured rigour by aligning our data collection method (Roller and Lavrakas 2015) and data analysis (Graneheim, Lindgren, and Lundman 2017; Krippendorff 2013) with the underlying ontological and epistemological assumptions of an interpretive/constructivist research approach (Creswell, 2014; Thorne et al., 2004).

Participants and ethical considerations

A purposeful sample (Oliver 2016) of elite athletes from the Gothenburg Athletics Federation (GAF) was selected to participate in the study. Purposive sampling was utilised to identify both male and female elite athletes, include all four athletic disciplines (Jumping, Throwing, Sprints, and Middle/Long distance running), receive financial support from GAF, and compete in the four performance levels of European championships (level 1), National team representation (Level 2), 1–3 top results at Swedish Championship competitions (Level 3), and 4–6 ranking at Swedish Championship competitions (Level 4). Once athletes perform at a certain level (1–4), they become elite athletes and are given financial support for the upcoming year. Of the total possible sample of 66 athletes, 35 were asked to participate and 15 agreed to take part in the research (Table 2). To recruit the athletes, the research team identified relevant athletes through personal knowledge and contacting the GAF manager, and contacting the athletes directly to introduce the project. This recruitment process was difficult because many athletes found that they did not have time to participate.

Upon identification of athletes, they were provided with information about the project, ethical safeguarding, and participation requirements, all of which was prepared according to the ethical guidelines provided by the Swedish Research Council's ethical principles (Vetenskapsrådet 2017). The participants were asked to read and sign consent forms acknowledging that they understood the aim of the study, their rights, and the voluntary nature of participation. During the interviews, they were given written and oral information that explained

Table 2. Characteristics of the respondents.

Interviews	Sample(female/male)	Age	Performance level (1–4)
Focus group1	2 females/1 male	20–27	1–2
Focus group2	1 female/5 male	20–25	1,3,4
Focus group3	3 females/0 male	19–34	2,3,4
Focus group4	2 females/0 male	19–28	2, 4
Face-to-face	1 female	31	1

that the information they provide would be kept confidential and the data would only be used for research purposes. The study gained the ethical approval of the Regional Ethics Review Board, Gothenburg, Sweden (Dnr. 875–15).

Data collection

We employed the data production methods ‘focus group interview’ (FGI) and ‘semi-structured single interview’ (SI). Due to difficulties in the recruitment process and participant dropouts, three smaller FGIs and one SI were held. FGIs 1 and 3 were triads (three athletes in each) and FGI 4 was a dyad (two athletes) (Roller and Lavrakas 2015). In FGI 2, six athletes participated. FGI was chosen in order to catch the social interaction when individuals create meaning together (Roller and Lavrakas 2015). Small focus groups provide room for everyone to be involved (McLafferty 2004). However, as FGIs can result in various levels of engagements, the facilitator ensured everyone was involved in the discussions (White, Dangerfield II, & Grieb, 2019). The study also consisted of participants who are considered a homogeneous group (elite athletes), a strategy that enhanced group dynamics and interactions and therefore provided richness to the data (McLafferty 2004). During the FGIs, the interviewers have less control compared to SI, which could have an impact on the data collection, depending on facilitators and research questions (Morgan 1997).

A semi structured interview guide, which was based on sustainability in sport, was developed to guide the research team in conducting the interviews. The core interview questions were: (1) How do you try to balance your focus on performance and at the same time retain good health?; (2) What is affecting your well-being in regard to your elite sport career?; (3) How can you influence your ability to train and compete at the elite level?; (4) What conditions do you need to be able to invest in your elite sport career?

The interviews were conducted in a private conference room in the facility where the athletes conducted their daily training, which the athletes considered a safe environment (Gratton and Jones 2010). Three researchers were involved in the interviews. The first author acted as moderator in all FGIs and as an interviewer in the SI. The last author acted as an observer in FGI 2 and 3, and an external researcher acted as observer in FGI 1. In FGI 4, there was no observer because it included only two athletes. The role of the moderator was to ensure that the discussion followed the interview guide and that the conversation focused on the subject. The observer’s role was to monitor what was being said and done and to ask probing and follow-up questions. At the beginning of each interview, we explained that there were no right or wrong answers and all thoughts and opinions were important. Follow-up and probing questions were used throughout the interviews. Each interview was digitally recorded and lasted between 60 and 91 minutes (average 77 minutes).

Data analysis

The data were analysed using interpretative qualitative content analysis (Graneheim, Lindgren, and Lundman 2017; Krippendorff 2013) with a conventional approach of the qualitative content analysis to explore and describe the phenomena (Hsieh and Shannon 2005). Although qualitative content analysis (Graneheim and Lundman 2004; Krippendorff 2013) is linear, we experienced a more complex process. The analysis process entailed both decontextualization and contextualisation in order to create analytical depth. First, the first author listened to the audio files from the interviews and transcribed them. The transcripts amounted to 103 pages of single-spaced text pages. Second, the first and last authors read the transcripts several times to familiarise themselves with the data and then to identify meaning units (MU) that expressed sustainability. After the MU were identified and condensed into shorter sentences, they were incorporated in a table to make comparison and categorisation simpler and transparent (Table 3). Third, the MU were coded inductively into initial codes that identified important points related to the purpose of the study. The codes were then compared and sorted into tentative categories and subthemes (Table 3). The subthemes were revised and discussed several times to ensure adequate understanding before the first and last authors arranged the final construction of seven subthemes, which expressed the

Table 3. Examples of meaning units, codes and subthemes from the analytic procedure.

Meaning units	Codes	Subthemes	Main theme
- I think it's important to have support from both parents and other athletes. -Yes, parents, partner and friends and those who organise physiotherapist and doctors. I need them for my development, in order to feel good.	Important with support from parents, partners and friends in order to develop	A need for having support from other athletes and related people	Holistic view to increase athletes' development and performance
- I have an open dialogue with my coach when it comes to competitions and training. I have built up a trust to the coach as I have grown older. I have an opinion on how to do things. If I know I get injured then I can change strategy.	Dialogue with coaches Plan training in consultation with the coach	A need for coaches support and trust	
- You have to perform to get financial support in order to be perform again. - It's a problem, if you have a bad year then you lose financial support. My budget has been cut half for an injury in the thigh. It constrain my opportunities to perform again. It's a struggle, many have had to quit because they had a bad year.	Need to perform in order to get funding Loose financial support with poor results	Unfavourable economic conditions as athletes	Financial issues and focus on short-term results neglect long-term development

manifest content of the text (Graneheim and Lundman 2004). The subthemes were then sorted into two main themes. Finally, all subthemes and the two main themes were sorted using the theoretical framework 'sport as community' and 'sport as commodity' (Table 1), which reflects a more deductive analytic procedure.

In the following, we present and discuss the findings in relation to the theoretical framework (Table 1). Exemplar statements from the first step of the analysis are presented in the Findings section. All quotations were translated from Swedish into English and adjusted for readability. The speakers are identified with a pseudonym, as either male (m) or female (f), and by their group (e.g., FGI 1).

Findings

Two themes are capturing athletes' voices and the negotiation of sustainability in elite sport. The first theme in the findings; "holistic view to increase athletes' development and performance" contextualises what needs the athletes express to practice sustainable elite sport. They expressed needs for having a balanced life, needs for learning and taking responsibility over sport development, needs for having support from other athletes and related people, needs for coaches to collaborate with others and having competence, and needs for coaches' support and trust. The second theme, 'Financial issues and focus on short-term results neglect long-term development' shows that the challenges the athletes express concerning practicing sustainable elite sport are when having unfavourable economic conditions, and when the coaches prioritise results over well-being and health. These themes illustrate the experiences of both male and female athletes. Where applicable, possible differences within the themes are highlighted.

Holistic view to increase athletes' development and performance

A need for having a balanced life

This subtheme shows how athletes talked about a need for having a balance in life that would enable them to cope with performance, health, and recovery. The athletes expressed that they wanted a balance between elite sport and their personal life, as they believed this balance would improve their overall health and life situation. The following excerpt illuminates how the elite athletes talked

about the impossibility of working, training full time, and staying healthy. In order to ensure the latter, they prioritised health, but this required a compromise of their lives outside of sport. Two athletes in FGI 3 discussed as follows:

- I prioritise my health. I can't train well without good health. (Nina, f)
- I agree. There's quite a big difference with friends who aren't athletes. They can go and workout after work even though they're tired. It's not the same for me. I don't want to be tired, go, and train. (Hope, f)
- Yes, otherwise you can't perform during the training. (Nina, f)

In the FGIs, some of the athletes expressed that they chose to work part time even though this meant they had to sacrifice personal finances; they made this sacrifice to find a balance between training, recovery, and competition. However, trying to combine elite sport with work was perceived as more challenging than to combine sport with university study. The athletes who studied at a university expressed that this enabled them to adapt to more training sessions as it provides room for controlling their schedule. Two of the athletes noted that university studies or only part-time work promote an opportunity to practice elite sports and thereby to have a balance in their life. Their discussion of this topic in FGI 1 went as follows:

- Yes, as long as you study, it's fine. To study and train, at the same time and keep elite level, it works. It also depends on the choice of studies. As it is now, I am in school 2–3 hours a day. (Ann, f)
- I work 50% and notice how much difference it makes to my recovery and myself. And my social life is getting better. When I was younger, I experienced the stress of standing in a crossroads in life and [wondering] if it is worth investing in sports. Money is also a concern. (Julie, f)
- Of course, I would have liked to just train (not study), but I think it would have been boring anyway. (Ann, f)
- I want to find a balance where I decide. Not that I have to work this much to get my finances together. (Julie, f)

A need for learning and taking responsibility over sport development

This subtheme demonstrates how athletes express their responsibility to learn and develop knowledge to perform and cope with injuries. The athletes stressed that there was a need to develop knowledge in all areas surrounding their life as athletes, including social, mental, and physical skills. They noted that they mostly learned by experience and expressed initiative to learn more about training because not all the coaches had the expertise, as two of the athletes made clear in the following excerpt from FGI 2:

- It's a lot [of knowledge] to find out yourself. I sit at home and read about the effects of anaerobic exercise. Nevertheless, I have no one directly to exchange ideas with. When you turn to the coach, they don't have all the knowledge. Some coaches have very broad knowledge, but you still have to read quite a bit if you want the knowledge [you are looking for]. (Ed, m)
- You cannot demand that all coaches have all the knowledge that we need. (Marcus, m)

Some more experienced athletes expressed their responsibility in knowing about training in even more explicit terms, saying that the athletes themselves have the responsibility for their training. They tried to change training intensity according to how they feel and expressed that well-being was crucial for reaching performance goals. In all FGIs, the athletes discussed the importance of their responsibility to stay injury free. There was also a different approach to injuries among the experienced athletes, as they expressed that they had an increased awareness about injuries and health. In

addition, these athletes believed they had more knowledge about recovery and diet than their coaches. That is, the experienced athletes expressed that they themselves need to take the responsibility for their training and learn about how their bodies' respond to diet, injury, and training progression, which is seen in a section of the FGI 2 discussion:

- It does not matter what others say; you are the one who decides. (Marcus, m)
- No one can feel what you feel yourself, so you have to take responsibility. (Sabina, f)
- Now I feel if I can handle it [damage] and push through. However, when it comes to something new, I become uncertain. However, fewer and fewer injuries or drills are new when you get older. (Ed, m)

A need for having support from other athletes and related people

This subtheme shows how athletes expressed their need for support from other athletes and related people in order to promote well-being in their training environments and to manage practical commitments. During the FGI, the athletes talked about the importance of emotional support they received from other athletes and that the group of athletes contributed to a supportive environment. This emotional support was based on good relationality and dependent on interactions between the athletes in their group that provided compassion and genuine concern of another person's, which was considered helpful to reach their goals. Even though some athletes were competitors and competing in different athletics disciplines, most of them had a friendly attitude with one another, which generated a supportive atmosphere. Some athletes also expressed that club mates or their coaches can become like a family, and their support was considered necessary for performing well. Jacki and Hope talked about this in the FGI 3:

- I spend so much time here and want something with my training so it's important to have people around me who also feel the same way. So that one supports each other. We become like a small family, so if someone doesn't come then you think 'where's she, or where's he'? We're at such a high level and then it's important that you thrive with those who are there. (Jacki, f)
- Yes, where we train you know someone at all times. Even outside the training group. You can cheer on someone here and if you're in the gym, someone yawns and pushes on. It's not necessary for it to be a large group that's constantly training with each other. I think we have a good mood [supportive atmosphere] throughout the training facility. (Hope, f)

Some athletes also revealed that practical support from family and friends, that eased their stress of exhaustion, was crucial. The following excerpts illuminate how both emotional and practical support from others are important, and considered to have a positive effect on their well-being. The discussion in the FGI 4 included the following:

- Both the physical environment and people in the environment are important in order to feel safe in elite sports. Having a network of people who focus on different parts that you need help with. (Sofie, f)
- It's important to have support from both parents and other friends. (Susana, f)
- Yes, parents, partner, and friends and those who organise physiotherapists and doctors. I need them for my development, in order to feel good. (Sofie, f)

A need for coaches to collaborate with others and having competence

This subtheme shows how athletes talked about their need for coaches to develop their competences and use networks to provide the knowledge that the athletes considered necessary for their development. In the FGIs, the athletes agreed that coaches cannot have knowledge in all areas as being a coach demands many different competences. They said that the demands on becoming an

elite coach in athletics is rather low and does not require any education. However, some experienced athletes expressed that it is crucial that coaches develop their knowledge to help athletes balance health and performance. In the following excerpts from FGI 3, athletes stressed that the coaches sometimes lack competence:

- If you want to become an athletic coach, the requirements are not high. The coach may just have a talented athlete, and everyone thinks the coach is good, yet everyone is injured and no one knows why. (Hope, f)
- Or that the coach is good but cannot think long-term. (Jackie, f)
- Or that the coach does certain drills just because the champions of the world elite do the drills. It is probably very different [knowledge] levels among the coaches. The coaches will probably need to have more knowledge. (Nina f)

The athletes declared that the coaches' knowledge regarding injuries and performance over time was most important and would prefer that coaches have the right training with respect to injury prevention and long-term development.

The athletes agreed that it was necessary for the coaches to have a network so they can access knowledge from other coaches and physiotherapists. Some athletes expressed that they appreciated when coaches worked together, sharing knowledge and helping each other. Some of them also expressed that everyone's development would benefit if the coaches collaborated more and used the expertise of other coaches. The following discussion from FGI 4 on possible needs and changes that could be made in order to maintain performance illustrates the need for coaches to collaborate with other coaches and specialists:

- My coaches have started to bring in people with other skills as well, which I think is a good change. That they [coaches] don't have to keep everything to themselves. For example, we have a strength coach. (Susana, f)
- We have had different coaches sometimes at the training sessions. It's good that the coaches cooperate. (Sofie, f)
- Yes, that they involve people who are good at specific things. That the coaches accept that they don't have all the knowledge themselves and listens to how other coaches work and think ... and not just do as they have always done. (Susana, f)

The athletes talked about the importance of coaches in creating training programmes according to athletes' physical status. However, some of the experienced athletes expressed that they needed to question the training programs and the advice they get and even have the opportunity to change coaches if they do not develop according to their goals.

A need for coaches' support and trust

This subtheme demonstrates how athletes talk about their need for coaches' support and trust. When they had good dialogues and relationships with their coaches, the athletes felt support and trust. Most of the experienced athletes expressed that even though they were in charge of their own training, they needed to consult with their coaches about their weekly training schedule. Some also said that they needed to discuss personal issues that could have a negative effect on their performance. Almost every decision about competition was discussed with their coaches, such as choosing the right competition and setting goals. This is how Phil and Ann talked about it in FGI 1:

- I can do exactly what I want to do. I do it in dialogue with the coach. I can choose which training and competitions I want, if I feel in shape or not. It is about maturity; if it had been a few years ago, I would be competing all the time. (Phil, m)

- I have an open dialogue with my coach when it comes to competitions and training. I have built up a trust with the coach as I have grown older. I have an opinion on how to do things. If I know I will be injured, then I can change strategy. (Ann, f)

Most of the athletes also had daily contact with their coaches to update their status not only to develop performance but also to avoid injury. Notably, some experienced athletes stated that if they reached their goals, they felt less of a need to talk with their coaches as they have learned to be their own coach.

The athletes stressed that there is a need to build a relationship with coaches based on trust. They said that they valued coaches who are honest and dare to criticise when their performance is poor. They also expressed a need for the coaches to pay attention to their well-being and support them when their performance goals are not met, particularly when they are injured. Here is an exchange from FGI 4:

- My coach and I have contact through social media almost every day. (Sofie, f)
- I get a text message or phone calls every day from my coach. My coach shows that he is there for me even in difficult times or if I have not shown up for training in a while. The coaches keep in touch with me, so I do not feel forgotten. (Susana, f)
- Yes, it's important. Good coaches show that they care. That coaches show that athletes are important, regardless of the results. (Sofie f)

Financial issues and focus on short-term results neglect long-term development

Unfavourable economic conditions as athletes

This subtheme shows how athletes talked about how financial structures constrain them as they struggle to ensure economic security by pushing themselves to strive for performance in the short-term. All the athletes stressed that elite athletics is challenging as it involves difficult economic conditions. Some expressed that studying was a way of financing their training by accessing study loans. Two athletes said the following in FGI2:

- In athletics, there's not much finance, even though we're at a high level. We have to get money. (Mike, m)
- Now that I study, I manage my finances. I don't live a luxury life and have a good partner who helps with the economy so that I can manage my elite athletics career. (Jerry, m)
- It's worth it anyway, when you look back, but it's a balancing act. (Mike, m)

Some experienced athletes who did not have sponsors or parents who could support them financially were forced to work, which made them tired and worn, and negatively affected their efforts. The athletes expressed that their performance and results are directly linked to financial support and improve their chances to sustain an elite career. Some athletes such as Ed and Marcus, in FGI 2, also said that they know cases of athletes who have quit athletics because their long-term injuries resulted in the loss of financial support:

- You have to perform to get financial support in order to perform again. (Ed, m)
- It is a problem; if you have a bad year, you lose financial support. My budget was cut by half after a thigh injury. It constrained my opportunities to perform again. It's a struggle; many have had to quit because they had a bad year. (Marcus m)

The athletes also expressed that the lack of performance can not only result in loss of financial support, but can also affect the total budget for their coaches. They discussed that only athletes with top results have access to the best rehabilitation and equipment. Some also expressed that they

experienced difficulties maintaining their health as structural deficits in the elite athletics' system made them opt out of important treatments or not seek help from medical staff

Results are prioritised over well-being and health

This subtheme demonstrates how the athletes talked about how their focus on results exposes them to risk of injuries. Some athletes expressed that a good result is more important than good health and that they wanted to see results at all costs. Some athletes, such as Marcus and Sabrina in FGI 2, clearly expressed that they were willing to take the risk of pain as long as they reached their goals, no matter if the pain lasts longer than their career:

- It's not a motive in itself to have good health, but the motive is to be able to perform. Performance is in focus, not health. (Marcus, m)
- It [health] is an effect to be able to perform. If you are ill, you will have to stop training. It's not about the fact that it is fatal to train sick, but that it can make me miss training. (Sabina, f)
- I would gladly cut off an arm for an Olympic final. I do not care about health. As long as you want to be the best, health comes second. (Marcus m) (FGI 2)

Other athletes were aware of the negative consequences long-term training at the highest level of sport has on body. Ann and Julie's discussion in FGI 1 is telling:

- You know that elite sports are not healthy. I already notice wear and tear on my body. I wonder how my back will feel when I'm 40 years old. After all, performing my discipline for 15 years can't be healthy. Somehow, I'll pay for it, as I get older. (Ann, f).
- Nevertheless, it's worth it, sacrificing health. I just hope there will be as little damage as possible. (Julie, f)

The athletes also talked about the challenge of staying injury free. The following discussion on coaches responsibilities in relation to injuries and performance, which took place in FGI 1, illustrates the how some athletes know that they gamble with injury risks:

- You need to have a dialogue with the coach about what risks you are taking. (Ann, f)
- Although I knew the risks, it hadn't slowed me down. (Julie, f)
- After all, it's our everyday life, and we know that eventually we will be injured. There may be mistakes from the coach or me. In one case, it was my fault when I trained too hard, then maybe the coach would have slowed me down, but I was not so good at explaining how much I trained. (Phil, m)
- When I was younger, I was pushing myself too hard all the time, and it's not good. I was involved in the culture where you were expected to train as much and hard as possible. It's not good either. (Julie, f)

Some athletes with lower financial support expressed that they risked injuries because they sometimes felt forced to compete by clubs despite not being fit. They also expressed the challenge of a mindset that athletes should train as hard as possible and that no one ever questioned the high injury rate or if athletes put themselves at risk for injury. Furthermore, some of the athletes expressed that they questioned their own behaviour of pushing themselves towards injuries but at the same time claiming that it is 'the nature of elite sport'. Ed, Marcus and Sabina agreed as follows in FGI 2:

- You push yourself as far as you can, but nobody knows when it will break. It's only when you get hurt that you know. (Ed, m)
- You push the line and you can do the same thing again [cross the line and cause injuries]. It's a morbid behaviour. (Marcus, m)

- It's normal, we know that eventually we will get injured. (Sabina, f)

Discussion

The main findings of our study on athletes' needs and concerns regarding sustainable elite sport show that they believe a balanced life would help them cope with unpredictable outcomes of elite sport, which in turn would help them achieve their performance goals. Therefore, coaches should give considerable attention to support athletes' long-term development with a holistic approach. Such support might influence athletes' attitudes in relation to sustainable thinking in elite sport (cf. Peters and Wals 2013). Furthermore, the findings show that the athletes also need support from other athletes, which reflect an elite environment where social relations and community are vital for sustainability (cf. Peters and Wals 2013). Therefore, the athletes would benefit from coaches and clubs paying attention to group dynamics and common collective relations in individual sports.

In the athletes' efforts to reach desirable athletics performance and results, some of them admitted that they neglect their health and well-being. This neglect seems to reflect an attitude about the sport as commodity driven (Barker-Ruchti et al., 2014), and that the purpose of the training was mainly about continuous athletic improvement; as a result, athletic development was prioritised over long-term perspectives (cf. Wals and Jickling 2002). Notably, athletes' desire for results and their competitive nature sometimes motivate them to become high performers (Jordalen, Lemyre, and Durand-Bush 2019). The athletes' main intentions of commodity aspects (Barker-Ruchti et al., 2014) could also be a matter of their maturity and experience, as athletes' attitudes regarding athletic progression at 'any costs' may change as they grow older (Woolf and Mazanov 2017).

A key concern in the present study was to explore the challenges athletes in elite athletics express concerning practicing sustainable elite sport. Among the challenges, these athletes were concerned that their coaches did not have enough knowledge and competence. In this way, athletes emphasise coach knowledge of technical and tactical skills about their short-term result focus, and the athletes request coaches as a source of knowledge. This resembles a relationship based on a coach's authority, with coach as knower and athletes as a learner (Barker-Ruchti et al., 2014). Research regarding sustainability in sport has shown that it is important for coaches to be more than a source of knowledge and engage in issues concerning athletes' long-term development ((Dohlsten et al., 2018; Lindgren and Barker-Ruchti, 2017). The findings also show that it seems vital that not only coaches, but also athletes, comprehend and act according to the uncertain and unpredictable context they participate in. Even though some athletes expressed that they take responsibility and engage in critical reflection and higher thinking skills (Wals and Jickling 2002), some athletes' expressions prioritise short term outcomes, which may result in risk-taking, injuries and overtraining (Jacobsson et al. 2013).

Some athletes also expressed a need to learn about, and take responsibility for, their training, as their coaches did not possess all the necessary competencies they needed. However, as this research shows, if athletes lack knowledge or experience in how to *think* sustainably (e.g., prioritising health, well-being and social relevance), athlete's autonomy might contradict the coach's community aspect of holistic development to increase health and well-being (Dohlsten et al., 2018).

Existing research points to the need for coach education to cover sustainability in an attempt to reduce unsustainable consequences in elite sport (Rynne and Mallett 2014). However, as this present study provides insight from athletes', the current study found also a need for education for athletes to shift their commodity focus. The results indicate a challenge regarding sustainability for athletes, as the environmental structures, aimed at securing career development, were solely commodity based (i.e., based on financial rewards). The possibility for athletes to focus on high performance training appears to be limited to the years that they can get financial help from parents and partners or by studying unless they deliver the results that generate financial rewards. These financial structures constrain sustainability in sport as the athletes adapt to the conditions and neglect

community markers such as long-term dynamic qualities and personal growth (Barker-Ruchti et al., 2014).

Conclusions and implications

In this article, we aimed to give voice to athletes and their needs and concerns regarding sustainable elite sport and through this, to extend the existing elite sport sustainability conceptualisation with knowledge from the athlete perspective. Our findings show that athletes consider a holistic approach as vital, as they believe that a balanced life helps them to reach their goals. However, the results also demonstrate that the athletes included in our research need more support, namely through financial structures that are less result based and coaches with knowledge on sustainability. Tactics and techniques are of great importance to elite athletes, however, it is crucial for sustainability in the sport that athletes are coached based on their presuppositions, their need for support, and long-term prospects. Some of the elite athletes also seemed to adapt and accept commodity structures, as their focus on results overruled most aspects regarding long-term health and well-being. Both commodity and community orientations reflect significant aspects of elite sport. However, the community orientation seems to take a minor role that leads athletes to jeopardise their health and well-being. This study shows that coaches must take responsibility regarding issues of sustainability when the athletes themselves lack the experience or knowledge to be able to do so.

These findings also demonstrate that there is a need for education and development for stakeholders in elite athletics (federations, clubs, coaches, and athletes) to implement sustainable structures for long-term growth. The theoretical perspective outlines that sustainability is context-specific. Therefore, stakeholders in sport should consider needs for athletes to know how to navigate the sustainability perspectives of commodity and community aspects according to the context. However, regardless of athletes competing as individuals, community relations and emphasis on social relevance can reduce the negative consequences of elite sport to work towards sustainability.

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No potential conflict of interest was reported by the authors.

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