

DISSERTATION FROM THE  
NORWEGIAN SCHOOL OF  
SPORT SCIENCES  
**2024**

Anette Skilbred

**Young athletes and  
performance enhancement:  
A social-constructivist perspective**

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ISBN 978-82-502-0625-0







## **Acknowledgements**

This academic journey has been a roller-coaster, and I owe sincere gratitude to numerous individuals who have provided unwavering support and encouragement.

First and foremost, thanks to my knowledgeable supervisors. Sigmund Loland, thank you for your detailed and thorough feedback. Åse Strandbu, thank you for guiding me in the field of sociology with great insights and a steady hand.

Thanks to the schools that joined the project, and especially to the athletes who devoted time to tell me about their sporting lives.

Thanks to my beloved family, for offering unconditional help, support, and love, and for your consistent message that you believe in me. Thank you for being a place I can always come home to.

Thanks to my dear friends, the chosen extended family, where the conversations never end, the hugs are long, tears are welcomed, and the laughter flows freely.

Thanks to my exceptional colleagues, who create an enjoyable and inspiring workplace, constantly expanding my reflections and horizons. A special thanks to the PhD student group, which has mirrored the highs and lows of this journey.

Oslo, February 2024

Anette Skilbred



## Summary

For elite athletes, improving their performance is the central focus of their sporting lives. This principle extends to young aspiring athletes who invest significant effort today to become tomorrow's heroes. In this thesis, I examine how ambitious young athletes ascribe meaning to performance-enhancing substances, with a focus on nutritional supplements and anti-doping work as well as their broader understandings of performance enhancement.

The outcomes of the research are presented in four papers. Paper 1 comprises a systematic literature review that synthesises prior research concerning the personal and contextual conditions shaping young athletes and their behaviours related to performance enhancement and health risks. Additionally, the review identifies relevant gaps in the literature and elucidates the direction of the subsequent three empirical works.

Papers 2–4 are empirical works based on data from interviews with young athletes. Twenty-four athletes from three private elite sports schools are interviewed about their interactions and how they ascribe meaning to various aspects of life as a young aspiring athlete. The theoretical foundation for all three empirical works is symbolic interactionism. In the analysis, principles and perspectives from symbolic interactionism were integrated with methodological tools from thematic analysis.

Paper 2 explores the relevant actors within athletes' networks and how interactions with these actors contribute to the athletes' meaning-making of nutritional supplements and anti-doping work. This article is grounded in Connor's concept of *the networked athlete* and influenced by an interactionist perspective, providing insight into the diverse contributions of various actors.

Paper 3 delves into how athletes organise and frame nutritional supplements. Drawing on Goffman's *frame analysis*, two primary frames were identified: nutritional supplements as performance enhancement, and nutritional supplements as food. Simultaneously, both frames exemplify a comprehensive performance logic that seems dominant in this context.

Paper 4 studies how athletes perceive and present their athletic identity, with use of Goffman's perspective on *the presentation of self*. In addition to the three fundamental aspects of athletic identity—training, recovery, and nutrition—the analysis reveals that athletes also associate performance with the importance of demonstrating uniqueness, aligning their actions with the demands of the sport around the clock, and ensuring that the enjoyment of sports continues into the elite sports career.



Overall, the empirical papers explore athletes' meaning-making in terms of performance enhancement in a broad fashion. Thus, through an open and exploratory research approach, several aspects that are relevant and important for the young athletes emerge. This provides insight into what it is like to live and manoeuvre in an elite sports bubble.

## Sammendrag

For eliteutøvere er forbedring av prestasjoner det sentrale prosjektet i idrettstilværelsen. Dette gjelder også for unge ambisiøse utøvere som legger ned arbeid i dag for å bli morgendagens helter. I denne avhandlingen undersøker jeg hvordan ambisiøse, unge idrettsutøvere gir mening til prestasjonsfremmende midler, med fokus på kosttilskudd og antidopingarbeid. Jeg gransker også deres forståelser av prestasjonsfremming i bredere forstand.

Funnene presenteres i fire artikler. Artikkel 1 er en systematisk litteraturgjennomgang. Artikkelen syntetiserer tidligere forskning og sammenfatter kunnskap om personlige og kontekstuelle forhold som påvirker unge idrettsutøvere og deres prestasjonsfremmende og helseskadelige atferd. I tillegg identifiserer gjennomgangen relevante hull i litteraturen og gir slik sett retning til de påfølgende tre empiriske arbeidene.

Artikkel 2–4 er empiriske arbeider som baserer seg på data fra intervjuer med unge idrettsutøvere. Tjuefire idrettsutøvere fra tre private toppidrettsskoler er intervjuet om sine interaksjoner og hvordan de tilskriver mening til ulike sider ved livet som ung aspirerende idrettsutøver. Det teoretiske grunnlaget for alle de tre empiriske arbeidene er symbolsk interaksjonisme. I analysen ble prinsipper og perspektiver fra symbolske interaksjonisme integrert med metodiske verktøy fra tematisk analyse.

Artikkel 2 handler om hvem de viktige aktørene i idrettsutøvernes nettverk er, og hvordan interaksjonen med disse bidrar til utøvernes meningskonstruksjon av kosttilskudd og antidopingarbeid. Artikkelen tar utgangspunkt i Connor's begrep *the networked athlete* og gir, med et interaksjonistisk perspektiv, innblikk i hvordan flere aktører bidrar.

Artikkel 3 undersøker hvordan idrettsutøverne organiserer og rammer inn kosttilskudd. Informert av Goffman's *frame analysis* ble det identifiserte to overordnede rammer: kosttilskudd som prestasjonsfremmende og kosttilskudd som mat. Samtidig illustrerer begge rammene en overordnet prestasjonslogikk som virker dominerende i denne konteksten.

Artikkel 4 studerer hvordan utøverne forstår og presenterer sin utøveridentitet, med utgangspunkt i Goffman's perspektiv på *presentasjon av selvet*. I tillegg til de tre fundamentale sidene ved utøveridentitet — trening, restitusjon og ernæring — viser analysene at utøverne også knytter prestasjon til viktigheten av å fremstå som unik, ta valg i tråd med idretten døgnet rundt, samt sørge for at idrettsgleden vedvarer inn i elitesportskarrieren.

Samlet sett utforsker de empiriske artiklene utøvernes meningskonstruksjon når det gjelder prestasjonsforbedring på en bred måte. Gjennom en åpen og utforskende forskningstilnærming fremkommer flere aspekter som er relevante og viktige for de unge utøvere. Dette gir innsikt i hvordan det er å leve og manøvrere i en eliteidrettsboble.



## **Abbreviations**

ADNO	Anti-Doping Norway / Antidoping Norge
CAS	Court of Arbitration for Sport
IOC	International Olympic Committee
NIF	Norwegian Olympic and Paralympic Committee and Confederation of Sports
OLT	Olympiatoppen
PEUSS	Private elite upper-secondary sports schools
TUE	Therapeutic Use Exemption
WADA	World Anti-Doping Agency
WADC	World Anti-Doping Code

## List of papers

### Paper 1

Kristensen, J. Å., Skilbred, A., Abrahamsen, F. E., Ommundsen, Y., & Loland, S. (2022). Performance-enhancing and health-compromising behaviors in youth sports: A systematic mixed-studies review. *Performance Enhancement & Health*, 10(4), 1–12.  
<https://doi.org/10.1016/j.peh.2022.100237>

### Paper 2

Skilbred, A., Loland, S., & Strandbu, Å. Young networked athletes and performance-enhancing substances: Who are the actors in their network, and how do the actors shape athletes' meaning-making?

Resubmitted to *European Journal for Sport and Society*.

### Paper 3

Skilbred, A., Strandbu, Å., & Loland, S. Youth athletes' framing of nutritional supplements: Performance enhancement and food.

Resubmitted to *International Review for the Sociology of Sport*.

### Paper 4

Skilbred, A., Strandbu, Å., & Loland, S. Performing performance: Young aspiring athletes' presentation of athletic identity.

Submitted to *Frontiers in Sports and Active Living*.



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**Appendix 2: Approval letter from Norwegian Centre for Research Data (SIKT)**

**Appendix 3: Informed consent form**

**Appendix 4: Original interview guide in Norwegian and English translation**

# 1 Introduction

*Performance* is a word with several connotations in this thesis. Indeed, its use encompasses athletes' pursuit of continuously better performance, how performance is related to athletes' identity presentation and the overall performance logic present in the sporting context. More specifically, this thesis aims to explore young athletes' understanding of the possibilities and limitations of various performance-enhancing means and practices. Moreover, it aims to investigate how interactions with others shape the construction of meaning in these regards.

Many young athletes sacrifice a lot to excel at their sports. During their quest to ensure top performance, they are in a development phase as they move towards maturity and are vulnerable to various impacts and influences. The number of elite sports schools in Norway is growing, which means many young people are now able to live an athlete's lifestyle. Developing insights into how ambitious young athletes arrange their lives, what their interactions look like and how they ascribe meaning to various elements of their sporting lives is important in helping them to balance their goals and sacrifices.

The four collected papers and the research project as a whole aim to provide new insights into how athletes who are at the start of their sporting careers make sense of performance enhancement and performance-enhancing substances. Thus, athletes' personal use of relevant supplements and substances is not the focus of the research; rather, it concentrates on how and with whom they construct meaning regarding these means.

In this regard, a crucial clarification must be made concerning a central concept—namely, performance-enhancing substances. This umbrella term was deliberately chosen as the opening term used in the interviews with the young athletes in an attempt to capture their associations and facilitate the exploration of their relevant meaning-making. However, over the course of the interviews, it became apparent that the most prominent issues were nutritional supplements and the distinction made within the anti-doping system between acceptable means and methods and prohibited substances. As a consequence, these are the themes that are analysed in the papers included in this thesis.

The empirical basis of the research project was the qualitative interviews conducted with 24 athletes attending private elite upper-secondary sports schools. The main theoretical perspective that guided the project is symbolic interactionism. This tradition provides a solid foundation and an appropriate lens for exploring the meaning-making processes associated with topics that are not straightforward to discuss.

The insights and knowledge developed during this project are not only of academic

interest but also of value to anti-doping agencies seeking to better understand athletes' point of view on related matters. A significant body of educational anti-doping work focuses on the gateway hypothesis, where nutritional supplements are considered to be a potential stepping stone to the use of prohibited substances. At the same time, it is known that a large proportion of athletes use nutritional supplements without progressing to doping (Hurst, 2023; Hurst et al., 2023).

Although these supplements are often viewed as grey zones in the anti-doping literature (Van Thuyne, 2006), I argue that there are nuances with regard to athletes' meanings that can provide new insights. Their reasons for using nutritional supplements may be other than performance enhancement. To explore this issue, I investigated young athletes' understandings of nutrition, food and diet, as well as of athletic identity presentations. These topics emerged as a result of the explorative interview questions enabling the athletes to approach the issues based on their own associations.

This PhD thesis consists of four papers. Paper 1 is a systematic literature review, whereas Papers 2–4 are based on empirical findings derived from the interviews I conducted with young athletes. The systematic literature review was intended to address the following research questions:

RQ 1. What contextual and personal factors are associated with adolescent athletes' performance-enhancing and health-compromising behaviours?

The empirical work was guided by the following overarching research question: How do ambitious young Norwegian athletes understand, experience and construct meaning in relation to different forms of performance-enhancing substances? This overarching question was broken down into more specific research questions related to each empirical paper. The following research question(s) informed each paper:

RQ 2. Who are the actors that contribute to young athletes' meaning-making of nutritional supplements and anti-doping? How do the young athletes describe these actors' contribution?

RQ 3. How are supplements framed by youth athletes in a elite sport school context?

RQ 4. How do the young athletes perceive and present an athletic identity? Moreover, what challenges and tensions are associated with manoeuvring the athletic identity?

Before moving into the substance of the thesis, it is important to acknowledge that the terms 'youths', 'adolescents' and 'young athletes' are used synonymously in this thesis. Now, in the following chapters, all aspects of this research project will be described in more detail.

## 2 Contexts

Sport has a high status in Norway and holds significant value for many people. Broadly speaking, with the Norwegian Olympic and Paralympic Committee and Confederation of Sports (NIF) serving as the umbrella organisation, Norwegian sport is divided into two categories. The first category encompasses sport for all, including children, youths and adults, where the fundamental values are enjoyment of sport for all and developing a sense of community. The organisation of this category of sport is mostly based on voluntary work. The other category is elite sport, which revolves around performance enhancement among a smaller group of people with ambitions of international success. In this thesis, Norwegian elite sport is the relevant context, particularly the specialised sports schools that the interviewed athletes attend. In this chapter, I will describe the Norwegian elite sport context, followed by the private elite upper-secondary sports schools (hereinafter referred to as sports schools). Finally, I will describe the roles of anti-doping, nutritional supplements and food in this context, as they are all relevant aspects in terms of understanding young athletes' meaning-making concerning performance enhancement.

### Norwegian elite sport and youth athletes

In Norwegian elite sport, the NIF has assigned operational responsibility and authority for developing elite sport to Olympiatoppen (OLT). OLT has an overarching obligation to achieve results in Norwegian elite sport, while each specialised sport federation has responsibility for its own elite sport. The elite sport philosophy is 'together about the great achievements'<sup>1</sup> and the overall goal is to bring more medals home to Norway within an ethical and value-based performance culture. The strategy applied to accomplish this goal is to be implemented through three target areas that apply to the entirety of Norwegian elite sport: make the best athletes better, make more athletes the best and create development opportunities for tomorrow's elite athletes (OLT, n.d.-d). The latter goal relates to youth athletes and their transition to senior elite athletes. When it comes to talent development, OLT aims to stimulate athletes and coaches to work purposefully, following a long-term plan in order to create the best conditions for a future top sports career (OLT, n.d.-e).

OLT has formulated a philosophy for the development of sporting talent, which is intended to serve as a theoretical background to its work regarding the development of

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<sup>1</sup> The 'together about the great achievements' philosophy applies to the entire OLT organisation and all its employees, and it forms the foundation of OLT's cooperation with the sports (OLT, n.d.-d).

tomorrow's elite athletes in various sports. The central elements of this philosophy form a development ladder based on age that extends from zero to 23 years old and is divided into seven steps. Still, OLT emphasises that talent development primarily focuses on stages four, five and six. At stage four, which covers ages 12–14, the main focus is on developing the ability to carry out systematic training with long-term development goals. At stage five, ages 15–17, the goal is to learn how to prepare, conduct and evaluate competitions. Finally, at stage six, ages 18–22, there is an emphasis on further development of the ability to prepare, conduct and evaluate competitions and to perceive the connections between preparations and the improvement of results. In addition to having different focuses at different stages, the philosophy touches on several topics. I will draw attention to two particular points made in the summary section that are relevant to the present research project: what it takes to be the best and how both coaches and parents can contribute. The first point emphasises that important elements of becoming the best include engaging in high volumes of high-quality training, living a balanced and holistic life with a high level of well-being, and having basic genetic predispositions relevant to the specific sport/exercise requirements. The point related to coaches and parents/guardians deals with how to foster good sporting contexts for young athletes through development-oriented training environments in children's and youth sports (Larsen, 2021).

As OLT is the unquestionable authority in Norwegian elite sport, it occupies a hegemonic position when it comes to views on talent development. From a research perspective, it can be said that young and talented athletes are socialised into what sociologist Pierre Bourdieu (2000) describes as a doxa—that is, '[...] a set of fundamental beliefs which does not even need to be asserted in the form of an explicit, self-conscious dogma' (p. 15). In the sporting context, some doxas are more prominent than others. For example, the high value placed on winning, where the 'hardest currency' is medals and top rankings (Ohl, Fincoeur, et al., 2021). 'Citius, Altius, Fortius' is the Olympic motto, which represents a fundamental part of elite sport: the drive to be faster, reach higher, be stronger and have more stamina. Athletes plan and live their everyday lives on the basis of their desire to reach the top. What they eat, how they recover and the extent to which they drill their physical and mental skills are all part of the plan for further improving their performances. In such a competitive context, some athletes will use all possible means to achieve their goal.

Thus, tensions may exist between the ideals of OLT and the realities of athletes' lives. A previous developmental model followed by OLT pointed to a holistic understanding of athletes' lives which was referred to as the '24/7 athlete'. This concept has often been viewed

as a lifestyle where athletes should think and act in accordance with their sporting goals around-the-clock. However, in a recent blog post, one of the OLT coaches described how the ‘24/7 athlete’ concept is misinterpreted (Pedersen, 2023), arguing that the idea of a 24/7 athlete is meant to emphasise that a balance must be struck throughout the day so that training/competitions, study/work, family/friends, sleep/rest and other interests are all possible. In this thesis, I find the 24/7 concept interesting because my primary focus—namely, young athletes’ understanding of performance enhancement—is shaped by many actors and various interests in numerous aspects of their lives.

### Private elite upper-secondary sports schools

When ‘elite sport’ first became a school subject in Norwegian public upper-secondary schools in 2006, the justification was that it would enable opportunities for youths who wanted to combine their athletic aspirations with obtaining a degree (Kårhus, 2019). At the time, private elite sports schools had been offering this combination for many years. In fact, the first private sports school was established in 1981 (Kristiansen & Houlihan, 2017). In this thesis, private elite sport schools are the focus, as the athletes who participated in this research are attending three of these schools. When compared with public schools, which are exclusively funded by the state, private schools are partly financed by the Ministry of Education but also receive school fees and sponsor revenues.

Private sports schools do not have a formal role in the Norwegian sports model, although they are recognised by the NIF and its federations as important contributors to elite sport development. The schools aim to play a certain role in both elite sport and broader society. In the autumn of 2023, a report was published regarding these schools’ roles and functions in relation to elite sport and society (Sandbakk et al., 2023). The report was based on findings derived from individual and focus-group interviews with coaches and other leaders from the sports schools, former students, representatives from the sport movements and OLT, a selection of researchers, as well as reports, strategy documents, and action plans. Its main findings are divided into nine topics: realisation of sporting potential, degree of completion of upper-secondary school, workplaces and career paths for coaches, ripple effects for local communities, role in the Norwegian sports model, elite sports schools as a supplement to public ones, dimensioning of the school offer, quality assurance of school services, and today’s and the future’s financing models. In sum, these themes describe the roles, functions and values that sports schools have for elite sport and society. Below, I highlight some related findings from the report of particular relevance to this research.

The sports schools have an outspoken strategy and vision for being a pedagogical alternative. The most relevant aim in this context is the provision of sport and developmental opportunities for aspiring young athletes. The section of the report on 'holistic organisations' describes the teaching at the schools as being conducted based on the premises of the sport and the individual pupil, and it states that the school programme adapts to the sport and the seasonal schedule. For example, the timetable is altered several times a year to adapt to the training load and competitions during different phases of the seasons. Additionally, the report emphasises the schools' desire to be positive contributors to the communities they are part of. For instance, the schools express that local sports teams benefit from sharing the expertise of highly qualified coaches as well as from cooperation in various events, competitions and functions and the rental of sports halls and facilities (Sandbakk et al., 2023, pp. 12-19).

The report also includes a section that describes the schools' role in elite sport. It highlights how many of today's international medal winners from a broad range of sports have attended elite sports schools and how these schools are important in ensuring diversity in elite sport. The schools provide stable and predictable circumstances that make it possible for youths to perfect themselves in several arenas simultaneously and to prepare for life after their top sporting career (Sandbakk et al., 2023, p. 20). In the same section, the report emphasises that since establishment of OLT, the all-round development of the whole person has been a key part of the various strategies implemented by the sport governing bodies.

In addition to the specified strategies and aims for elite sport in general, as well as the sports schools' formal descriptions, I consider it relevant to assess some portrayals of the physical aspects of the schools. Due to the restrictions necessitated by the COVID-19 pandemic, I had to adjust my initial data collection plan and could not perform the planned observations. However, I did observe some aspects of the schools when conducting the interviews, which I will now share.

When it comes to the physical aspects of the sports schools, my observations relate to the time I spent conducting the interviews, which allowed me to observe the areas for theoretical teaching, the canteen and the living areas where the youths 'hung out' between lessons, training and eating. In the shared areas and the hallway leading to the classrooms, the walls are adorned with photographs of former students and their medals from various championships. The classrooms and meeting rooms are also named after students who have achieved notable results in their sports. The canteen seems to be a place for both eating and socialising with other students.

The various training facilities are located in different areas. Some of the sports halls



are located very close to the school campus, while athletes who participate in other activities, such as swimming and motocross, must travel some distance to their training venues. The school classes are comprised of students from sports that share core characteristics. For example, endurance sports athletes are grouped together, as are the athletes who participate in team sports such as ice hockey and handball.

At the different sports schools can be found specialised staff with different expertise, such as coaches specialised in various sports, physical training coaches, dietitians, physiotherapists and nurses, in addition to the teachers who deliver the different school subjects and the administrative staff who assist the athletes in various ways.

### Anti-doping, nutritional supplements and food in the sporting context

The World Anti-Doping Agency (WADA) was established on 10th November 1999. Its stated mission is ‘[...] to lead a collaborative worldwide movement for doping-free sport by developing, harmonizing, coordinating and monitoring anti-doping rules and policies across all sports and countries’ (WADA, n.d.-a). One of the critical events precipitating anti-doping’s national institutionalisation was the Festina affair during the 1998 Tour De France (Brissonneau, 2015). Long before that, in 1920, cyclists had already confessed to the use of performance-enhancing drugs. By 1950, doctors were alarmed by athletes’ use of dangerous drugs, which was known to be causing health problems. Still, due to the development of an anti-doping rule and sanctioning system, the Festina affair made headlines worldwide and increased both public and political pressure on the International Olympic Committee (IOC) to deal with doping in sport (Brissonneau, 2015).

Since 1999, the WADA has organised global anti-doping work, exercising great power over what is acceptable and unacceptable in sport. The key document in this regard is the World Anti-Doping Code (WADC), which forms the basis for the Anti-Doping Program. It includes the prohibited substances list, which is regularly assessed against three criteria: (1) the substance or method enhances or has the potential to enhance sporting performance; (2) use of the substance or method poses an actual or potential health risk to the athlete; and (3) use of the substance or method violates the ‘spirit of sport’ (WADA, n.d.-b). The first two criteria are based on biological and physiological arguments regarding what is considered an acceptable part of sport. The third criterion is a normative one related to what is perceived as the ‘spirit of sport’. The WADC states that ‘Anti-doping programs are founded on the intrinsic value of sport. This intrinsic value is often referred to as “the spirit of sport”: the ethical pursuit of human excellence through the dedicated perfection of each *Athlete’s* natural

talents' (WADA, 2021, p. 13). Furthermore, the WADA (2021) specifies that 'The spirit of sport is expressed in how we play true. Doping is fundamentally contrary to the spirit of sport' (WADA, 2021, p. 13).

In the Norwegian context, Anti-Doping Norway (Antidoping Norge in references) (ADNO) is responsible for ensuring honest and doping-free sport among the NIF's members. ADNO's practice is based on the international regulations contained within the WADC set by the WADA. As a National Olympic Committee (NOC) signatory, the NIF has taken on board the WADC. Hence, ADNO was established by the NIF and the Ministry of Culture and Churches (today known as the Ministry of Culture and Equality) as an independent foundation in 2003. In previous years, the NIF organised the country's doping controls itself; however, since 2003, the control of doping and prosecution of doping cases have been conducted independently of both the NIF and the Norwegian state (ADNO, n.d.-b).

After the updated regulations were introduced by the WADA in 2021, ADNO (2021) developed an athletes' guide that describes and summarises the most important anti-doping matters that elite athletes must be aware of. The guide explains what the anti-doping regulations mean, who the regulations apply to and athletes' responsibilities. The question of whether a particular person is a Norwegian athlete who falls within the remit of the regulations is decided by the special sports association. Elite athletes at the national level are defined by ADNO through the 'elite athlete list' (ADNO, 2021, p. 9).

ADNO also operationalises the responsibilities of an athlete (ADNO, 2021). The first two responsibilities are as follows: (i) the obligation to know and follow the applicable rules, regulations and anti-doping guidelines, and (ii) the imperative to take responsibility for what is consumed—that is, everything the athlete eats and drinks. The main rule is that athletes are responsible for everything that is in their bodies, with the legal term for this being 'strict liability' (in Norwegian: *objektivt ansvar*) (ADNO, 2021, p. 11). Nutritional supplements are touched upon in the athlete guide, and the recommendation is to refrain from taking nutritional supplements if in any doubt, with additional emphasis that the use of nutritional supplements and the possible risk of consuming prohibited substances via nutritional supplements are the sole responsibility of the individual athlete. ADNO can at no time guarantee that a supplement is safe to use, even if certain kinds of supplements pose lower risk than others (ADNO, 2021, p. 14). In the updated regulations published by the WADC, there are some essential changes, including the fact that health is emphasised as an overarching principle and a fundamental rationale for its anti-doping work (WADA, 2021). In addition to the guide, there is an e-learning course called Clean Athlete that all athletes,

coaches and leaders are recommended and encouraged to complete annually (ADNO, 2021, p. 12).

As this thesis relates to how young athletes make sense of and understand performance-enhancing substances, the ‘spirit of sport’ criterion is of particular relevance. Several scholars have criticised and challenged this criterion and other organisational premises of the WADA (Møller, 2011; Waddington, 2010; Waddington & Møller, 2019). For instance, Loland and McNamee (2019) suggested the re-formulation of the ‘spirit of sport’ to better safeguard the position of athletes and the integrity of sporting competition (Loland & McNamee, 2019, p. 336).

Although the WADA and the current anti-doping regime in Norway have significant support in the sporting sector and society, other and contradictory viewpoints exist. First, the liberal approach questions the anti-doping policy as a form of unjustified paternalism and suggests legalising substances that are currently prohibited (Waddington & Møller, 2019). Moreover, Mazanov and Connor (2010) argued that the management of drug use in sport needs to be reviewed. They offered three concrete suggestions in this regard:

- (i) there needs to be a much clearer rationale justifying the aims, objectives and purpose of anti-doping policy;
- (ii) the inefficiencies of the doping and anti-doping industries need to be eliminated with the objective of creating public good; and
- (iii) detection and sanction technologies need to be reconceptualised to help policy-makers manage better the use of drugs in sport. (Mazanov & Connor, 2010, p. 49)

Second, there is a pro-enhancement perspective. For instance, Savulescu (2015) argued for a legalistic approach to doping—that is, not a totally libertarian position ‘but a pragmatic approach that respects both the dignity and privacy of athletes and the integrity and attraction of sport’ (Savulescu, 2015, p. 352). He further posited that ‘[...] ethicists favour undefined abstract concepts and ideals such as “fair play” and the “spirit of sport” over the privacy, integrity and well-being of concrete human beings [...]’ (Savulescu, 2015, p. 351).

When it comes to athletes’ perceptions of the system and attitudes towards anti-doping and specific topics within the WADA’s anti-doping framework, Gleaves and Christiansen (2019) synthesised the existing empirical research. Their analysis demonstrates that athletes generally express contentment with the current system, although some concerns have been raised, including athletes’ lack of opportunity to participate in the policy- and decision-making processes. The authors suggest that athletes’ voices should be included to a greater extent in policy production, as they are the most essential stakeholders who

experience the direct consequences of the policy ( (Gleaves & Christiansen, 2019).

As previously mentioned, several doxas are present in the sporting context. In addition to the performance doxa, an anti-doping doxa, based on the concept of fairness, is also an apparent part of elite sport. Athletes are educated and socialised in an anti-doping culture, where the relevant agencies' explicit objective is fair sport and where the distinction between the clean and the cheating athlete is constructed (Ohl, Schoch, et al., 2021). A great deal of resources are dedicated to deterring athletes from doping and to uncovering and punishing those who violate the anti-doping rules (Waddington & Møller, 2019). But is the current anti-doping regime efficient in terms of reducing rule violations to an acceptably low level?

Estimating the prevalence of doping in sport is considered a very challenging task because such substance use is associated with shame and condemnation. A review by Gleaves et al. (2021) summarised the outcomes from 105 studies published between 1975 and 2019, aiming to collate and synthesise evidence on the prevalence of doping in competitive sport. The reported or estimated doping prevalence rates in all the studies ranged between 0% and 73%, with most falling under 5%. Nevertheless, several studies, both reviews (De Hon et al., 2015) and surveys (Elbe & Pitsch, 2018; Pitsch & Emrich, 2012), indicate that the prevalence of doping is higher than suggested by the doping control test results in elite sport—that is, 1–2% annually. For example, De Hon et al. (2015) summarised the existing literature to present an overview of the prevalence of doping in elite sport during the last few decades. The data suggest that the real prevalence is likely to be between 14% and 39%. In sum, it seems difficult to deter everyone from crossing the line set by the WADA.

Norway has a history of strong anti-doping work in both the sporting context and wider society (Gilberg et al., 2006). However, there have been some doping violations over the years. According to ADNO's (n.d.-a) online overview, there were 29 cases, 28 positive tests and 1 denial in 2023. The statistics reveal that the 29 cases stem from several sports but only represent men (ADNO, n.d.-a). The cases that prompted the biggest headlines occurred in 2016 and 2017, respectively, and were ruled by the Court of Arbitration for Sport (CAS) as non-intentional violations of the anti-doping rules. The first case, involving the cross-country skier Martin Johnsrud Sundby, occurred in 2016 and concerned his use of asthma medication.<sup>2</sup> The second case involved another cross-country skier, Therese Johaug, and her

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<sup>2</sup> The CAS (2016) ruled that 'Martin Johnsrud Sundby has violated Article 2.1 of the applicable FIS anti-doping rules and is sanctioned with a period of ineligibility of two months starting from the date of this award' (p. 59).

use of a lip cream that included a banned substance.<sup>3</sup> In both cases, a physician took responsibility for the mistake and resigned. These cases challenged the ideal of clean Norwegian sport and divided public opinion. Most believed in the athletes' innocence, while others had doubts and discussed what they considered to be an imagined Norwegian exceptionalism self-image concerning anti-doping (Tangen & Møller, 2019).

One of the main objectives of both ADNO and anti-doping preventive work by the sports federations is to educate about nutritional supplements and the possible risk of contamination. In this study of young athletes, who are assumed to have a low doping prevalence (Laure & Binsinger, 2007), exploring understandings of the permitted substances often referred to as nutritional supplements seems more relevant, as it is known that this phenomenon is widespread. Lauritzen and Gjelstad (2023) systematically screened information from 10,418 doping control forms collected by ADNO from 2015 to 2019. The forms came from both national-level athletes and recreational athletes. Overall, 51% of the forms listed at least one nutritional supplement, with the national-level athletes more often reporting nutritional supplement use. In fact, among the national-level athletes, 42% of the forms reported medical supplements, 2.6% reported mixed products and 12% reported sports products. The rationales behind elite athletes' use of such supplements include 'the best use it' and the idea that it gives them a 'competitive edge' (Garthe & Ramsbottom, 2020).

In the sporting context, permitted substances comprise various types of supplements, including protein shakes, nutritional supplements, pre-workout supplements, creatine, energy drinks and so on. Later in this thesis, I will use 'nutritional supplements' as a collective term for these products. Broadly speaking, nutritional supplements are widely used by both the general population and athletes; however, elite athletes use nutritional supplements much more than their non-elite counterparts (Knapik et al., 2016). Concerning gender, the prevalence was similar, except that women used more iron supplements, while men more often used vitamin E, protein and creatine (Knapik et al., 2016).

Supplements are widely discussed in anti-doping work for two key reasons: (i) supplements can be contaminated with what are considered doping substances, and (ii) supplements are seen as a potential gateway to doping (Backhouse et al., 2013; Hurst, 2023;

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<sup>3</sup> The CAS (2017) ruled as follows: 'During the period 4-15 September 2016, the Norwegian skier Therese Johaug used a cream (Trofodermin) purchased for her by a team doctor in Italy to treat acute sunburn on her lips. The active ingredients listed on the packaging included Clostebol acetate (0.5%), an anabolic agent listed on the WADA Prohibited List and banned at all times, in and out of competition'.

Hurst et al., 2023). Hence, supplements are often referred to as ‘grey zones’ that complicate the process of judging anti-doping violations. A recent work by Helle et al. (2019) confirmed the status of nutritional supplementation as a grey area. They performed a content analysis of 93 high-risk nutritional supplements available from online stores aimed at the Norwegian market. A total of 21 of these supplements contained either doping agents, illegal drugs or illegal concentrations of caffeine.

As the name implies, nutritional supplements often imitate ‘natural foods’ or are linked to nutrition in other ways. When it comes to food and nutrition, the general population receives recommendations regarding alcohol, sugar, fat, vegetables, fish and so on (Nordic Council of Ministers, 2023). For athletes, anti-doping rules and other regulations and advice from their sporting systems enforce stricter supplement and food regimes, both in training and in competition. One example comes from OLT, which has developed 19 evidence-based fact sheets encouraging all athletes, regardless of their level, to be aware of their eating habits and to eat appropriately in terms of training and competition, as this can significantly improve their performance (OLT, n.d.-c). These fact sheets include descriptions of what to eat before, during and after training sessions. The general suggestion is four meals daily and intermediate meals if required. The recommendation after training is to provide the body with a quick refill for optimal recovery. More specifically, the recommendation for post-workout meals is as follows: food and drink with a high carbohydrate content, food and drink with a moderate protein content, a lot of liquid (with a little salt in the case of large fluid loss and if no food is consumed) and, otherwise, food and drink that the athlete likes (OLT, n.d.-a).

One of the fact sheets provides recommendations concerning nutritional supplements in sport (OLT, n.d.-b), which OLT (n.d.-b) posits to usually be classified into three groups—namely, sports products, which are described as products high in protein and carbohydrates; vitamin and mineral supplements, which are exemplified by cod liver oil; and ergogenic supplements, which are described as supplements that can enhance the performance of athletes at a high level (creatine is specifically mentioned). Concerning sports products, OLT describes them as having a natural place during training and competition, with carbohydrate and protein products being useful during the recovery phase after strength training. When it comes to vitamin and mineral supplements, OLT emphasises that athletes should have a varied diet, which includes at least five portions of fruit and vegetables, to meet their needs for vitamins and minerals. Regarding ergogenic supplements, OLT stresses that the side effects and long-term effects of these products are often unknown, meaning that athletes who use such supplements must be aware there is always a risk of the supplement being

contaminated and causing an inadvertent positive doping test result (OLT, n.d.-b).

In sum, the quest for performance enhancement, together with anti-doping rules and regulations, impact and shape young athletes' understanding of nutritional supplements and also of diet and food. In many situations, the performance and anti-doping goals align and overlap, while in other situations there are contradictions and tensions. This thesis explores how young athletes construct meanings and understandings in these areas.

### **3 State of the art**

To further unpack my research field, I will now present previous social science research on anti-doping, nutritional supplements, food, young athletes and athletic identity that I consider to be relevant to the present project throughout the research process.

#### **Anti-doping research**

There is a significant body of social science research concerning the use of both permitted and prohibited substances in sport. The literature covers a wide range of questions related to the topic, such as the prevalence of doping (Lentillon-Kaestner & Ohl, 2011; Strano Rossi & Botrè, 2011), the risk factors predicting doping intentions and behaviours (Backhouse et al., 2007; Hauw & McNamee, 2015; Lazuras et al., 2010) and athletes' (Backhouse et al., 2007; Morente-Sánchez & Zabala, 2013) and their support staff's knowledge of and attitudes towards doping (Mazanov et al., 2014; Morente-Sánchez & Zabala, 2015).

Based on previous research, Waddington (2016) presented an overview of the most important social and behavioural theories used in anti-doping research. The six theories he identified are differential association, Marxist approaches, doping as overconformity, social psychological game theory, doping as a response to the biographical risks of a sporting career and medical-sociological approaches that focus on the relationship between athletes and sports physicians/team doctors (Waddington, 2016, p. 22). Overall, five of these theories stem from sociological approaches and one from the field of social psychology, and the approaches represent different levels of how theory is understood and used. Waddington (2016, p. 34) described the theories as overlapping rather than being mutually exclusive. He emphasised that all the approaches recognise the significance of structural changes in modern sports as being essential when it comes to understanding doping in the sporting context. He further posited that the most important common feature of the theories is the focus on athletes as part of a network of relationships in sport (Waddington, 2016, p. 22).

In terms of anti-doping research, there is also a significant body of literature on the grey-zone supplements or other practices considered to be a potential risk factor for doping behaviour. Fincoeur et al. (2020) argued that anti-doping regulations are challenged by several grey zones (Van Thuyne, 2006) that complicate the already complex WADC, which has consequences for the athletes who are held responsible. Fincoeur et al. (2020) described four different groups of grey zones. First, they consider therapeutic use exemptions (TUE), which allow athletes to use prohibited substances for medical reasons. Prior research



indicates that this exception to the rules may foster mistrust among athletes (Overbye & Wagner, 2013). Second, they problematise legal performance enhancers, such as painkillers, nutritional supplements and caffeine, as blurring the distinction between enhancement and doping. Third, they draw attention to supplement use, including inadvertent or accidental ingestion of prohibited substances, and note the importance of the topic, given that the prevalence among athletes is high (Knapik et al., 2016; Lauritzen, 2022). Finally, they highlight the use of unapproved or unregistered performance-enhancing drugs, claiming that such products act as a black box, creating grey areas for potential performance-enhancing drug users and fostering further uncertainty for athletes. Additionally, some substances are prohibited in competition and some out of competition, which makes the picture less clear-cut. Overall, these different grey zones create uncertainty for athletes and their work in staying on the right side of the ethical line (Fincoeur et al., 2020). The link between permitted and prohibited substances is pursued through the well-researched gateway hypothesis, which describes substance use as sequential (Backhouse et al., 2013; Dietz et al., 2014; Kandel, 2002). This hypothesis has been confirmed in several studies and is often a topic of discussion in the anti-doping literature (Hurst, 2023; Hurst et al., 2023).

Many scholars have raised questions about whether too much emphasis has been placed on individual moral and ethical choices when it comes to doping (Jedlicka, 2014; Kayser et al., 2007). They are critical of the emphasis on individual athletes and their decision-making (Hauw & McNamee, 2015). Moreover, individualising athletes' decision-making is considered reductionist. These scholars have suggested a more extensive social and socio-cultural approach to the phenomenon (Aubel & Ohl, 2014; Connor, 2009; Ohl et al., 2013; Pappa & Kennedy, 2012), including more research with a contextual focus in the anti-doping field. Several scholars have advocated a research tradition that examines in more detail the network of actors who athletes are surrounded by (Connor, 2009). Here, Connor's (2009) concept of the networked athlete emphasises these different actors' roles in the doping discussion, as will be elaborated in the forthcoming theory chapter.

Prior research on athletes' network in relation to doping has focused on their entourage and their support staff, especially coaches (Barkoukis et al., 2019; Erickson et al., 2015). There has also been research on peers and teammates that has shown different actors' influence on the topic. In this regard, previous reports have suggested that athletes in the same training group and culture play an important role in the decision to take performance-enhancing drugs or otherwise (MacNamara & Collins, 2014). An interactional study in the Norwegian context is Sandvik et al.'s (2017) exploration of how ambitious young cyclists

communicate among themselves about doping dilemmas. During the focus-group interviews, brief and evasive conversations dominated the communication and interaction. The authors suggested this to be a consequence of Norway's strict zero-tolerance approach. They further argued that it can hinder athletes from engaging in reflective discussions that might substantiate critical understandings of doping.

In a recent study, Veltmaat et al. (2023) explored how athletes perceive the values and value systems of those who engage in doping. The study involved 60 athletes who participated in focus-group interviews. The discussion revolved around values and the conscious decision to dope. However, the study relied on a narrow definition of doping, meaning that the authors defined doping as intentional doping violations and not unintentional doping, for example, inadvertent doping. This approach was applied to capture the values athletes link to conscious doping and how they experience both protective and risk factors. Veltmaat et al. (2023) particularly sought to explore the role of values in the context of doping and performance enhancement. Their findings showed that athletes view doping as a multidimensional phenomenon with several themes and sub-themes. Some of these themes involved contextual aspects when athletes described what they think might influence someone to dope. One of the sub-themes—namely, the high-pressure environment of the elite sport system—highlighted the overall context of elite sport and the fact that the inherent structures of the system render athletes vulnerable to doping.

In sum, much of the prior anti-doping and doping research has been quantitative in nature, using surveys to understand related thoughts and behaviours (Petróczi, 2007). In a recent editorial, Lux and Vinther (2023) questioned what is left to do in the field of anti-doping research after summarising the literature from the last two decades. Their summary focused on three central questions. As the epidemiology question, how widespread is doping? As the aetiology question, why do athletes dope? As the prevention question, how can doping be prevented? (Lux & Vinther, 2023). The authors concluded that accurately determining the prevalence of doping is challenging, noting a discrepancy between positive doping controls and self-reports. Drawing on previous methodologies, they recommended a broader exploration of the factors that contribute to athletes remaining drug-free in future research. Additionally, they advocated for increased emphasis on the evaluation of prevention and intervention strategies.

## Food and nutrition research

Food, nutrition and diet together represent one of the critical aspects when it comes to developing athletic abilities and skills and generating outstanding performance. Despite the strong focus on food and nutrition for performance purposes in practice, Ventresca and Brady (2015) argued that this area has been little researched in the critical and sociocultural research traditions. Indeed, there is little critical literature on what theoretical and epistemological assumptions underlie the understanding of food as 'natural' and different when compared with performance-enhancing substances. Ventresca and Brady (2015) claimed that 'Food provides a vast conceptual terrain for further sociocultural exploration into the realms of sport and physical activity' (p. 413). Furthermore, they described '[...] food and eating as cultural sites through which important questions can be raised about the connections between sport, the body, and athletic performance [...]' (Ventresca & Brady, 2015, p. 414).

In a similar vein, few studies have explored food in relation to anti-doping or doping; however, some relevant research can be mentioned here. One such study is Busanich et al.'s (2012) exploration of runners' meaning-making and the relationship between body, food and exercise. Through in-depth interviews, the authors aimed to capture the narratives and discourses that exist in this context and shape runners' behaviour concerning their bodies, food and exercise, whether in healthy or unhealthy ways. The authors sought to explore meanings not yet considered, as they argued that previous research had mainly focused on disordered eating. Busanich et al.'s (2012) thematic and dialogic/performance analysis showed that runners drew two opposing narratives in their meaning-making: 'just do it' and 'just do it better'. Here, 'just do it' was associated with running for fun and health benefits, while 'just do it better' was related to running to improve performance or beat others. When making sense of their running experiences, some runners switched between the narratives, whereas others stuck to just one narrative. Runners' exercise and eating practices, as well as the extent to which they were healthy or unhealthy, were related to which narrative they relied on. This finding supports the notion that runners' practices are socially and culturally shaped through particular narratives and cultural discourses.

In another attempt to explore the meaning of food in the sporting context, Brady and Ventresca (2014) performed a case analysis of the media response to Arian Foster's announcement that he was becoming a vegan when he was a running back for the Houston Texans in the National Football League. More specifically, the authors conducted a contextual discourse analysis of both the popular and the sports media coverage. The analysis

revealed that the media debate was dominated by a general concern about how the new diet would affect Foster's on-field performance. Moreover, the media discourse was saturated with certain ideas about food and performance, especially the link between eating meat and masculinity, which the authors suggested to illustrate a hegemonic masculinity discourse in the media coverage. This media coverage stemmed from a web of discourses that impacted what athletic identities were formed and not formed. Similarly, several studies have highlighted the connections between food, masculinities and understandings of the body (Mycek, 2018; Parasecoli, 2005), illustrating the social construction of how and what athletes are expected to eat.

Scrinis (2008) noted that the meanings ascribed to and ways of thinking about food change over time, suggesting that recent times have been dominated by a view of food that focuses on the nutrient composition, which he termed *nutritionism*. This era and the term 'nutritionism' are, according to Scrinis (2008), dominated by encouragement to '[...] think about foods in terms of their nutrient composition, to make the connection between particular nutrients and bodily health, and to construct "nutritionally balanced" diets on this basis' (p. 39). This perception contextualises the relationship between food and the body. One consequence of this is that people are 'in need' of nutritional information and tend to experience nutrition confusion, particularly in situations where the nutritional components are not immediately visible, as in the case of food such as fruit and yoghurt. This need for help and the resultant confusion also increase people's dependence on nutritional experts as a source of knowledge about food if they are to eat 'right'. According to Scrinis (2008), nutritionism gives rise to a society in which people are expected to take personal responsibility for balancing their nutrient intake according to the nutritional 'certainties' that dominate the discourse.

The same year that Scrinis (2008) published the article *On the Ideology of Nutritionism*, Michael Pollan (2008, as cited in Coveney, 2011, p. 14) published his book *In Defence of Food*. Pollan posited a similar understanding of nutritionism as an ideology (Coveney, 2011). According to Coveney (2011), Pollan perceived '[...] nutritionism as an ideology that views food principally in terms of its nutritional and chemical components, and the body's requirements for these constituents' (p. 14). Coveney (2011) suggested that nutritionism represents a higher level in the knowledge hierarchy and refers to an epistemological level of '[...] organising principles which allow us to know what we know, and who we are, and to validate those beliefs within particular moral frameworks' (p. 14). Coveney (2011) argued that the ideas associated with nutritionism can be traced back to early

discourses on food and health in Western history and that these long roots are based firmly on religion. Although science has provided comprehensive knowledge of what represent healthy eating habits for people, the nutritionist labelling of what is ‘good’ to eat also highlights what is ‘bad’, thereby rendering food and eating a moral matter (Coveney, 2011). Thus, it is important to consider nutrition not only as a science but also as an ‘[...] ethos which presents a problem for modern individuals in regard to their food choices and pleasure’ (Coveney, 2006, p. xvi).

While the sporting context has a more instrumental view of food and eating, the ethos Coveney (2006) described most likely also relates to athletes, as they are not isolated from the rest of the society. In fact, Ventresca and Brady (2015) argued that nutritionist thinking has some specific consequences in the sporting context. Considering the density of experts in the field of elite sports, including in the realm of nutrition, the related actors most likely play a key role in the construction of meaning regarding the understanding of food and eating. In addition, as diet and nutrition are such important aspects of elite sport, food and eating are closely linked to the athletic identity. Seeking to illustrate the connection between eating and athletic identity, Williams (2012) explored how a common sporting ethic shared in the elite context can encourage athletes to approach dietary decisions in distinctive ways. The study used interviews with men and women from several sports to capture athletes’ lived experiences in these respects. The analysis revealed two themes—namely, eating for excellence and eating disorders in elite sport: inevitability and ‘immunity’. The first theme, eating for excellence, demonstrates that the excellence discourse comes to light through eating practices that indicate to athletes and others that they have a real athletic identity. The second theme, eating disorders in elite sport: inevitability and ‘immunity’, emphasises how the desire to perform at an elite level may, on the one hand, provide a defence against eating disorders and, on the other hand, lead to their development. In other words, the same pressure may have opposing consequences in terms of how athletes handle food. The motives behind dietary decisions are usually informed and encouraged by the excellence discourse, which ‘[...] to a large extent, defines who can legitimately claim an authentic athletic identity’ (Williams, 2012, p. 33).

### Youth athletes research

Youths are at a stage of life that involves several changes related to the transition from childhood to adulthood. Both physically and mentally, they are maturing. This thesis focuses on a certain group of youths: athletes who have chosen to dedicate a lot of time and resources

to improving at their sport. Hence, my emphasis here will be on youth and sport. Youth research includes a wide range of topics, as does youth athlete research. To provide a relevant overview, I will begin with the literature review that forms Paper 1 in this thesis and deals with research on young athletes and performance-enhancing and health-compromising behaviours.<sup>4</sup>

The majority of the reviewed studies related to performance-enhancing behaviours pointed to contextual and personal factors concerning doping (Kristensen et al., 2022). Examples included attempts to measure what attributes athletes believe cause success in sports (e.g. people succeed in sports if they always do their best) (Barkoukis et al., 2014), how these beliefs relate to doping intentions and the relationship between perfectionism in sport and attitudes towards doping (Madigan et al., 2016). Only one study explored nutritional supplements, again in relation to doping. Barkoukis et al. (2015) examined if youth athletes who report the use of nutritional supplements exhibit more positive reasoning towards doping when compared with those who do not report nutritional supplement use. Based on survey responses from 650 youth athletes, Barkoukis et al. (2015) found that those who used nutritional supplements revealed more positive attitudes towards doping and were twice as likely to self-report doping when compared with those who did not use nutritional supplements. The authors emphasised that, although their findings show that nutritional supplement use is associated with a favourable view of doping, nine out of ten youth athletes who used nutritional supplements did not self-report doping use.

Most of the studies featured in the literature review explored different associations based on quantitative measures. There was one mixed-methods study and one qualitative study, and both conducted focus-group interviews. The qualitative study interviewed youths regarding their health-related knowledge and reasoning. Overall, health was perceived as a means to achieve life goals, not as a state your body is in. Regarding the youths' health knowledge, the findings revealed the importance of feedback from close friends, peers, acquaintances on social media and other young people. The authors pointed to the significance of daily interactions for youths' sense-making when it comes to health and that less emphasis should be placed on institutional structures (Rodríguez-Serrano et al., 2018). The review further revealed many essential aspects of the risks, vulnerabilities and protective factors when it comes to performance-enhancing and health-compromising behaviours,

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<sup>4</sup> Health-compromising behaviours, such as competing in spite of pain, were not a focus of this project, although they were considered in my colleague's PhD project.

although it also revealed the lack of explorative studies that have investigated the role of others from a qualitative perspective.

A relevant study of athletes aged 18–35 is Barkoukis et al.'s (2019) exploration of the role of the entourage in attitudes towards doping. The study was qualitative, involving semi-structured interviews, also including the coaches. There were two relevant and interesting findings in this regard. First, the majority of athletes adopted a strong anti-doping stance but could not describe why they did so. This resembles the findings of Sandvik et al.'s (2017) study, in which athletes experienced difficulties with opening up about their views on doping. Here, Sandvik et al. (2017) pointed to the challenges of a strict and hegemonic doping discourse. Barkoukis et al. (2019) exhibited a similar interpretation of this lack of articulation, which could be due to the stigmatisation of doping, inhibiting athletes from learning about and discussing the topic. Second, a strong anti-doping culture in both the local team and the broader sporting culture was considered central to an anti-doping stance (Barkoukis et al., 2019).

One relevant youth study in the Norwegian context is the work by Sandvik et al. (2018), who examined the prevalence of anabolic androgenic steroid use among Norwegian youths aged 13–19 years old and the correlates of androgenic anabolic steroids with sports participation. Their findings suggest that the prevalence appears to be low, and that anabolic androgenic steroid use is mostly related to subgroups of youths. When socially deviant behaviour was controlled for, there was no correlation between steroid use and participation in sport clubs or individual training.

Although youth athletes and senior athletes may have many things in common, such as their training routines and the frequency of their competitions, the age difference has certain consequences. During the teenage years, self-determination strengthens, although young athletes are still more vulnerable to pressure or persuasion (McNamee, 2009). Moreover, younger athletes are generally at a different developmental stage when it comes to shaping their values and attitudes in interaction with the social and cultural contexts—that is, their social identity.

### Identity and athletic identity research

In the psychology literature, social identity is defined as a motivated cognitive mechanism that influences individuals' understanding of themselves based on their knowledge of their membership of a (social) group (Ellemers et al., 2002). Identity is a widely researched construct and phenomenon in relation to young people's experience of and search for who

they are in relation to others, in addition to where they belong. One foundational contribution to this research field is psychologist Erik Erikson's developmental theory. What is most relevant to this thesis is Erikson's (1995) description of the development stage that he termed 'Identity vs. Role Confusion'. This is the stage where childhood ends and youth begins. Erikson (1995) described this as the phase when youths are:

[...] faced with this psychological revolution within them, and with tangible adult tasks ahead of them are now primarily concerned with what they appear to be in the eyes of others as compared with what they feel they are, and with the question of how to connect the roles and skills cultivated earlier with the occupational prototypes of the day. (p. 235)

More recently, sociologist Richard Jenkins (2014) offered a significant contribution to the identity field, making the case that identities are, by definition, social identities (p. 18). He argued that 'Identifying ourselves, or others, is a matter of meaning, and meaning always involves interaction: agreement and disagreement, convention and innovation, communication and negotiation' (Jenkins, 2014, p. 18). As can be seen, both Erikson and Jenkins used the term 'identity'. By contrast, as will become clear in the forthcoming theory chapter, scholars who share my theoretical framework mostly use the term 'self'. In what follows, identity and self are used as synonyms and considered to have the same meaning.

A widely used definition of athletic identity is that presented by Brewer et al. (1993): 'The degree of personal connection to sport' (p. 1). This definition of identity is measured using the Athletic Identity Measurement Scale (Brewer et al., 1993), and research based on this athletic identity has shown that a strong degree of connection with sport can have dual consequences for athletes. On the one hand, investment in sport enforces the athletic identity as a positive feeling, while on the other hand, it is associated with an increased risk of depression and stress (Edison et al., 2021). Brewer and Petitpas (2017) reviewed the literature addressing 'identity foreclosure'. In this context, foreclosure is related to Brewer et al.'s (1993) definition and is characterised by the state of strongly committing to a role and not engaging with alternative roles and identities. The authors' synthesis showed having a one-dimensional identity to be associated with conflicting positive and negative consequences.

As athletes depend on their bodies to practice their sport, it is not surprising that they are strongly influenced by events that deprive them of the opportunity to engage and perform physically. Several studies have explored the vulnerability of athletic identity to injury and



illness (Sparkes, 1998; Stewart et al., 2011), in addition to how athletic identity is connected to engaging in various risk-related behaviours (Monaco et al., 2021; Schneider et al., 2019). Moreover, identity studies have demonstrated that athletic identity represents a strong source of a sense of belonging (Lyons et al., 2018). For instance, Lyons et al. (2018) interviewed high-school athletes who no longer participated in competitions after starting their first year of college. The findings revealed that the strong identification with sport caused many athletes to continually negotiate the possibility of returning to their sport to meet their need for belonging and community. Nevertheless, the findings also showed that, with time, the athletes learned to establish social networks outside of sport.

Studies such as that conducted by Lyons et al. (2018) have demonstrated that athletic identity represents more than a degree of involvement in sport. When their identity is threatened and challenged, athletes engage in protective meaning-making processes. In a similar line of research, Ronkainen et al. (2016) reviewed studies on athletic identity as positioned in narrative and discursive approaches and with the central understanding of identity as a complex cultural construction. More significantly, the authors perceived '[...] athletic identity as constituted within cultural narratives and discourses available to the individual' (Ronkainen et al., 2016, p. 135). The review consisted of 23 studies, 18 narrative studies and 5 discursive studies. The narrative studies addressed how cultural values and life scripts shape athletes' identities, confirming that a narrow athletic identity can have both positive and negative consequences. The positive results are that many athletes feel authentic ownership of the meanings of athletic identity—that is, they experience the identity as true expressions of themselves. Some negative consequences include the fact that athletes who become injured experience high level of distress and that athletes can use self-starvation as a means of securing athletic achievement (Ronkainen et al., 2016). In addition, the narrative studies revealed that the meaning ascribed to athletic identity changes over time and across career phases.

Moreover, the discursive studies were based on two approaches, either discursive psychology or Foucauldian discourse analysis, although they shared the same view of the role of language and power dynamics in identity construction. The findings showed that when athletes' identity does not match the cultural ideals, they can experience psychological strain and feel socially excluded from the sporting community (Ronkainen et al., 2016). Furthermore, Ronkainen et al. (2016) discussed the overall results and reflected on how the sporting context favours some identities dominated by narratives and discourses in which performance is central. As in other research, the authors noted the vulnerability of narrow

identities that can inhibit athletes' identity construction as multidimensional humans.

One study featured in Ronkainen et al.'s (2016) review that I want to highlight is the narrative interview study conducted by Carless and Douglas (2013). Based on their interviews with 21 elite and professional athletes, they showed how athletes relate to the performance narrative in three different ways: 'live the part of the athlete', 'resist the part of the athlete' or 'play the part of the athlete'. In terms of 'live the part of the athlete', athletes discussed their routines and lives in ways that confirmed the performance narrative. They also talked about their relationships with others as something they cannot prioritise, meaning that the pursuit of achievement takes priority over their social lives. Regarding the 'resist the part of the athlete' way, athletes expressed a multidimensional identity, for example, by explaining how they prioritise relationships outside of sport. The authors interpreted this as a way of resisting the performance narrative. The final way, 'play the part of the athlete', reflected how athletes have variability in their routines and prioritise according to the context and with whom they interact. This could mean that they hold a multidimensional identity but moderate it when the situation requires the performance identity and narrative.

Moreover, Carless and Douglas (2013) suggested that sport is '[...] a culture awash with public stories relating to (preferred) identities, (expected) behaviours, and (assumed) developmental trajectories' (p. 702) and that specific identities and behaviours become culturally dominant because they are told and retold in the sport context. Furthermore, they suggested that '[...] performance-related concerns come to infuse all areas of life while other areas are diminished or relegated' (Carless & Douglas, 2013, p. 702).

Together, the previous literature has demonstrated the possibilities and limitations of how athletic identity can unfold in the sporting context. The studies showed how such an identity opts out of several types of actions, such as nutritional choices and choices related to performance-enhancing means and methods. The definitions applied in the reviewed literature have similarities and differences. Some are more related to a personal evaluation (Brewer et al., 1993) of identity, whereas others focus on the social and cultural influences (Ronkainen et al., 2016). The way in which I view identity in this thesis is based on Goffman's (1959/1990) perspective. It is my interpretation that my perspective relates more to the research tradition summarised in the review by Ronkainen et al. (2016). This is due to Goffman's (1959/1990) presentation of the self being based on the interactionist perspective, which emphasises social construction and interaction in people's presentations of themselves.

## 4 Theoretical framework

This chapter presents the theoretical lens that shaped this research project in terms of developing the research questions, formulating the interview guide, conducting the analysis and presenting my findings and overall reflections.

I will first set out the premises upon which symbolic interactionism is founded and then explore the basic assumption that meaning comes into being through interactions. Here, I will start with the perspectives of two key scholars who posited the fundamental premises of the symbolic interactionism tradition—namely, George Herbert Mead and Herbert Blumer.

Next, I will present a selection of Erving Goffman's work and theoretical contributions. His interactional socialisation perspective will be described, including his ideas of face work, frame analysis and the presentation of the self in everyday life. I will follow this up by reviewing the work of Hazel Markus and Paula Nurius (1986) on possible selves that has supplemented and broadened the analysis of athletic identity.

At the end of this chapter, I will elaborate on the concept of the networked athlete, suggesting how the interactionist perspective can add substance to James M Connor's (2009) relevant and descriptive ideas.

### Symbolic interactionist approach

The symbolic interactionist approach is a micro-sociological perspective founded on the assumption that meaning is created through face-to-face interactions, with this meaning-making being fundamental to how society comes into being. Three central scholars in this tradition are Mead, Blumer and Goffman. While Blumer (1969) first used the term 'symbolic interactionism', many credit Mead with being the founder of symbolic interactionism. Although he may not be a central figure in this research project, Mead's (1934) work on significant others<sup>5</sup> and generalised others introduced relevant concepts that illustrate the importance of people's surrounding networks. Mead (1934) points to the self and identity as being constructed from social interactions and the internal feelings of oneself. *Significant others* refer to concrete people in one's life who are considered important and who shape one's identity. *Generalised others* refer to an abstract 'other' and represent the accumulated results of everyone around us who affects us, has an influence on us and helps shape our

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<sup>5</sup> Mead himself never used this term in his major work, *Mind, Self, and Society* (1934), although Berger and Luckmann credit him with introducing the concept in their work, *The Social Construction of Reality* (1966) (Rye, 2013).

identity (Mead, 1934). People summarise and construct their general 'other', which plays a significant part in their own values, perspectives and opinions. Jenkins (2014) stated Mead to suggest '[...] that we can't see ourselves at all without also seeing ourselves as other people see us' (p. 43).

In the context of this thesis, Blumer (1969) provides a more detailed contribution to symbolic interactionism. His work, *Symbolic Interactionism: Perspective and Method* (Blumer, 1969), has laid the foundation for how I perceive the construction of meaning as an ongoing interactional process. According to Blumer (1969), before he published his seminal book there was no clear formulation of the position or methodology of symbolic interactionism. He developed his own version of the perspective and suggested that symbolic interactionism rests on three premises:

The first premise is that human beings act toward things on the basis of the meanings that the things have for them [...] The second premise is that the meaning of such things is derived from, or arises out of, the social interaction that one has with one's fellows. The third premise is that these meanings are handled in, and modified through, an interpretative process used by the person in dealing with the things he encounters. (Blumer, 1969, p. 2)

Blumer (1969) emphasised that several other approaches share the first premise and that it is the second premise that differentiates symbolic interactionism from other approaches. In fact, the second premise substantiates that meaning is not inherent and does not emanate from the thing, nor is meaning a fusion of psychological elements. Rather, meaning arises through the process of interaction between people, which implies that meaning is co-created. How people act in relation to each other and towards the thing creates the meaning(s) ascribed to the thing (Blumer, 1969, p. 4). Blumer (1969), therefore, argued that '[...] symbolic interactionism sees meanings as social products, as creations that are formed in and through the defining activities of people as they interact' (p. 5).

The third premise emphasised by Blumer (1969) is the interpretative process involved in human action. In terms of this process, he described two steps. First, people indicate and communicate with themselves, which represents an internalised social interpretative process, and, second, after communicating with themselves, people's interpretation involves handling meanings in interaction with others. More specifically, Blumer (1969) suggested that 'The actor selects, checks, suspends, regroupes, and transforms the meanings in the light of the situation in which he is placed and the direction of his action' (p. 5). According to Blumer

(1969), these interpretations do not represent an automatic use of established meaning; instead, they a formative process. This does not mean that the interpretative process is totally open and optional. Individuals try out their interpretations through actions and continually adjust their meanings and actions in relation to the context in which they operate. Blumer (1969) argued that the peculiarity of human interaction lies in 'The fact that human beings interpret or "define" each other's actions instead of merely reacting to each other's actions' (p. 79). This is an ongoing process involving interpretations and negotiations within ourselves and during interactions. Blumer (1969) further argued that this is an essential point and that human group life is a formative process, not a 'blind' application of pre-existing factors that come into play.

Although Blumer (1969) highlighted the importance of interpretation in the meaning-making process, he also argued that some activities come to be more regularised in terms of recurrent patterns of joint action. Blumer (1969) claimed that, in most social situations, humans have a clear idea '[...] of how to act and of how other people will act' (p. 17). When people have such ideas coming into situations, it facilitates social interaction, as people do not have to enter situations without having any assumptions. At the same time, such ideas can crystallise certain meanings and behaviours if they are not challenged or questioned. Blumer (1969) also posited that this is particularly salient in settled societies and that people guide their own behaviour according to '[...] common and pre-established meanings of what is expected [...]' (p. 17). He suggested that these repetitive forms of action are so frequent, normal and central to human interaction that they can be characterised as 'culture'.

These premises for constructing meaning form the foundation for how I view meaning-making in this research project. In this thesis, I use the terms 'meaning' and 'understanding' synonymously, and I also use 'meaning construction', 'meaning-making' and 'sense-making' synonymously. Embedded in these premises for constructing meaning is the acknowledgment that meanings can also be constructed differently.

### *Socialisation and interaction*

To develop this theoretical framework further and provide analytical tools for exploring youth athletes' meaning-making, a selection of Goffman's work and analytical concepts are utilised. Moreover, although there are conflicting opinions regarding Goffman's

philosophical standpoint<sup>6</sup> (Birrell & Donnelly, 2004; Verhoeven, 1985), I use and interpret his work as belonging to the interactionist perspective (Carter & Fuller, 2016).

When Goffman (1983) defined social interaction, he described it as what ‘[...] uniquely transpires in social situations, that is, environments in which two or more individuals are physically in one another’s response presence’ (p. 2). A core concept of Goffman’s (1983) interactional framework is the *interaction order*. He stated the following when describing how the interaction order works: ‘[...] the consequences of systems of enabling conventions, in the sense of the ground rules for a game, the provisions of a traffic code or the rules of syntax of a language’ (Goffman, 1983, p. 5). The interaction order is also a synonym for the face-to-face interaction domain and the object for analysis when seeking to understand how microsociological interactions unfold and how the interaction order arises and is sustained (Goffman, 1983, p. 6).

When Goffman (2005) analysed and described human interaction in everyday life, he used dramaturgical metaphors. He described life as a scene divided into a frontstage and a backstage. The frontstage is characterised by having an audience, which implies that the presence of others shapes how you present and perform yourself. As the backstage has no audience except yourself, your guard is lowered. According to Goffman (2005), however, the backstage still involves some staging. When humans perform on the frontstage in different roles, they ‘wear’ different masks and engage in different *impression management* strategies to make sure they are perceived in the way that they desire. People try to ensure that they play the expected role (Goffman, 2005). Birrell and Donnelly (2004) interpreted Goffman’s notion of impression management as ‘[...] the conscious act of maintaining the credibility of one’s role’ (p. 51). In this research project, it means performing in a way that accords with the athletic identity. Expectations of that role are closely linked to normative expectations of what it means to be an athlete: to be serious, to engage in certain food practices, to not drink alcohol, to perhaps wear certain clothes and so on.

In these interactions, humans also perform a *face*, which Goffman (2005) defined as ‘[...] the positive social value a person effectively claims for himself by the line others assume he has taken during a particular contact’ (p. 5). From Goffman’s (2005) perspective, maintaining face is a prerequisite for interaction, not the purpose of it. He described facework as the different acts humans perform to project a specific social image of themselves.

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<sup>6</sup> Birrell and Donnelly (2004) interpreted and described his contribution in line with the constructivist paradigm, while Verhoeven (1985) argued that Goffman ‘defends a positivistic position: reality is there for him as researcher’ (p. 78).

Through facework, people seek to ensure that what they do accords with their desired face (Goffman, 2005, p. 12). Whether a person maintains face is also a social responsibility, which means that all the participants in an interaction work to ensure that no participant loses face. Furthermore, Goffman (2005) argued that '[...] in many relationships, the members come to share a face, so that in the presence of third parties an improper act on the part of one member becomes a source of acute embarrassment to the other members' (p. 42).

When writing *Asylum*, Goffman (1961) developed his concept of *total institutions*, which he defined as '[...] a place of residence and work where a large number of like-situated individuals, cut off from the wider society for an appreciable period of time, together lead an enclosed, formally administered round of life' (p. 11). Two characteristics of total institutions are that '[...] sleep, play and work [...]' (Goffman, 1961, p. 17) have limited separation and that some people dominate social interactions. Considering the premise of symbolic interactionism that things gain meaning through interaction, these circumstances and patterns necessarily have power over the construction of the meaning and the self.

Although his work was initially related to institutions such as jails and hospitals, and while the athletes in my study are far from inmates and patients, the observed patterns of interaction share interesting characteristics with Goffman's (1961) description of total institutions. In the lives of these athletes, sleep, play and work have limited separation and the school employees dominate their social interactions. Goffman (1961) described the interaction order as being dependently linked to the context and, therefore, unfolding differently at different institutions. The physical barriers at the schools are not as comprehensive as Goffman (1961) described in relation to other institutions. However, the interaction order is most likely slightly different in these schools when compared with other contexts.

Goffman's theories have been subject to several critical reviews. Some criticisms have been directed towards his neglect of structures in the construction of social life and to the fact that he places too much emphasis on the micro aspects. By contrast, other critics suggest that his frame analysis (which will be elaborated in the following sub-section) is exactly that, as he moves towards discourse and shows how overarching concepts and structures also shape face-to-face interactions in several ways (Birrell & Donnelly, 2004).

In the speech Goffman (1983) delivered to the American Sociological Association, he stated that interactions occurring outside of face-to-face interactions are not completely 'real'. His exact words in this regard were as follows: 'Presumably the telephone and the mails provide reduced versions of the primordial real thing' (Goffman, 1983, p. 2). Considering the

year, while the internet had started its evolution, neither Goffman nor other scholars of the time could be expected to envision the extent of our use of the internet, apps and social media. Therefore, I do not perceive interactions through snaps, photos or text messages to be less genuine forms of social interaction. I base this assumption on the way in which Birrell and Donnelly (2004) interpreted Goffman and on what I see as his ontological assumptions when he described the use of masks in social interaction. Goffman (1983) did not perceive some selves as more true than others. More significantly, he described the masks people wear and reinforce in social interactions as real in terms of their consequences. These masks are, therefore, as ‘true’ as a backstage mask, characterised by a lowered guard and less staging. Some people may claim to feel more like themselves when they enter a personal space and are not observed by others. How I interpret Goffman (1983) is that he is not concerned with the extent of which we feel like ourselves but with what is constructed and produced through the social interaction—that is, how masks, roles and selves come into being during the interaction and thus *are*.

#### *Frames and frame analysis*

Goffman (1974) wrote *Frame Analysis. An Essay on the Organization of Experiences* with the aim of describing how humans organise their experiences using *frames*. He claimed that when individuals attend any situation they are confronted with the question of ‘what is it that’s going on here?’. What Goffman (1974) labelled primary frameworks help with interpreting and answering that question and ‘[...] rendering what would otherwise be a meaningless aspect of the scene into something that is meaningful’ (p. 21). These frames can, therefore, be described as social structures that help humans to locate, perceive, identify and label experiences (Goffman, 1974, p. 21). He further suggested that a social group’s primary frameworks are a central part of their culture, ‘[...] especially insofar as understandings emerge concerning principal classes of schemata, the relations of these classes to one another, and the sum total of forces and agents that these interpretive designs acknowledge to be loose in the world’ (Goffman, 1974, p. 27).

According to Satheesh and Benford (2020), frames ‘[...] work as articulation mechanisms that tie together different elements of the scene to convey a particular set of meanings and thus a certain version of reality’ (p. 1). I interpret frames as including *clues* that come into play when individuals and groups organise their experiences. It can prove challenging to enter a new and unfamiliar social situation and seek to sort out ‘what is it that’s going on here?’. In addition to serving as clues that help humans to organise and sort



out ‘what is going on?’, frames are also social products constructed through interaction. Being social products, I see frames as ‘filters’ that people use to make sense of their social lives and to organise their worlds more effortlessly. Thus, when socialised into a context, people are socialised into frames that offer established and more or less taken-for-granted ways of understanding and organising their experiences. While frames have some stability, they are not unchangeable, which means they can be shaped and reshaped.

Analyses of frames are not always straightforward. Goffman (1974) took into account the fact that there are most often several things going on at once in a given social situation. He used the example of a football match, where the two opposing teams are not experiencing the same game and so would answer the ‘what is going on here?’ question differently. Two relevant concepts within Goffman’s (1974) frame analysis are the *key* and *keying*, which are central to explaining how activities transform meaning. Goffman (1974) defined the key as ‘[...] the set of conventions by which a given activity, one already meaningful in terms of some primary frameworks, is transformed into something patterned on this activity but seen by the participants to be something quite else’ (pp. 43–44). He refers to this transformation process as *keying*. When an activity is keyed, the activity itself undergoes only slight changes, but the interpretation ascribed to the activity and the answer to the question of what is going on would be different (Goffman, 1974, p. 45). To illustrate this phenomenon, Goffman (1974) used the example of animals engaging in both fighting and playing. These activities may appear visually similar, involving actions like biting and jumping. However, the interpretation of the two activities differs; the answer to the question of what is going on could be either fighting or playing.

Another frame transformation process explained by Goffman (1974, p. 83) is fabrication, which is characterised by someone intending to produce a false belief about what is actually happening. According to Davis (1975, p. 599), who has reviewed Goffman’s frame analysis, keyed frames differ from fabricated frames. In keyed frames, all the parties agree on the frame transformation, while in fabricated frames, not all are aware of the transformation. This renders keyed frames less likely to break, as they are not based on the ambiguity of fabrication.

In this study, I use frames to understand and analyse athletes’ relation to nutritional supplements. The frames represent certain overarching ideas that they use to organise their eating practices. This means that the content of food products and other supplements is not the only source of the meaning. Instead, the products and how they are consumed are

understood based on overarching ideas or frames, which in this context are tied to more general ideas or frames of athletic performance.

*The presentation of self in everyday life*

In 1959, Goffman published his work *The Presentation of Self in Everyday Life*. Overall, this book explained, described and illustrated with numerous examples how humans present themselves during human interactions. As mentioned in previous sections, Goffman (1959/1990) also used a dramaturgical metaphor when explaining how and why humans present themselves in certain ways in specific contexts. Here, *performance* '[...] refer[sic] to all the activity of an individual which occurs during a period marked by his continuous presence before a particular set of observers and which has some influence on the observers' (Goffman, 1959/1990, p. 32). Performances occur on what Goffman (1959/1990) refers to as the front stage. During these performances, humans perform routines to an audience (other humans) that may be prone to providing a more superior impression than is really the case. The routine is then '[...] "socialized", moulded, and modified to fit into the understanding and expectations of the society in which it is presented' (Goffman, 1959/1990, p. 44).

Goffman's (1959/1990) explanations of 'socialised' performances and routines mean that individuals negotiate what is considered a desirable identity during interactions with others. In many situations, this negotiation is based on humans performing a social role, which is already associated with certain ideas and characteristics. This implies that the identities humans perform are founded on context-dependent and previously negotiated notions. Goffman (1959/1990) explained it as follows: 'When an actor takes on an established social role, usually he finds that a particular front has already been established for it' (p. 37). In my interpretation, these established fronts are related to the frames in a given context, as I see them as both socially constructed and established through interaction. Both an established front and a frame are constructed in a certain way because they have emerged and been reinforced as socially desirable.

When it comes to the performances humans do to ensure that the desired impression is coming across, I do not perceive humans in general and athletes in particular as specifically playing other roles and camouflaging their 'real' identity. I align with Goffman's (1959/1990) statement in this regard: 'It is not assumed, of course, that all cynical performers are interested in deluding their audiences for purposes of what is called "self-interest" or private gain' (p. 29). However, it is normal for a people to '[...] conceal or underplay those activities, facts, and motives which are incompatible with an idealized version of himself and

his products' (Goffman, 1959/1990, p. 56).

Identity performances are closely linked to Goffman's (1959/1990) concept of impression management, as identity '[...] is a pattern of appropriate conduct, coherent, embellished, and well articulated. Performed with ease or clumsiness, awareness or not, guile or good faith, it is none the less something that must be realized' (p. 81). The interviews detailed in this thesis provide an opportunity to explore the socially accepted ways of 'doing' the youth athletes' identity. Goffman's (1959/1990) theory of the presentation of the self can elucidate how athletes construct and play the part of 'the real athlete'. I view the presentations of the self that came to light during the interviews as insights into how meaningful and idealised athletic identities manifest in this context.

Goffman (1959/1990) has been criticised for presenting a narrow Anglo-American view of the self and lacking the perspective to explore how individuals manoeuvre different alternative identities and are multidimensional (Jenkins, 2014, p. 68). However, his book as a whole includes several conceptualisations of self and identity and how to understand them, which is very valuable for the present study. Nevertheless, I do see the advantage of taking on board a perspective that opens up the possibility for several selves to be presented. In this respect, the work by Markus and Nurius (1986) has proved to be advantageous. They emphasised the possible repertoire of several selves and how these selves are linked to the past and future and also to specific contexts such as sports (Hickey & Roderick, 2017).

#### *Presentation of possible selves*

In the paper *Possible Selves*, Markus and Nurius (1986) addressed the existence of variations of humans' selves in contrast to what they argued is generally researched—that is, the 'ideal self'. In addition, they suggested that the future self should be taken into account in studies on identity and argued that the idea of possible selves complements current self-knowledge concepts.

More specifically, Markus and Nurius (1986) described the current self as being tangled up in the past self and the possible future self. They described possible selves as the type of self-knowledge that '[...] pertains to how individuals think about their potential and about their future' (Markus & Nurius, 1986, p. 954) and shared two arguments as to why they are important for humans. The first function is the possible selves as incentives for future behaviour—namely, the selves we want or do not want for ourselves. The second function is the possible selves as a standard for evaluation and interpretation of the current self-concept. The possible selves represent what we want to become and what we are afraid of becoming,

which the authors described as positive and negative possible selves, respectively. Although these selves involve looking into the future, they are connected to the current selves, which Markus and Nurius (1986) termed the *working self-concept*. According to Markus and Nurius (1986), individuals have a repertoire of possible selves, which act as cognitive personalised manifestations of goals, motives and fears. The possible selves are also social products, salient to others through social comparison of an individual's own thoughts, behaviours and characteristics: what you see others to be now becomes something you can become. How Markus and Nurius (1986) perceived the connection between what is personal and what is social in the possible selves is clearly illustrated in the following statement:

An individual is free to create any variety of possible selves, yet the pool of possible selves derives from the categories made salient by the individual's particular sociocultural and historical context and from the models, images, and symbols provided by the media and by the individual's immediate social experiences. (p. 954)

Markus and Nurius (1986) suggested that by exploring the possible selves, one can reveal two important aspects. First, one can reveal the inventive nature of the self, which I interpret as personal and individual ideas and notions about one's possible selves. Second, and more significant to my theoretical perspectives, the possible selves '[...]' reflect the extent to which the self is socially determined and constrained' (Markus & Nurius, 1986, p. 954). When it comes to the context of possible selves in this research project, the social determination is found in Norwegian youth elite sport, the sports schools and their ideas, discourses, symbols, categories, etc.

Hickey and Roderick (2017) combined the concept of possible selves and Goffman's (1959/1990) presentation of the self when investigating athletes to broaden understanding of athletic identity. They argued that the notion of an exclusive athletic identity has been the focus of most previous research on athletes' careers and that such research has played a role in reinforcing the narrow athletic identity. According to Hickey and Roderick (2017), the combination of Goffman (1959/1990) and Markus and Nurius (1986) creates a fruitful approach to athletic identity research in several ways. First, the perspective moves beyond narrow conceptualisations and focuses on relations and interactions outside the sporting setting. Second, it considers the future orientation of athletes' construction of the current self.

For my research project, especially when addressing RQ 4, which explores the presentation of athletic identity, the decision to supplement Goffman's (1959/1990) presentation of the self with the possible selves is inspired by Hickey and Roderick's (2017)

work. Three aspects of their perspective were particularly important for my conceptualisation. First, the move away from athletic identity as a narrow self, taking into account the fact that athletic identity is more than merely the degree of connection to the sport. An emphasis on a wider identity presentation guided my analysis. Second, the focus on the future possible selves in athletes' construction of their current identity is relevant because they are highly linked to their future aspirations and desire for a senior athletic career. Third, there is an emphasis on what the presentations of identity can tell us about the social and contextual factors and the symbols and images of the possible selves for athletes portrayed in the media.

### The networked athlete

The *networked athlete* concept introduced by Connor (2009) played an essential role at the onset of this project. With this concept, Connor (2009) sought to challenge and complement the idea that doping represents a moral flaw and an individual choice. As previously mentioned, my research project has not focused on prohibited substances and doping practices; rather, it has concentrated on nutritional supplements and the borders with what is prohibited. The networked athlete concept is nevertheless relevant to my project, as one of the core ideas behind my research is that meaning is constructed through interaction and has consequences for actions. The networked athlete concept highlights the importance of both significant and generalised others in relation to the attribution of meaning to prohibited substances. This renders the networked athlete concept highly relevant. As Connor (2009) stated:

By looking at how the athlete is part of a social web we can achieve two goals. The first is a refutation of the 'lone athlete' concept in doping that seeks to test and punish just the end user. The second is that we can start to understand the micro-sociological interactions in this peculiar social world; that of the elite athlete. (p. 339)

Connor's (2009) final point is the most relevant to this project, as achieving a description and analysis of the micro-sociological interactions in a specific context is one of the overarching goals of my work. Connor (2009) offered important perspectives on the social aspects of athletes' lives and challenged previous ideas about why athletes engage in deviant behaviour and how they come to think and act in certain ways. However, the concept of the networked athlete lacks elaboration of how various significant others contribute. As there is a need for further theoretical depth, in this thesis, Connor's (2009) concept has been combined with the

interactionist tradition from the field of sociology.

The theoretical framework detailed in this chapter serves as a lens through which I delve into the social construction of anti-doping, nutritional supplements, food and identity within the athletes' narratives. The primary aim of this thesis is to comprehend the social construction of athletes' meaning-making, and the interactionist perspective plays an essential role in this by providing premises and perspectives that facilitate the interpretation of how relevant subjects become socially constructed. These perspectives, in combination with the methodological tools that will be presented in the following chapter, allow the athletes' narratives to be carefully studied.

## 5 Methodology

This thesis consists of two studies, both conducted in accordance with qualitative methodologies: one systematic literature review and one interview study, the results of which are reported in the four included papers. In this chapter, I will first describe the purpose of the systematic literature review and provide an account of the choices and reflections tied to its completion, and then I will offer some overall reflections on the findings. This study is presented in Paper 1 (p. 60). Second, I will present and discuss the interview study. This will include the methodological choices, deliberations and reflections related to planning the interviews, conducting the interviews, the various analyses, the study quality and its limitations, as well as the ethical considerations. This study is presented in Papers 2, 3 and 4 (pp. 61–63). Before delving into the studies, I will outline the philosophical premises for this project.

### Philosophical premises

My interpretation and application of the interactionist perspective and my analysis of the interview material fall within the constructivist paradigm (Lincoln et al., 2018). This means that I perceive meaning and social reality as being subjectively constructed, thereby allowing for multiple social realities. Consequently, both meaning and social reality can be shaped in various ways and are never definitive. The process of meaning-making is an ongoing one, and individuals' perspectives on the world are continually evolving.

Given my philosophical premises, I do not consider myself a passive participant in the interview process. Instead, I see my role as a co-producer of meaning during all the phases, including constructing the interview guide, engaging with the athletes during the interviews and presenting the findings (Lincoln et al., 2018, p. 120). This perception also influences the quality criteria I apply when evaluating my research, as constructivism grounds scientific work in the process of interpretation (Lincoln et al., 2018, p. 138).

### Systematic literature review

There are many kinds of systematic literature reviews. Some include only quantitative or qualitative studies, some aim to provide a summary, while others aim to synthesise the findings and generate new findings via that synthesis. The current review was intended to summarise and synthesise the previous literature, with the aim being to provide some original insights.

Over the years, several reviews of social science research on performance-enhancing means and methods have been conducted (Backhouse et al., 2015; Blank et al., 2016; Morente-Sánchez & Zabala, 2013). Studies that included youths are represented in these reviews. However, none of the literature reviews referred to above have solely explored youths' point of view. Also, most previous literature reviews have summed up the research on the psychological and socio-psychological perspectives on doping and the use of supplements, while few have taken a deeper look at the contextual factors that come into play when explaining athletes' attitudes, opinions and behaviours.

The present review's aims and inclusion criteria were based on these early reflections with the goal of conducting a systematic literature review that, aside from overlapping with some of the previous reviews, also expanded the research objective to include health-compromising behaviour. Therefore, the review sought to capture use of performance-enhancing substances, nutritional supplements and non-prescription painkillers, in addition to participating in sport despite being injured and having pain. We narrowed the scope of the review down to studies on youth athletes, with the more concrete age range being 14–20 years of age.

Our aim when conducting the review was to summarise the literature relevant to the field and to generate new insights based on synthesising the included articles. Moreover, we wanted to include all the empirical studies regardless of method, meaning that we wanted to conduct a mixed-studies review, which integrates qualitative, quantitative and mixed-method studies. As the title of Pluye and Hong's (2014) article suggests, we wanted to combine 'the power of stories and the power of numbers' to generate new understandings based on previous research. During the early stages of the review process, we did not know if various design types would be represented in the synthesis, although we had decided beforehand to include all methodologies. When using this combination of methods, we were aware of the different paradigms the results were based on. Given that previous reviews adopted a similar approach and that the literature supported the constructive aspects of including studies with various methodologies, we were reassured that this combined analysis would be appropriate (Frantzen & Feters, 2016; Pluye & Hong, 2014). Thus, the present literature review can be termed *a systematic mixed-studies review*.

Based on these aspects and reflections, we decided on the following research question: What contextual and personal factors are associated with adolescent athletes' performance-enhancing and health-compromising behaviours?

After deciding on the wording of the research question, our next step was to develop



the search strategy, identifying all of the relevant synonyms related to the population term, context, issues and other core concepts. To identify the relevant words and concepts used for the relevant phenomena, we carried out two pilot searches of the databases prior to the final search. The databases most relevant to our research field were considered to be PubMed, PsycINFO, SPORTDiscus and Web of Science. After considering and testing the synonyms, the final wording of the search was as follows: ('Youth athlete\*' OR 'Youth sport\*') AND ('Performance enhancing drug\*' OR 'Performance enhancing substance\*' OR 'Doping' OR 'Drug\*' OR 'Painkiller\*' OR 'Playing hurt' OR 'Pain' OR 'Injuries' OR 'Dietary supplement\*' OR 'Nutritional supplement\*' OR 'Nutrition supplement\*'), with the necessary adjustments made for each database.

In the following, I will describe the analytical work in more detail than Paper 1 allowed. In sum, the four databases gave rise to 4424 hits. However, some inclusion and exclusion criteria were already put in place when searching the different databases. The articles had to be written in English, published in peer-reviewed academic journals from 2000 onwards and be an empirical study. We eliminated any duplicates, other reviews, book chapters and so on, and we added some articles via a hand search. After performing both the automatic technological exclusion and manual processes, the number of articles included was 2808.

Thereafter, the screening process started based on six criteria. The criteria comprised typical search errors and criteria founded on our research aim and topics. The six criteria were as follows: 1. Review/editorial/discussion/position stand article, 2. Non-peer-reviewed references, 3. Non-English language, 4. Duplicates, 5. Non-athlete/youth sports participant sample, and 6. Performance-enhancing substances (e.g. doping and nutritional supplementation) and other health-risking practices (e.g. use of pain killers and competing/playing with pain) are not assessed.

The initial screening phase consisted of both first authors of Paper 1 reading the titles and abstracts on all 2808 articles. Using an Excel sheet, we marked each article as green, yellow or red to signal the evaluation and whether it could proceed to the next screening stage. In cases of doubt and disagreement, the whole article was read. Many articles were ruled out during this first round. The next phase included reading the entire articles to evaluate their inclusion or exclusion. Some articles lacked the sample's age range, so the corresponding authors were contacted to obtain the information needed to include or exclude the study.

These two screening phases resulted in 15 studies being included: 13 quantitative, one

mixed and one qualitative. Prior to synthesising all of the included articles, they were assessed with regard to their methodological quality using the Mixed Methods Appraisal Tool (Hong et al., 2018). This appraisal tool consists of six questions. Two questions are general and are asked across the designs, linked to the research question, seeking to determine if the research question is clear and in accordance with the collected data. The remaining four questions are specific to the various designs, although all are intended to evaluate the study's methodological quality. This assessment was performed by three research group members (i.e. the author group). Although the articles had variable quality scores, they were all included in the synthesis phase.

During the synthesis phase, the research question was brought back into focus. In addition to answering the research question, a table of general and relevant study characteristics was constructed. To answer the research question, we carried out a thematic analysis (Braun & Clarke, 2006, 2019) of the results derived from the included articles. However, before conducting the thematic analysis, we performed a convergent qualitative meta-integration, as most of the included studies had a quantitative design. This means that we extracted qualitative data from all the studies and, more especially, that we transferred any quantitative data into a qualitative format by using text from the results section and not the numerical outputs (Frantzen & Fetters, 2016; Pluye & Hong, 2014).

Considering that most of the included studies were quantitative, we still debated whether our research question was best addressed using the qualitative approach. A quantitative synthesis would likely have been a better option if we were interested in measuring effects, risks, etc. However, we sought to map out and synthesise the qualitatively different personal and contextual factors from the various studies.

When conducting the thematic analysis according to Braun and Clarke's (2006, 2019) six phases, we focused on the texts that described the results or used the wording of the numerical outputs. Practically speaking, this process was performed by the other first author and me. First, we both coded all of the articles independently and then came together to compare and discuss our codes and to construct themes. Many of the codes overlapped during the first comparison and, therefore, were discarded, resulting in 55 codes. Further exploration and discussion of the codes revealed similar meanings and resulted in 26 additional codes being excluded, which ultimately led to 29 unique codes. In the next phase, which entailed thematisation, the process continued as a form of cooperation between the two first authors. It involved visually placing all of the codes on a board, which enabled exploration of some overarching personal and contextual factors in the material. In this description of the phases,

the process may appear to be streamlined; however, there was some back and forth between the phases, as well as in the naming of the themes, as we sought to link them to the material from which the codes were extracted. The thematic analysis resulted in five themes: social drama, sense of self, emotions, cognitions and a means to an end.

The answer to the first research question, therefore, exists in the form of these five themes. The theme of social drama illustrates the contextual factors and paints a picture of the influences found in the athletes' surroundings. This theme further shows how certain pressures and expectations from parents and peers can increase athletes' willingness to take risks. The theme also actualises the availability of other peers' and different experts' opinions, in addition to the fact that help and responses are easily accessed. The four other themes—namely, sense of self, emotions, cognition and a means to an end—illustrate the personal factors. As the theme names reflect, they are all intrapersonal factors, which could have been coded and named differently, such as 'motivation'. However, some of the themes and included papers have a social-psychological perspective. For example, it is the sense of self that actualises the need to belong to a group.

In sum, the results and themes revealed that the personal factors are clearly better explored, as based on more codes and themes being related to these factors. While such aspects are seen in a specific context and the studies treat athletes as social beings, there is a stronger focus on the personal characteristics of individuals and their explanatory power concerning vulnerability to doping, etc. This is important considering that one theme represents the contextual aspect of the research question, whereas the personal aspects are represented by four themes.

As one of the aims of the literature review syntheses was to develop new insights based on previous research, I will illustrate this using one of the themes: emotions. As shown in our review, several studies took into account emotional aspects when considering performance-enhancing and health-compromising behaviours. Yet, looking at the five studies related to this theme, emotions most often represent just one of several factors, rarely being the main subject of analysis. My impression and argument here are that the individual articles do not necessarily emphasise emotions' role with regard to these topics, although when synthesising the studies and considering them in conjunction with each other, emotions' role becomes more prominent. Hence, I argue that the literature review has contributed some new perspectives and insights, which was possible due to the qualitative design and the coding of several aspects of the included articles.

Based on the systematic literature review and the research gaps identified, this

doctoral project's empirical work will contribute in three important ways: first, through the exclusive focus on youth athletes; second, by conducting a qualitative study; and third, through focusing on social and contextual conditions.

### Interview study

The interview is a methodological tool that can take various forms depending on the theory it is combined with. For this interview study, the same athletes and the interviews conducted with them were the subject of analysis in Papers, 2, 3 and 4. Before addressing the three specific analyses, I will describe the path that led to the analysis of the data material. I will describe the preparation and planning of the interviews and interview guide, participant recruitment and some common characteristics of the participants, I will provide details about the conducting of the interviews and describe the study quality and its limitations, as well as the ethical considerations.

#### *Interviews and interview guide*

When considering a qualitative research project, *qualitative* refers to more than just the way the data were collected and constructed. Indeed, it also refers to the planning, processing and analysing of the data. For my study, this entailed going about the interviews and constructing data that are compatible with an interpretative analysis (Pugh, 2013). More precisely, the interviews aimed at constructing data that coincide with the interactionist analysis—that is, the theoretical framework was strongly present during the development of the interview guide.

Interviews are widely used as a data collection method in qualitative research because they can contribute various insights. According to Lamont and Swidler (2014), interviews have a number of benefits when it comes to exploring everyday life:

Interviews, then, can sometimes reveal more relevant features of reality than immediate observation can, simply because they empower the researcher to probe about facts or about ideal responses or situations, as well as imaginary scenarios and fantasies that simply are not visible in everyday life. (p. 160)

The initial plan for my research project was to conduct individual interviews and focus-group interviews. In line with the research aim, the focus-group interviews were planned to obtain insights into the interactions that athletes take part in. Thus, the focus-group interviews were seen as a valuable opportunity to explore how interactions can be norm-regulated, as I

intended to be part of an ongoing face-to-face interaction with the athletes (Bloor et al., 2001). Therefore, during the planning phase of the project, both an individual interview guide and a focus-group interview guide were developed.

In addition to these two types of data construction, my goal when visiting the different schools for the interviews was to spend time with the athletes as they performed their daily habits. The reason for this was the fact I considered it worthwhile that the athletes became familiar with my face and my presence before we met for the interviews. Moreover, I could relate the questions to be asked in the interviews to the interactional examples I observed while spending time with them, which would ensure that the examples I used made sense to their everyday life. However, due to the COVID-19 pandemic, particularly the formal restrictions and the social restrictions that we all juggled, there were several arguments for not increasing the risk of infection for athletes who depend on their body and their health. Based on the formal and informal status of the infection prevention that was in place in Norway, I made the pragmatic choice to conduct only individual interviews, which was possible while ensuring appropriate social distancing was maintained.

Despite having to exclude the focus-group interviews, as well as being unable to familiarise myself as much as I had hoped with the athletes and their context, I still wanted to adhere to the interactionist perspective and, therefore, I developed an interview guide that could enable accounts about their interactions, how those interactions shape meaning-making and the possible borders of meaning-making in this specific context, as related to performance-enhancing substances in the form of nutritional supplements acting as grey zones adjacent to the borders of prohibited substances and the anti-doping work.

As described and elaborated in relation to the theoretical framework, the interactionist approach focuses on the micro-interactions that form part of humans' everyday lives. Hence, the interview questions were formulated to facilitate the athletes' descriptions of their relations and interactions with others in their network, with the aim being to explore how they construct meaning related to the topics of interest and what meanings are ascribed to those topics. From a constructivist and interactionist perspective, the interviews are conceptualised as accounts that would enable me to investigate the '[...] sensemaking work through which participants engage in explaining, attributing, justifying, describing, and otherwise finding possible sense or orderliness in the various events, people, places, and courses of action they talk about' (Baker, 2002, p. 781).

More precisely, the entire interview study was designed to explore the following research question: How do ambitious young Norwegian athletes understand, experience and

construct meaning in relation to different forms of performance-enhancing substances? The terms ‘understand’, ‘experience’, and ‘construct’ were selected for their emphasis on the social construction of meaning concerning performance-enhancing substances. This choice enabled us to investigate what is collectively shaped through interaction rather than being solely attributed to each individual athlete. While the athletes’ individual narratives from the interviews served as the empirical source, and while the symbolic interactionist approach also considered personal interpretations, the primary focus of the interview questions was on facilitating an exploration of interaction as the social production of meaning.

The overarching research question was broken down into the following three constrained but explorative research questions, as set out in the research proposal. How do athletes interact with other actors concerning performance-enhancing substances? How do athletes understand and assign meaning to performance-enhancing substances? How do athletes understand the norms and ideals of the body and performance? These questions formed the basis for the interview questions, which helped me to maintain the common thread between the overall research objective and the questions asked during interviews. However, an important aspect to keep in mind is that the interviews had a semi-structured character, meaning that the same topics were covered but also enabling exploration of what the athletes brought to the table (Sparkes & Smith, 2014, p. 84).

As both the interviews and the analyses progressed, it became crucial to refine the initial research questions. Thus, they were adjusted to better capture what was prominent for the athletes and to ensure a more precise alignment with the emerging themes and insights revealed during the interviews. This adjustment aimed to incorporate the accounts of the athletes and emphasise aspects that were particularly significant to them in relation to the topics at hand. Moreover, the need to adjust the questions was linked to their originally broad and open-ended structure; however, the explorative wording facilitated the investigation of unforeseen aspects, leading to the discovery of valuable insights into how the athletes construct meaning regarding the phenomenon of performance enhancement. Additionally, adjusting the research question(s) is part of the interpretative research tradition and part of an iterative process. As Aspers and Corte (2019) stated, ‘We define qualitative research as an iterative process in which improved understanding to the scientific community is achieved by making new significant distinctions resulting from getting closer to the phenomenon studied’ (p. 139). The refined research question for each specific paper will be presented when describing the analysis of each individual paper.

### *Recruitment*

The recruitment process for the interview study was strongly influenced by the COVID-19 pandemic and the restrictions implemented in Norway between March 2020 and February 2022 (The Norwegian Government, n.d.). In fact, the recruitment process was adjusted due to the restrictions and began later than initially planned in the research proposal. According to the initial time schedule, the interviews were planned to be conducted in autumn 2020, which was not feasible due to the restrictions in place at that time. Although these restrictions were not totally lifted, the amended restrictions in place from August 2021 allowed for more normality. Therefore, I contacted relevant elite sports schools in August 2021. I sent an email to the rectors and those in other leadership roles at the chosen sports schools. Several schools were considered as alternatives, but the first three schools I asked agreed to participate and so are the schools represented in the sample. For anonymisation reasons, I will not share information about how many athletes participated from each school and what sports they practice, nor will I describe the individual schools; instead, I will treat them as ‘the schools’ and, when appropriate, refer to their common characteristics.

After I established contact with the administrative departments, the interviews were planned. I sent the information form regarding the research project to each school, and the staff there informed the athletes about the research project. Contact was established between the athletes who agreed to participate in the interviews and me through online forms or via a staff member sending a list of potential participants. When I contacted the athletes, I emphasised that the study was based on voluntary informed consent. Some athletes had to withdraw from the interview process for reasons such as sickness. The interviews were arranged in a way that was most convenient for the athletes when it came to the time and place. The interviews were conducted in the school area ( $n = 22$ ) or online ( $n = 2$ ), depending on what was suitable for the athletes. The interviews were conducted in autumn 2021 and spring 2022.

Other than attending the sports school, there were no additional inclusion criteria for the interview study. In terms of strategies, the sample was based on self-selection in two ways: administrative staff agreeing to help and athletes deciding to participate. Still, there were also pragmatic concerns linked to time schedules, training camps and sport seasons that influenced who was and was not available to participate.

### *Athletes*

The context to which the participating athletes belong is described in the second chapter of this thesis, so here I will only describe the athletes themselves. The 24 athletes who took part in the interviews represent a variety of sports: ice hockey, handball, biathlon, motocross, track and field, swimming, cross country and football. They are 17, 18 or 19 years old, and they are either in their second or third year at the sports school. A total of eleven girls and 13 boys attended the interviews. To provide a picture of who the athletes are as a group, I will use some common characteristics I noted during the interviews.

A common feature of the athletes is that most of them have moved away from their childhood home to a new place because the sports school offers the best opportunities for them to develop in their sport. Additionally, many do not have an elite sports school in close proximity to their hometown. Thus, since they have moved from their parents' house, aside from working towards progression in terms of their sporting performance, they have had to establish new habits in their everyday life, such as cooking, cleaning, washing clothes and going to bed at the right time. All these duties are in addition to cultivating of their sporting habits and their career. During their first year, many of them lived on the campus or close to it, although in the second and third years, they most often arranged their own rental. Many of the athletes live together with teammates and classmates, usually with those from the same sport. While they described their days as revolving around sport, they also gave the impression of having a social life. The athletes talked about making food together, watching television or doing other activities.

The athletes described the organisation of school and sport as very tightly arranged and adapted for them to maintain a balance between school and sport. They described the school, the professional staff and the coaches as very helpful and as available when needed. For example, adjusting exams in accordance with competitions or other important sports events. Depending on the sport they practice, the training times are usually either before or after classes, although for some sports, training takes place both before and after classes. The average day for an athlete at these schools is therefore more or less planned out in terms of training sessions and classes from morning to afternoon/evening. In addition, the weekends are dominated by sport, such as training camps, sessions or competitions, depending on the sport and season.

The vast majority of athletes reported that they played several sports as children and



young people but that they chose to focus on the one they liked best or were best at, meaning that they are now able to sharpen their skills in one sport and assert themselves.

### *Conducting the interviews*

Before the interviews started, all the athletes read and signed the informed consent form. I also took the time to explain in less formal terms what I was curious about—namely, them and their lives—and that there were no right or wrong answers to the questions before switching on the recorder. Those athletes who were interviewed online, in addition to signing and returning the informed consent form by email, verbally consented to the recording via the video. All 24 participating athletes approved the interview recordings.

Each interview started with a warm-up phase, where the athletes could share their journey in sport from when they started to the date of the interview. I also asked what their goals and dreams in the sport were, as well as what they thought it takes to be the best in their sport. I wanted to use some time during this phase to make them feel comfortable speaking to me, given that the interview was the first time I met them. In addition, it provided me with clues that I could pick up on later in the interviews. After the warm-up, I guided the interviews towards the core themes and questions.

When I first brought up the topic of performance-enhancing substances, I wanted the athletes to share their initial associations to the greatest extent possible. The vast majority of athletes expressed a questioning response when I asked what they thought of when I said ‘performance-enhancing substances’. The vast majority also replied with something in line with doping, which is prohibited, and quite quickly threw the ball back to me. My main response to their wondering reply was an attempt to not limit or close certain understandings, which often resulted in me offering an answer similar to this: ‘It can be seen as a broad umbrella term covering both permitted and prohibited performance-enhancing substances, so yes, doping is one of them’.

Furthermore, some athletes mentioned various nutritional supplements, for example, protein supplements, creatine supplements and energy and sports drinks. Most of the athletes were familiar with various supplements, although there were few long elaborations related to their interactions about them, who they talk to, who they ask for help or examples of discussions they have had. They answered that they rarely or never talk about these topics among themselves or with others. The majority were short and brief in terms of their responses, and I had to use more sub-questions to draw out more detailed answers. My ambition going into the interviews was to generate so-called ‘rich’ and detailed descriptions

based on the initial open questions and not on frequent prompting and sub-questions. This turned out to be challenging, and I had to take advantage of several sub-questions and prompts. Some examples of the utilised sub-questions are as follows. Who do you talk to about various substances? Where do you seek knowledge? What do you know? What do you find challenging?

While the lack of detailed responses to the more general question evoked some immediate frustration on my part regarding my interview skills, looking back, I do not see the use of these more detailed sub-questions as a limitation. Indeed, I argue that these questions still enabled the athletes to answer in a way that assigned meaning to them and their everyday life. Moreover, some of my prompts led to questions about nutrition in relation to nutritional supplements. The athletes' responses and elaborations regarding nutrition showed more engagement here and resulted in longer elaborations. Progressing further with the interviews, I intentionally tried to turn the conversation back to supplements, and a lot of times, the athletes returned to the issues of nutrition and food in relation to nutritional supplements. More about this interview experience is shared in the analysis of Paper 3, as this was a relevant realisation when going further in the analysis.

The athletes' knowledge and experience of anti-doping work were also explored in the interviews. This involved asking questions such as the following. Do you know about the anti-doping work? How would you describe the communication among athletes about doping-related topics in your environment? The ensuing conversations were more elaborated when the athletes were asked about anti-doping work compared to when they were asked about prohibited substances, likely because the athletes could talk about lectures on related topics held by the school and presentations from representatives of the ADNO.

Regarding the two online video interviews, they did not differ from the physical interviews in any obvious or relevant ways for the analyses, which allowed me to manage and analyse all of the interviews in the same way. For anonymity reasons, I do not emphasise if quotes are from physical or online interviews in my presentation of the findings. I argue that young people are familiar with these kinds of technological communication tools and have digital skills, meaning that while the research interview setting was new to them, they were relatively comfortable with that type of communication (Engward et al., 2022). Still, I planned and prepared the online interviews a little differently from the in-person interviews (Engward et al., 2022). I sent more detailed messages about the interview instructions, so the athletes could be sure that the technology was in place, but just like the physical interviews, they chose the time. In addition, I always started the interviews with a clarification that the

technology could fail and that there would be no problem if there were some breaks and a bit of silence. The online interviews were also planned to be a little shorter, as in my own experience, it can be more draining to have conversations online when compared with face-to-face communication.

I ended all of the interviews with open questions and asked if the athletes wanted to add anything or if there was something they wanted elaborate on or explain. I also asked if there was anything they thought I should include in the interviews. They typically had little to add, and I had the impression that they were ready to go back to class, training or hanging out with teammates. Additionally, as at the beginning, I took time to engage in a less formal chat after switching off the recorder.

### *Interview analyses*

The analyses in Papers 2–4 are all based on transcriptions of the interviews conducted with the same 24 athletes in this study. In addition, they are all based on some general interactionist premises and facilitated by thematic analysis (Braun & Clarke, 2006, 2019, 2023; Braun et al., 2016). Before discussing the analytical approach in each empirical paper, I will describe the common ground for the analyses.

Transcriptions of all the interviews was produced using MAXQDA, which is a valuable tool for performing transcription due to its incorporated solutions for listening and writing. Moreover, it is arranged for making preliminary codes while transcribing if something stands out. When transcribing, I listened to the interviews and, to the greatest extent possible, wrote down every word. However, I used a lot of affirmative words during the interviews, such as ‘yes’, ‘mmm’ and ‘I see’, which I chose to leave out of the transcripts because their use split up the athletes’ accounts and did not provide meaningful information. Additionally, later in the research project, when choosing which quotes would be used to illustrate the analyses and findings in the papers, I made necessary modifications to ensure the meaning emerged (Lareau, 2021). Translation also played a role in ensuring the meaning was transferred. The interviews were all conducted in Norwegian, and I have translated them with caution when reporting the quotes. Furthermore, I made other changes if required to ensure the athletes’ meaning was retained (Lareau, 2021). For example, I had to exclude any ‘filler’ words used by the youths that only have meaning in Norwegian.

As I produced all of the transcripts myself, the analytical process was already in progress at this stage, as the intense listening when transcribing helped me to become familiar with the material. Many scholars have argued that the first step in an analysis is

familiarisation, which develops during transcribing (Bird, 2005). However, the transcripts were also read and reread through several rounds related to the different coding processes and research questions.

The common basis for the analyses was the three premises for meaning construction described by Blumer (1969). First, humans treat a thing in relation to the meaning it has for them. Second, the meaning of such a thing arises from the social interaction a person has with their network (in connection to the thing). Third, these meanings are moulded and handled through an interpretative process. In other words, the third premise describes the personal process that occurs within this interpretative process, the second describes the forming of meaning that occurs during the interaction and the first describes how this meaning has consequences for how humans act towards the thing in question.

For this thesis and the related analyses, premise two is most prominent because the main aim was to understand the interactional and social aspects of athletes' meaning-making. It is not straightforward to observe interpersonal interpretation processes, so the interviews would have had to be designed in a different way to what I described in this methodology chapter. Instead, the interviews were designed to trigger descriptions of how the second premise unfolds. However, I argue that the second premise has two key elements when it comes to the main focus and objective of the analyses. First, there is the network people interact with, and second, it is the interactions within this network that shape the meanings ascribed to relevant things. This implies my analytical fundament to be that meaning is constructed in athletes' context with their network and that this meaning, therefore, bears the mark of a social product. Thus, objects, humans, identities, etc., receive their meaning through a social process. Although performance-enhancing substances are associated with some undeniable facts (e.g. a certain amount of protein), the meaning they have for the athletes is more importantly defined by the meaning they receive through interactions with relevant actors in the network.

In addition to the interactionist analytical approach, the analyses were combined with some methodological tools derived from Braun and Clarke's (2006, 2019) thematic analysis. Their first thematic analysis (Braun & Clarke, 2006) is widely used and consists of six phases—namely, familiarisation, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report. Subsequently, Braun and Clarke (2019, 2023) have emphasised that thematic analysis is not a standard approach and that it is theoretically flexible. A common misunderstanding is that thematic analysis implies theoretical assumptions. This is not the case, however, and such an analysis must be anchored

in both theory and epistemological assumptions. In my analyses, Braun and Clarke's (2006, 2016, 2019, 2023) procedure and analytical phases inspired the coding and thematising of the meanings on several levels and also facilitated the systematicity required to manage a large dataset comprised of 433 pages of transcribed interviews.

The first empirical paper (Paper 2) explores the various actors in the athletes' network and their role in the meaning-making concerning nutritional supplements and anti-doping work. In this paper, the initial research question was as follows. How do athletes interact with other actors concerning performance-enhancing substances? However, through carefully considered changes, the question was adjusted to the specific research questions as follows. Who are the actors that contribute to young athletes' meaning-making of nutritional supplements and anti-doping? How do the young athletes describe these actors' contribution? The analysis was guided by the principle suggested by Braun and Clarke (Braun & Clarke, 2006, 2019), especially with regard to the second research question. The first question required a descriptive-level analysis of the landscape of actors and the grouping of them in meaningful ways. This means that all of the interviews were screened for the various actors mentioned. The noted actors were either represented as the actor mentioned, for example, in the case of a school actor, thereby staying close to the athletes' accounts, or clustered alongside related actors to capture a whole group, for example, mother, father, brother and cousin were clustered together. The second question necessitated an interpretative-level exploration of the meanings the athletes perceived these actors to have and the different interactional approaches, mostly verbal but also nonverbal, described by the athletes. This means that all of the quotes relating to each actor/actor group were clustered to see the way the relevant actor(s) contributes to the construction of meaning concerning nutritional supplements and anti-doping. Since the actor group was first formed and then the contribution explored, there were actor groups that had similar and overlapping impacts on the athletes' construction of meaning. I could have taken an alternative approach, coding the different ways of contributing first, for example, considering information and help as one contribution, and then linking the different actors to the contribution style. However, with the networked athlete serving as a guiding concept, it was essential to provide a picture of the various actors that the athletes interact with in different ways. Moreover, I argue that the bubble-like existence at these sports schools also explains why some of the actor groups overlap, as there are bound to be some constructed meanings that are shared in this context.

The second empirical paper (Paper 3) explores the particular frames that the athletes use to organise nutritional supplements. The initial research question for this paper was as

follows. How do athletes understand and assign meaning to performance-enhancing substances in a shared training context? The interview experience, however, prompted me to adjust the research question to better address what was actualised in the interviews: How are supplements framed by youth athletes in a elite sport school context? An important analytical aspect of this change in wording was discovering in the interviews what was prominent in the athletes' everyday life. Here, performance-enhancing substances, in the broadest sense, were not the most prominent aspect. This experience during the interviews initiated the analytical work, and I will now share how this experience and my reflections led to the focus of the paper. During the interviews, I observed some restraint on the part of the athletes when talking about certain topics, especially prohibited substances, and a somewhat greater willingness to elaborate on anti-doping work and nutritional supplements. As described in relation to conducting the interviews, the switch in focus to nutrition as a topic was a recurring pattern. The athletes particularly linked nutritional supplements to nutrition or other practical concerns regarding food and eating.

There may be several reasons for the conversation being turned to nutrition by the athletes. First, I think the athletes, to a certain extent at least, were limited by the strong anti-doping discourse when comes to discussing both permitted and prohibited substances. Second, it seemed foreign to these young athletes to talk about themselves from a meta-perspective, while elaborating on their interactions and relating their conversations and discussions with others did not seem immediately feasible. Fortunately, the use of prompting to obtain examples redeemed some narratives. Third, and more interestingly, the athletes placed significant emphasis on food and eating aspects, also in relation to nutritional supplements. They did so in various ways. For example, they talked about food and its nutrient components, such as proteins and carbohydrates. They also talked about practical concerns such as having little time to cook and raises concerns related to getting enough energy and eating the right food at the right time. It is not a new discovery that food and eating represent a central part of everyday life for athletes and something they are concerned about. Still, how and to what extent the athletes related nutritional supplements to food became more apparent as I conducted several interviews. The link could, for example, be related to whether they have enough food, enough energy or a quick alternative on the way from training to school (or vice versa).

To analyse and understand the 'rules' governing how the athletes organise and ascribe meaning to nutritional supplements, I used Goffman's (1974) frame analysis. During previous readings of the interview transcripts, I had made preliminary codes in the

MAXQDA program, which marked quotes related to the athletes' organising of nutritional supplements. Thus, based on the preliminary codes and the interview experience, I continued to search for quotes related to the meanings ascribed to nutritional supplements. After reading all of the interviews and extracting all of relevant quotes, I started coding them to explore how the process unfolded in more detail. In this phase, the tools from the frame analysis, such as articulation and keying, facilitated my gaze when exploring how the athletes handle the 'what is going on here?' question.

Through the process of reading and coding, I interpreted the athletes to frame and organise nutritional supplements in several ways, and it became more apparent through the analysis that these ways intervened with food and eating. Concerning these discoveries, I held in-depth discussions with my supervisors, and we constructed the athletes' organising into five categories: supplements as doping, supplements as permitted performance enhancement, supplements as food, food as performance enhancement and food as food. The constructed categories can be viewed on a continuum, where one edge is the problematic doping side and the other edge is the less problematic side—that is, food. Proceeding further with the analysis, the quotes were revisited with the aim of constructing the common ways in which the athletes organise nutritional supplements. The frame-analysis perspectives, and Goffman's (1974) question of 'what is going on here?', facilitated the establishment of two overarching frames that were prominent in terms of the athletes' organisation of nutritional supplements. Moreover, we decided that the findings were best presented in two overarching frames due to the continuum categories overlapping, the athletes switching between them and the fact that they were hard to separate at times. Therefore, to present how the athletes make sense of nutritional supplements in an accessible way, we merged the categories into two main frames.

The third empirical paper (Paper 4) explores various aspects of the athletes' presentations of an athletic identity. The initial research question for this paper was as follows. How do athletes understand the norms and ideals of the body and performance? However, after the adjustments described in previous chapters, we sought to answer the following research questions in this paper. How do the young athletes perceive and present an athletic identity? Moreover, what challenges and tensions are associated with manoeuvring the athletic identity? For this paper, the analysis was based on quotes that reflected presentations of athletic identities. The questions asked during the interviews that facilitated such accounts included the following. What do you think it takes to be the best at your sport? What do you think people at the top of your sport have done to get there? To ensure a

systematic approach, I relied on the organisational principles suggested by Braun and Clarke (Braun & Clarke, 2006, 2019), which means that I read, coded and grouped codes to see how the codes related to each other and how they constructed themes. When performing the coding after thorough readings, I searched for aspects that stood out as part of the athletes' descriptions of athletic identity and what it takes to be a 'real' athlete. Some aspects were anticipated, such as training, eating and rest, but there were also descriptions of social and interactional aspects. Moving forward with the analysis, I searched for all of the aspects that the athletes described in relation to doing and being a good athlete and what it takes to progress in a sporting career. Goffman's (1959/1990) presentations of the self were the theoretical lens that facilitated the search for meaningful quotes. Additionally, Goffman's (1959/1990) view of the presentation of the self as insights into the version of the idealised identity in the specific context guided the analysis. Based in the interactional perspective and Goffman's (1959/1990) work, I viewed the interview as a frontstage situation where the athletes expressed how they perceive athletic identity in accordance with the norms in their context concerning how an athlete should be. In addition to Goffman's work (1959/1990), I also based the analysis on the work of Markus and Nurius (1986). These authors presented the concept of 'possible selves', which emphasises that there is not only one ideal but several 'possible selves' that can come into view during the interviews. In relation to the various selves, there is a focus on how the future plays a role in the formation of today's identity. Thus, even though the analysis did not seek to identify several identities in the athletes' accounts, it provided a lens for exploring various themes related to the athletic identity that may not be as apparent as performance measures such as training and rest.

#### *Research quality*

When it comes to evaluating the quality of qualitative research, the relevant criteria are contested and debated, with scholars adopting different positions towards them (Sparkes & Smith, 2014, p. 179). This was confirmed by my reading of the Norwegian qualitative methodology literature (Skilbrei, 2019; Thagaard, 2013; Tjora, 2020). In my project, I based my quality assessment on credibility, transparency and transferability. In addition, I discussed the relevance to my project of a general critique of interview data.

In this context, credibility refers to the overall internal logic and solidity of the research, and the demonstration of credibility includes providing a comprehensive overview of the research process to clearly indicate how the study was conducted, ensuring the internal logic of the selection of research questions, theories, methods and analyses, as well as the



presentation of the findings (Silverman, 2011, pp. 351-395; Tjora, 2020, pp. 231-238).

Moreover, the internal coherence of my project lies in the alignment of the research questions, the interview queries posed, the theoretical frameworks employed to analyse the empirical data and the findings answering the research questions. I initially sought to gather interactionist data through observations and focus-group interviews, although this was not possible due to the COVID-19 pandemic. My solution was to design the interview questions to elicit the athletes' narratives regarding their interactions within their network. With this approach, the athletes not only described their interactions but also explained the various meanings they have in relation to the topics at hand and how they construct their own meanings through such interactions. This does not imply that the athletes explicitly detailed their meaning-making process; rather, by narrating the unfolding of their everyday practises, the chosen analytical perspective and methodological tools facilitated examination of these descriptions. The tools utilised in these analyses were the techniques and systematisation strategies derived from Braun and Clarke's (2006, 2016, 2019, 2023) thematic analysis, integrated with the symbolic interactionist perspective. Braun and Clarke's (2006, 2016, 2019, 2023) approach, which is known for its theoretical flexibility, was chosen because it could be integrated with the epistemological assumptions underlying my research project.

Reflexivity on the part of the researcher is crucial when it comes to enhancing the credibility of the project and is intricately connected to the project's philosophical foundations (Lincoln et al., 2018, p. 143). As outlined in relation to my philosophical premises, I consider myself a co-producer of the meanings during all of the phases of this research project. This means that I acknowledge having specific prerequisites for the way I approach and comprehend my project, and it also means that I strive to be transparent in my interpretation of the findings. My entry into the research field and my role as a researcher would likely have been somewhat different if, for example, I had been a former elite athlete who had attended a sports school. Still, this does not represent a methodological weakness of my philosophical and theoretical framework.

Demonstrating transparency entails presenting all of the relevant choices associated with a research project in a clear and open manner (Tjora, 2020, p. 248). In my project, this involved providing an account of the progression of the research, detailing every step from initiation to completion. This information is presented earlier in the present chapter as well as in the scientific papers. Furthermore, over the course of the research project, I delivered presentations of my papers at conferences and in various formal and informal academic settings. These experiences have both required and motivated me to communicate my

findings via transparent analysis and well-founded arguments.

Transferability refers to the question of whether or not research findings can be considered relevant in other contexts than that in which they were derived (Sparkes & Smith, 2014; Tjora, 2020). While I place this project within an epistemological constructive paradigm and consider knowledge-making to be reliant on contextual conditions, I do see certain possibilities concerning the transferability of my results. An illustrative example of this potential transferability to the context of elite sport in general is the narratives related to food and nutrition. Many of the athletes described an everyday life that is planned from start to finish and stated that they have little time to make the 'proper' dinner they are advised to. The athletes mentioned that their tight schedules force them to choose more convenient food options and that a lot of times they also need something 'extra'. In my view, these accounts resemble stories found in media coverage and sports biographies that report food consumption to sometimes be a problem for athletes. These stories are not exclusively concerned with eating disorders, as there are also stories about the inability to obtain enough energy and calories to withstand the training load having consequences for athletes' health status. Therefore, the findings presented in this thesis might be familiar to athletes and those surrounding them. In methodological terms, Tjora (2020, p. 239) referred to this as naturalistic transferability. It implies that if a reader of my research notes a resemblance based on the details provided, it enhances the naturalistic transferability of the research.

I have specifically observed this issue in public discussions within the Norwegian context. However, given the international scope and overarching ethics of elite sports, there may be instances where differences between countries are levelled out, which implies that the discussions about food that occur among athletes in Norway could also be a phenomenon among elite athletes in other countries. Nevertheless, I recognise that, in terms of supplements and the ambiguous and ethically challenging areas of performance enhancement, there are likely significant differences between countries and national sports cultures.

Another form of transferability is conceptual transferability, which centres on a concept and its potential relevance to other cases or individuals than those studied (Tjora, 2020). I argue that the insights into the components of athletic identity derived in this project are likely to be a concept with explanatory power in various cases, particularly cases involving young athletes. The ongoing negotiation of choices intended to enhance performance and the constant pursuit of distinction are evident aspects of all sports. These aspects are likely linked to athletic identity in ways beyond merely being characterised as someone who trains hard and exhibits strong willpower. Indeed, my findings demonstrate that

athletic identity encompasses relational aspects, which are a recognised part of identity. These findings add a further layer by illustrating how these relational aspects are intertwined with sporting situations.

A recurring topic discussed in relation to interview studies concerns whether what is related during interviews reflects practices or whether it is the ‘truth’ and mirrors what would be said outside of the interview context (Randall & Phoenix, 2009). I align with Järvinen’s (2005) critique of the notion that a researcher in an interview situation can obtain a type of ‘core knowledge’ from inside of the interviewee, which the researcher can then absorb and pass on. The interactionist perspective that I have employed perceives the interview as a social meeting in which experience is interpreted and meaning is created.

Pugh (2013) suggested that interviews produce different levels of information. Her presentation of two information types—namely, *honourable* and *schematic*—aligns with my case and corresponds to the analysis and findings presented in Papers 3 and 4. More specifically, Pugh (2013) posited that honourable information is provided when people portray themselves favourably, presenting desirable behaviours. Although this is criticised and handled as social desirability bias in certain traditions, my anchoring in Goffman’s (1959/1990) theory of the presentation of the self in everyday life and my attempt to understand athletes’ presentation of the idealised athletic identity render these objections irrelevant. The interview questions were constructed to trigger stories about what is idealised, and the analysis makes use of Goffman’s (1959/1990) idea about the idealised version of presentations. The schematic information coincides with the analysis in Paper 3, which analyses the frames used by the athletes to organise food and nutritional supplements. Pugh (2013) argued that, after asking for examples in interviews, the researcher can later analyse the examples and explore ‘the particular frames through which respondents view the world – as about the “facts” of the case’ (p. 50). My prompting examples in the interviews formed a solid foundation for exploring the athletes’ organisation of their experiences in relation to Goffman’s (1974) frame analysis.

Another pertinent aspect in relation to interviews, as described by Pugh (2013), is the presence of contradictions. Here, Pugh (2013, pp. 47-48) argued that humans are contradictory and, therefore, the fact that they express several commitments and goals is not a problem. She continued by stating that contradictions emerging during interviews provide information that reveals the topic as multifaceted and/or charged by emotions. For example, my interview analysis demonstrated an overlapping of the meanings ascribed to nutritional supplements and the shifting between them. With the support in Pugh (2013), I argue that the

interviews provide insights into the complexities of nutrition consumption for athletes and the fact that they must juggle diverse expectations when it comes to such consumption.

#### *Ethical considerations*

Both the overall research project and the interview protocol were approved by the Norwegian Centre for Research Data (NSD/SIKT). All of the athletes read and signed the informed consent form prior to the interviews. I reassured everyone before starting that no one other than me would know who said what and that I would not use their name or any characteristics that would make it possible to identify them. In formal terms, this involved ensuring the athletes' confidentiality and anonymity (National Research Ethics Committees, 2015). All of the athletes were provided with information about the project, both in writing and verbally, and they all provided free and informed consent to participate in the interviews and to have the interviews recorded and saved for the duration of the project period.

Whenever I quoted the athletes in the papers, I used pseudonyms that only revealed each speaker's gender. The athletes' sports and other facets, which in some cases represent interesting differences, were excluded to protect their right to confidentiality, given that this information could identify them. This is especially important because, in the case of some sports, only one athlete is represented, while the sports can have very distinct features.

As previously stated, the focus of this project was on how young athletes make sense of and construct meaning in relation to performance-enhancing means. No questions were asked about the athletes' own use of supplements or other personal information. However, considering the debatable nature of the subject and the association between doping and unfairness, the athletes may have contemplated the issue after interviews and potentially experienced various negative emotions. Although the focus during the interviews was mainly on anti-doping and various permitted supplements, most people are unfamiliar with talking to a researcher about such issues. This aspect prompted consistent effort to conclude the interviews on an amicable note and to engage in a brief conversation about the athletes' upcoming practices or school classes.

## 6 Findings

This chapter presents a summary of the main findings of the four papers included in this doctoral thesis.

Paper 1: Kristensen, J. Å., Skilbred, A., Abrahamsen, F. E., Ommundsen, Y., & Loland, S. (2022). Performance-enhancing and health-compromising behaviors in youth sports: A systematic mixed-studies review. *Performance Enhancement & Health, 10*(4), 1–12.

The purpose of this paper was to search for, review and synthesise previous research that could answer the following questions. What contextual and personal factors are associated with adolescent athletes' performance-enhancing and health-compromising behaviours? The review provides a detailed outline of the research published from 2000 to June 2022 and available in four relevant databases—namely, PubMed, PsycINFO, SPORTDiscus and Web of Science—in addition to a manual search. The inclusion criteria were research with an exclusive focus on young people from 14 to 20 years of age who are involved in organised youth sports. The search identified 4424 studies, among which the screening phases revealed 15 studies to fully met the inclusion criteria. Of the 15 studies, there were 13 quantitative studies, a mixed-method study and a qualitative study. Prior to performing a thematic analysis of all 15 included studies, the other first author and I conducted a convergent qualitative meta-integration (Frantzen & Fetters, 2016), which means that we collected qualitative data from all types of studies. More especially, we used the text from the results sections of the quantitative and mixed-method studies rather than their numerical outputs. In this way, we were able to synthesise all of the articles and contribute with an analysis that is more than a mere summary of the articles. Utilising the results sections, we conducted a thematic analysis in line with the recommendations of Braun and Clarke (Braun & Clarke, 2006, 2019), coding all 15 articles. Conducting the six-phase analysis generated 29 codes that were constructed into five meaningful themes: social drama, sense of self, emotions, cognitions and a means to an end. Responding to the research question, social drama referred to contextual factors, while the four other themes referred to personal factors, although the line was not completely clear-cut in all circumstances. The contextual factors illustrated through the social drama theme illustrated the importance of others and how their presence, in addition to ideas about them, have consequences for the athletes' own opinions and potentially actions. Peers stood out as being really important to the athletes, while seeking

acceptance in a group was deemed essential. The four other themes demonstrated the significance of various individual factors, including the athletes' sense of self and their cognitions, emotions and observable actions, such as using doping as a shortcut or ignoring pain. In sum, the synthesis contributes to the research in this field with themes that illustrate what comes into play when athletes are confronted with performance pressures and how they juggle the demands associated with high investments in sports.

Paper 2: Young networked athletes and performance-enhancing substances: Who are the actors in their network, and how do the actors shape athletes' meaning-making?

The aim of this paper was to explore the athletes' network of actors and gain insights into how these actors play a role in the athletes' meaning-making when it comes to nutritional supplements and anti-doping work. More concretely, the research questions were as follows. Who are the actors that contribute to young athletes' meaning-making of nutritional supplements and anti-doping? And how do the young athletes describe these actors' contribution? The paper was inspired by Connor's (2009) concept of 'the networked athlete'. Drawing on all of the interviews and grounded in the interactionist premises by Blumer (1969) in combination with thematic analysis (Braun & Clarke, 2006, 2019), we searched for all of the relevant actors and how those different actors were expressed as contributors to the athletes' meaning-making. Seven actor groups were constructed—namely, coach and other experts, school, ADNO, family, teammates, the internet and other athletes. Most of these actors are part of the athletes' everyday lives, meaning that the athletes engage with them through face-to-face interactions, although some (the internet and other athletes) are encountered through other interactional modes. The athletes described several actors as being important if they have questions or if they need help or information in any way. If they are curious about a supplement of any kind, many athletes talked about avoiding those actors who are seen as quite restrictive. Other actors, such as teammates, were reported to be involved in more informal interactions and, therefore, to be important in the construction of meaning. Members of the 'other athletes' actor group were suspected to have less strict opinions about supplements and even doping. The discovery of several actors outside of the support personnel having considerable influence on the athletes illustrates the complexity of the network with whom athletes interact when establishing their own meanings.

### Paper 3: Youth athletes' framing of nutritional supplements: Performance enhancement and food

This paper aimed to explore the athletes' understanding of supplements as a sub-group of performance-enhancing substances in more depth. Thus, the paper was designed to address the following research question. How are supplements framed by youth athletes in a elite sport school context? With Goffman's (1974) frame analysis as our theoretical lens, we explored the ways in which athletes categorise and assign different meanings to different products. The athletes categorise in several ways when they made sense of nutritional supplements, and the categorisation overlapped. Two overarching frames were constructed: framing supplements as performance enhancement and framing supplements as food. The two frames provided insights into how the athletes assign meaning to 'grey zone' supplements and how nutritional supplements are closely related to eating habits. More concretely, the framing of supplements as a means of performance enhancement was characterised by the messages about it being unnecessary and possibly contaminated, although there can be little doubt that the athletes differentiate between supplements and doping. We also argued that the performance enhancement frame reflects a broader overarching logic that disseminates into more or less all of these athletes' routines. In the athletes' framing of supplements as food, we found a strong discourse on the importance of establishing nutritional routines and habits. Very often, food is interpreted and defined in terms of its nutritional components, such as protein and carbohydrates, which can displace other interpretations of food. Against this background, athletes may consider supplements to be quick food alternatives in the hectic everyday life of an elite sports school.

### Paper 4: Performing performance: Young aspiring athletes' presentation of athletic identity

The aim of this paper was to explore the athletes' presentations of athletic identity to answer the following research questions. How do the young athletes perceive and present an athletic identity? Moreover, what challenges and tensions are associated with manoeuvring the athletic identity? One aim of this paper was to explore and capture a wider range of characteristics that the athletes associate with achieving good performance and how this is expressed in presentations of athletic identity. This also offered the chance to understand how athletes deal with the constant focus on performance and how it forms part of their everyday life. The theoretical perspective was Goffman's (1959/1990) presentations of the self, which

provide insight into the idealised versions that come to be normalised in a specific context, as well as Markus and Nurius's (1986) concept of 'possible selves'. The analysis was performed according to the systematisation and structuring recommended by Braun and Clarke (2006, 2019). This means that all of the interviews were coded during the search for quotes related to the athletes' descriptions of what they do or think they should do to demonstrate they are a serious athlete whom focuses on improving performance. We searched for presentations of athleticism related to the anticipated physical aspects but also for presentations that go beyond the obvious and are related to social other interactional aspects. The analysis resulted in six themes: no shortcuts when training, sleep and rest, food and nutrition, I must be unique, choices and sacrifices 24/7, and it must be fun. The first three themes are all an apparent part of the athletic identity and are explicitly related to the quest for improved performance. By contrast, the last three themes reflect other relevant aspects related to athletic identity and being able to perform. Together, the six themes provide a good picture of how elite athletes make sense of their athletic lives and provide important insights into what is experienced as 'performance work'—that is, interpretations of what it takes to be become better and, hopefully, be the best in their sports.



## **7 Main contributions and reflections**

As mentioned above, Paper 1 served as a stepping stone for the empirical work included in this thesis (Papers 2–4). The overarching research question that guided the empirical work was as follows: How do ambitious young Norwegian athletes understand, experience and construct meaning in relation to different forms of performance-enhancing substances?

This overarching research question was addressed through three distinct scientific papers. I will now summarise my findings and indicate how the three papers complement each other and provide the necessary answers. The three points I will outline are the nuances in meaning, the hegemonic status of the performance enhancement logic and the notion that interpretations of nutritional supplements are based on more than mere knowledge or information. To sum up, I will offer suggestions about to whom this knowledge might be relevant and discuss some of its practical implications. In addition, I will present some critical thoughts regarding ambitious young athletes and how they live their lives. I will also reflect on some limitations of the research and what I would do differently if I were to do the project over again.

Initially, I contend that this project adds several nuances to the established research on anti-doping, supplement use and athletes' everyday life more generally. Finding nuances and manifold meanings may be considered obvious when performing qualitative research, given that there are no pre-established answer alternatives; however, the goal of this project was to explore connections, patterns and nuances in athletes' sense-making. When it comes to performance-enhancing substances such as nutritional supplements, athletes report some tension and mixed messages, particularly regarding the risk of contamination. Some actors suggest that athletes can use substances without restraint, while others characterise supplement use as unnecessary. Thus, even though the relevant actors do not offer totally conflicting opinions, there are still some nuances as to what is signalled to athletes and what they must work around.

Another example of a nuance in the athletes' accounts is how they talk about protein bars versus protein shakes, as well as how they communicate their interactions with these products to others. As illustrated in Paper 3, the athletes perceive and present products with strikingly similar characteristics in very different ways. Here, the protein bar seems to be considered safe and to have the attributed meaning of food and 'regular nutrition', while the protein shake is viewed and discussed as a potential threat in terms of possible inadvertent doping, and it is also considered unnecessary. The protein bar never seems to be questioned.

Leaving aside the actual risk of contamination, I would like to propose a plausible interpretation of this phenomenon, based on my reflective consideration and not grounded in empirical evidence. I have two lines of reasoning. First, when it comes to the resemblance between conventional food and protein bars, the texture and ingredients of the bars align with those of other edible, non-sports products, such as chocolate. This connection leads to the second rationale, which I argue is the diverse origins of these products. The protein shake, I contend, is more closely linked to specific diet regimes and weight-loss products, where its usage is mainly instrumental. By contrast, the protein bar, for some individuals, shares associations with chocolate, biscuits and other energy-efficient products consumed during training or activities such as hiking.

Subsequently, a main contribution of this project involves showing that the logic of performance enhancement represents an overarching idea in the elite schools sport context in which the young athletes' manoeuvre and disseminate both their school and social lives. In particular, two of the findings of my project demonstrate this point. As demonstrated in Paper 3, there is no clear-cut boundary between various food products and supplements when it comes to being perceived as either performance-enhancing or otherwise. The athletes' accounts demonstrated several ways of organising nutritional supplements, while the frame analysis gave rise to two major frames: nutritional supplements as performance enhancement and nutritional supplements as food. Interestingly, although these frames represent two distinct ways of organising nutritional supplements, each has traces of the performance logic. In both frames, there is an instrumental view of food as a tool for enhancing performance, as athletes in both scenarios actively engage with the nutritional components of the products and describe eating routines highly shaped by ideas about optimal meal timings. In other words, this perspective on eating aligns with an overarching logic associated with the pursuit of improved performances. I argue this demonstrates that the explicit description of supplements does not solely determine how young athletes interpret and understand them; rather, the meaning of supplements is socially constructed.

Additionally, as illustrated in Paper 4, the identity presentations demonstrate that the performance logic not only exists in obvious means, such as training, but also permeates the athletes' accounts of their daily choices (e.g. related to when to go to sleep, when to put the phone away, choosing not to attend a party, and considering injuries and health as reasons for not attending training) all of which are underpinned by a performance logic. The logic of performance also arises in athletes' accounts of their desire to distinguish themselves. This drive for demonstrating uniqueness is not confined to competition but extends to other

routines and habits as well. This sense of uniqueness appears to be linked to the emphasis on showing ‘I will be the best athlete in the future’. In addition to individual uniqueness, the athletes also reinforce a certain group distinctiveness, mostly emphasising that their sport has some special characteristics. Given the series of examples from the interviews of how they live their daily life, the young athletes work more or less deliberately on representing a ‘true’ athletic identity.

Lastly, with regard to education and preventative anti-doping work among young athletes, my findings indicate that knowledge and information alone do not shape their construction of meaning. As previously emphasised, the athletes were found to be knowledgeable and to come across as sensible. Still, meanings do not always align with established knowledge promoted by school officials and the national anti-doping agency. The interviews revealed that meanings linked to performance-enhancing substances are shaped and modified based on a wide array of inputs from several actors, including teammates’ views, the internet’s wave of impressions, parents’ and family members’ perspectives, and the views of coaches with less strict ideas about supplementation. For professionals who work with athletes, and also for parents who are highly invested in their children and their sporting careers, this insight may prove useful. Knowledge and education are vital sources during the construction of meanings, although they are by no means the only ones.

In addition, I want to share some reflections regarding the athletes’ views on food and nutrition. Officially, in the teachings offered in school and in official online information such as the fact sheets published by OLT, the aim is to teach young athletes sound and healthy dietary habits. However, based on the interviews, many athletes follow time schedules that do not leave space for making proper meals. Thus, they express concerns about having enough energy and see various bars and, to a certain extent, shakes as a ‘quick fix’. This again demonstrates nuances and possible paradoxes in the meaning-making concerning permitted performance-enhancers. On the one hand, athletes feel they should be sceptical and critical, while on the other hand, they experience the need for some of these substances to keep up with the hegemonic logic of their school life—that is, performance enhancement and athletic progress.

These observations generate a further reflection. The story generally told about food and athletes is that athletes have a troubled relationship with food, which involves an assumption of direction. Thus, the suggestion is that athletes have trouble with nutrition. During their everyday activities and hectic school schedules, the athletes seem to be the ones who must deal with the challenges of nutrition. Viewing the issue in this way risks

individualising the problem with food in the sporting context rather than turning the lens towards the structures and knowledge systems in elite sport in which food is situated.

A final and more general reflection is this: In the elite sports schools, young athletes live in a peculiar context that, in the interviews, they described as a bubble. Hence, when conceptualising the athletes' network in this thesis, it is vital to bear in mind that this network differs from the networks other youths their age are surrounded by. Certainly, Paper 2 demonstrated differences and nuances in how the actors contribute to the athletes' meaning-making. The point here is that these are minor nuances and variations. There is mostly strong agreement on the main and overarching frame of 'what is going on' at elite sports schools. The logic of performance disseminates the context and network, constructing strict and clear premises. Therefore, young athletes live in a world with few or no opposing voices, for example, when it comes to interpretations of food, sleep and health-promoting activities.

In other words, these athletes face different dilemmas than the average teenager. They are well aware of there being certain expectations concerning what it means to be a serious athlete. Even if some have thoughts related to studies or going into the military after upper-secondary school, a successful sporting career is the main priority for most of them. Elite sports school life emerges as monotonous and more streamlined than the school life of youths outside the 'bubble'. There is the possibility then that the hegemonic elite school logic places young athletes in a vulnerable position. For example, a lack of athletic progress, or an injury, or physical and mental illnesses of various kinds, would contradict the hegemonic performance logic. These are issues that should be explored further and taken seriously in the practical work in elite sports schools.

My final comments will relate to what I see as the limitations of my research. Here, I will point to some methodological, theoretical and practical concerns. I wish to highlight two deficiencies that, in my view, could have provided additional insights into the athletes' meaning-making. First, I contend that conducting interviews with various individuals with whom the young athletes interact during their daily lives would offer further insights into how meaning is constructed in this specific context. This would involve not only obtaining perspectives from other actors involved in the construction but also delving into potential differences or contradictions that may exist in their collectively constructed meanings. In particular, exploring the role of the schools, frequently mentioned and deemed essential by the athletes, could yield valuable insights. Additionally, in the context of the interview approach, conducting focus-group interviews with both athletes and other relevant actors would illustrate how the interactions among them shape the meaning-making process. This

would incorporate the perspectives of various actors into the collectively shaped meanings in this context, thereby enabling a more extensive exploration of the primary frames used to organise the relevant topics.

Second, obtaining extended ethical research approval would enable the investigation of sensitive health-related topics concerning the young athletes' use of supplements and so on, as well as delving further into problematic aspects regarding food. The opportunity to address more sensitive topics would enhance the understanding of various aspects of this meaning construction. Indeed, it would enable exploration of the boundaries concerning what athletes are willing and open to discuss, without the research being constrained by ethical approval restrictions.

My theoretical framework, as in the case of most research projects, was chosen in light of the research questions and the planned method for data construction, including both interviews and observations. As explained when discussing the recruitment phase, the planned empirical work was hindered and adjusted due to the restrictions necessitated by the COVID-19 pandemic. However, I retained the interactionist perspective, although I could only conduct individual interviews. This means that, methodology-wise, I have not observed the interactions that the athletes are part of and have instead based my analysis on their own accounts. The original plan was to obtain data regarding ongoing face-to-face interactions. Nevertheless, the interactionist perspective, especially Goffman's (1959/1990, 1974) work on self and frames, served as a useful tool for analysing individual interviews. In future interactionist research on athletes' meaning-making concerning supplements and doping, and in an attempt to develop more insights into the meaning-making of 'the networked athlete', the empirical basis should be extended with observations and, perhaps, anthropologically inspired field work.

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**Appendix 1**  
**Papers 1, 2, 3 and 4**





## **Paper 1**





Contents lists available at ScienceDirect

## Performance Enhancement &amp; Health

journal homepage: [www.elsevier.com/locate/peh](http://www.elsevier.com/locate/peh)

## Review Article

## Performance-enhancing and health-compromising behaviors in youth sports: A systematic mixed-studies review

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## ARTICLE INFO

## Keywords:

Doping  
 Nutritional supplementation  
 Painkillers  
 Injury  
 Pain  
 Adolescent athletes

## ABSTRACT

Success in sports entails striving toward greater achievement and outstanding performance. In their pursuit of these goals, adolescent athletes use various means and resort to behaviors that may cause adverse consequences for their health. As they are still in the developmental stage, they are particularly vulnerable to unwanted health consequences. This study aimed to systematically review previous studies on the contextual and personal factors associated with adolescent athletes' performance-enhancing and health-compromising behaviors. The review was conducted and reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses 2020 guidelines. Several databases were searched, including SPORTDiscus, Pubmed, PsycINFO, and Web of Science. The literature search and additional manual searches of sources yielded a total of 2,808 articles. These were screened against the inclusion criteria, and the remaining 15 were assessed for eligibility using Mixed Methods Appraisal Tool 2018. Convergent meta-integration with thematic analysis was performed by converting quantitative and qualitative data from young athletes aged 14–20 years into relevant codes and themes. Within these themes, the study's findings are presented through narratives that are perceived to influence young athletes' use of doping and other behaviors that may lead to doping, such as the use of nutritional supplementation and non-prescription painkillers and playing despite being injured and having pain. Our findings indicate that athletes' entourages (e.g., their coaches, peers, and parents) matter in a variety of ways in athletes' socialization toward refraining from risking their health in pursuit of greater achievement and outstanding performance.

## 1. Introduction

The concept of sports reflects many ideal values of modern society, such as effort, hard work, progress, and fair play. However, sport participation has a dark side, including the various problematic ways to enhance athletic performance. According to the World Anti-Doping Agency (WADA), certain means of enhancing athletic performance, such as substance abuse or doping, are unacceptable and often banned. Other means with potential short-term positive effects on performance are considered more or less acceptable. These include using various nutritional supplements and non-prescription painkillers. However, in the long run, these means may run counter to performance enhancement and may have adverse effects on health (Hurst et al., 2019; Mayer & Thiel, 2018).

Various types of assumed performance-enhancing behaviors that pose health risks seem to have been integrated into elite sports

(Ljungqvist et al., 2016; Wilson & Derse, 2001). Similar practices have emerged among young athletes in different sporting contexts (de Hon et al., 2015), and these may predispose them to more serious risk behaviors later in their careers. Young athletes often face high expectations of improvement and considerable pressure to perform well (Yesalis, 2000) and are forced to cope with pressure and expectations to improve their performance in both training and competition (Mellalieu et al., 2009).

Young individuals generally go through a transitional phase between childhood and adulthood. During adolescence, they experience biological, cognitive, and psychosocial changes (Rutter, 1997). These changes can either provide new opportunities for growth and constructive development or pose overwhelming and stressful challenges, eliciting health risk behaviors. When it comes to sports, concerns about unfulfilled goals and expectations in training and competitions and difficulties with one's coach or teammates may influence young athletes to

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Received 11 April 2022; Received in revised form 8 September 2022; Accepted 27 September 2022

Available online 11 October 2022

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accept and take behavioral risks that can harm their health (Backhouse et al., 2015; Hanton et al., 2005).

In recent years, research investigating performance-enhancing and health-compromising behaviors has gathered momentum. However, previous reviews that investigated the phenomenon focused on doping in sports and on adult athletes (Backhouse et al., 2015; Blank et al., 2016; Morente-Sánchez & Zabala, 2013). Hence, there is a need for a review that includes doping and other forms of health-compromising behavior among young athletes. Thus, the current work systematically reviewed previous studies related to doping, the use of nutritional supplementation and non-prescription painkillers, and the practice of playing despite being injured and having pain. Our focus was exclusively on young athletes aged 14–20 years taking part in organized sports.

Many athletes at the aforementioned age level have the ambition of nurturing a professional career in sports, which means that there are higher stakes contingent upon their improved performance (Backhouse et al., 2015). Like everyone else, athletes develop a capacity for abstract reasoning (Inhelder & Piaget, 1958) and decision-making (Weithorn & Campbell, 1982) during adolescence, but compared to their adult counterparts, young athletes may not yet be fully aware of possible risks and may not yet fully consider future consequences. Moreover, some adolescents who engage in risky behaviors may perceive themselves as less vulnerable to health consequences than those who do not engage in such behaviors (Yeretzian & Afifi, 2009). Such differences may influence their willingness to accept and take behavioral risks in problematic ways.

Given the dearth of literature reviews exclusively regarding young athletes, the current study reviewed and synthesized previous studies to find the answer to the following research question: What contextual and personal factors are associated with adolescent athletes' performance-enhancing and health-compromising behaviors?

## 2. Materials and methods

For the current systematic mixed-studies review, advanced qualitative convergent meta-integration was used, which involved combining evidence and results from quantitative, qualitative, and mixed-method studies (Frantzen & Fetters, 2016; Pluye & Hong, 2014). This systematic review was informed by the 2020 PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines (Page et al., 2021), following typical recommendations (e.g., Frantzen & Fetters, 2016; Pluye & Hong, 2014). In accordance with the guidelines and to ensure completeness and transparency, a protocol was registered with PROSPERO, an international database of prospectively registered systematic reviews in health and social care, on December 27, 2020, with the following ID registration number: CRD4202022435.

### 2.1. Literature search

To identify articles on the current study's topic, the literature search was divided into two stages. First, on April 20, 2020, four bibliographic databases were searched: PubMed, PsycINFO, SPORTDiscus, and Web of Science. We developed a specific search strategy with the assistance of a librarian specializing in systematic review searches. The search terms were identified by examining the titles, abstracts, and subject indices found in relevant records. A calibration exercise consisting of two pilot searches was performed to refine the search strategy. A draft search strategy was then developed using the search terms, and additional search terms were identified from the results of applying that strategy. The search terms were agreed upon a priori and were strategically conceived to be broad enough to minimize the risk of missing relevant literature (Gough et al., 2012). For example, the following is a draft of the PubMed search strategy: ("Youth athlete\*" OR "Youth sport\*") AND ("Performance enhancing drug\*" OR "Performance enhancing substance\*" OR Doping OR Drug\* OR "Painkiller\*" OR "Playing hurt" OR Pain OR Injuries OR "Dietary supplement\*" OR "Nutritional

supplement\*" OR "Nutrition supplement\*"). Once the PubMed strategy was finalized, it was modified to fit the syntax and subject headings of other databases.

The second stage of the literature search involved a manual search of the reference lists of the articles that met the inclusion criteria and the references cited in the systematic review reports on similar topics (Blank et al., 2016; Morente-Sánchez & Zabala, 2013; Nicholls et al., 2017). Finally, we updated the database searches on June 15, 2021. We used the same search strategy, but we narrowed the searches to articles published from 2020 onwards.

The literature search yielded a total of 4424 articles that potentially met the inclusion criteria (see Fig. 1). In addition, 35 articles were identified through manual searches. Following the use of automation tools, 1651 articles were marked as ineligible. The titles and abstracts of the remaining 2808 articles were then screened for relevance, and 2793 articles were discarded as they did not meet the inclusion criteria. Next, a full-text review was performed in cases where the titles and abstracts did not provide adequate information. This process resulted in the identification of 15 studies that fully met the inclusion criteria, which were included in this systematic mixed-studies review.

### 2.2. Inclusion and exclusion criteria

To be included in the review, articles had to be written in English and published in peer-reviewed academic journals from 2000 onward. The rationale for the latter was the establishment of WADA in 1999 and its movement for doping-free sports, and the consequent trends reflected in previous systematic reviews (Backhouse et al., 2015; Blank et al., 2016; Morente-Sánchez & Zabala, 2013). Furthermore, the included articles should present original empirical findings about personal and contextual factors that had been hypothesized to influence performance-enhancing and health-compromising behaviors among young athletes (aged 14–20 years) involved in organized youth sports. For the purpose of this review, our definition of "performance-enhancing and health-compromising behaviors" included the use of performance-enhancing substances, nutritional supplements, and non-prescription painkillers and playing during competitions despite being injured and having pain.

To eliminate articles before screening, a set of automation tools was used in the respective databases, which limited the number of articles through search filters (e.g., dates, duplicates, peer-reviewed works, and studies written in languages other than English). The articles were then screened by reviewing the titles and abstracts yielded by the search against the inclusion criteria. The members of our research group conducted the screening to enhance objectivity and reduce the possibility of excluding relevant studies. In case of disagreement, a consensus on the articles whose full text would be screened was reached through further discussion. Articles that did not meet the inclusion criteria were excluded. As for the articles that did not provide adequate information, the corresponding authors were contacted via email to request additional information.

### 2.3. Methodological quality assessment

In accordance with the systematic review guidelines (Page et al., 2021) and the recent reviews within the field of sports psychology (Cook et al., 2020; Scott et al., 2019), a peer review team consisting of three members of our research group reviewed the articles' eligibility.

The methodological quality assessment of the studies was conducted using the Mixed Methods Appraisal Tool (MMAT; Hong, Fàbregues, et al., 2018), as shown in Table 2. MMAT is widely recognized as a reliable and critical tool for appraising the quality of the studies included in systematic reviews combining quantitative, qualitative, and mixed-method studies (Hong, Gonzalez-Reyes, et al., 2018).

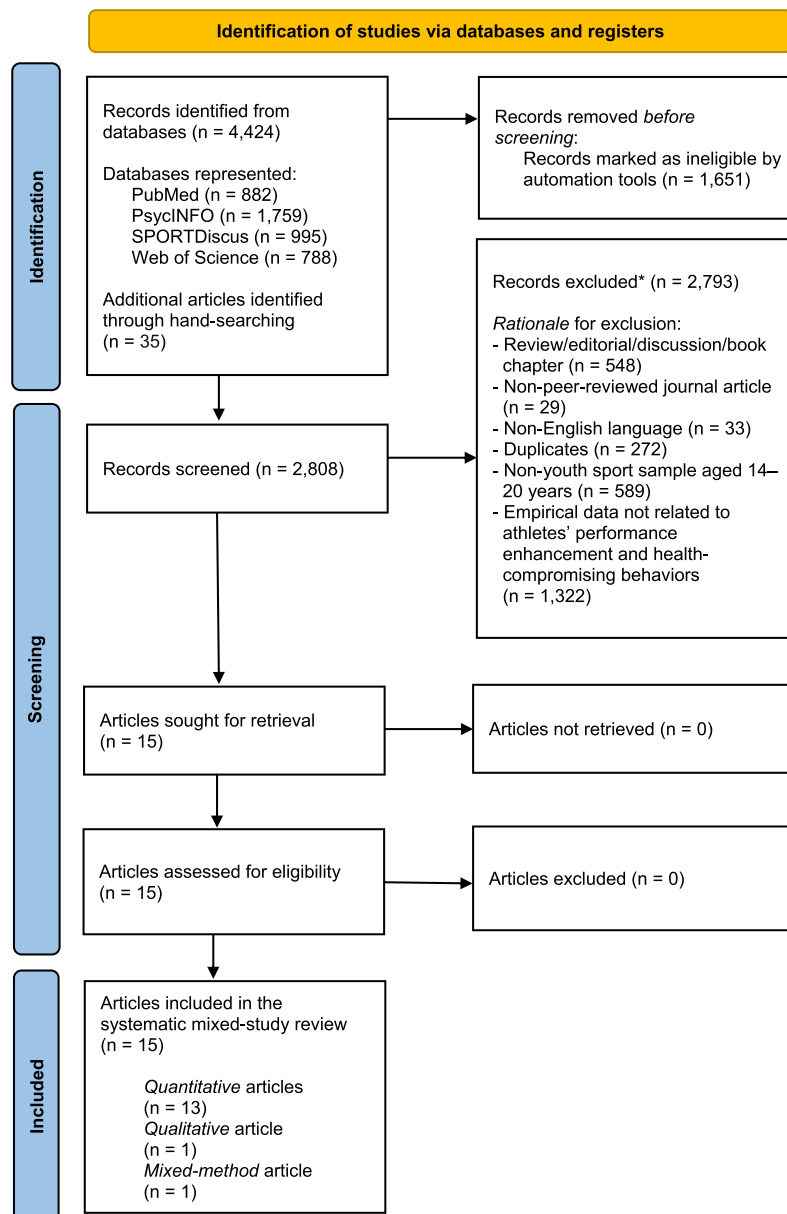


Fig. 1. PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) flow diagram.

2.4. Data extraction

Inspired by previous research (Cook et al., 2020), we extracted the following study characteristics: study purpose, participants and their sports, design, and data collection, and present them in Table 1.

2.5. Data analysis

Most of the studies included in the current systematic review used a

quantitative method for investigating multiple variables, making the conduct of a qualitative investigation involving searching for codes and themes more viable. Therefore, to find the answer to our research question, we employed an explorative data analysis strategy combining convergent qualitative meta-integration (Frantzen & Fetters, 2016; Pluye & Hong, 2014) and thematic analysis (Braun & Clarke, 2006; Braun et al., 2016).

The convergent qualitative meta-integration was conducted by extracting qualitative data from studies with a purely qualitative or

**Table 1**  
Summary of the studies included in the review.

Author(s)	Purpose	Participants	Sport(s)	Design	Data collection
Barkoukis et al. (2014)	To examine adolescent athletes' beliefs about the causes of success in sports and how such beliefs relate to doping intentions	N = 309 adolescent athletes (178 males); age range: 14–18 years; mean age: 16.64 years; competitive athletes participating in systematic training and national championships in the past 3 years, recruited from sports organizations across Greece	Athletics, swimming, Tae Kwon Do, rowing, basketball, football, volleyball, and handball	Quantitative	Measures: Beliefs about the Causes of Success in Sport Questionnaire (Duda & Nicholls, 1992) The short 10-item version of the Marlowe-Crowne Social Desirability Scale (MC-SDS; Strahan & Gerbasi, 1972) The items measured attitudes, subjective norms, descriptive norms, and situational temptation.
Barkoukis et al. (2015)	To determine whether adolescent athletes who reported nutritional supplement use displayed more favorable reasoning regarding doping use compared to those who do not consume nutritional supplements	N = 650 adolescent athletes (444 males); age range: 14–20 years; mean age = 16.09 years; recruited from sports organizations throughout Northern Greece	Athletics, swimming, shooting, Tae Kwon Do, bowling, water polo, football, basketball, volleyball, and handball	Quantitative	Measures: Team norms (Ommundsen, Roberts, Lemyre, & Treasure, 2003) Attitudes (Ajzen, 2002) Subjective norms (Ajzen, 2002) Doping susceptibility scenario (Gucciardi, Jalleh, & Donovan, 2010) Supplement and doping use Health and gateway beliefs Descriptive norms
D. K. C. Chan et al. (2015)	To examine the role of individual differences in self-control on doping decision-making and actual behavioral responses	N = 410 young elite and sub-elite athletes (227 males); age range = not reported; mean age: 17.70 years; 9.05 years average experience in competitive sports; 12.43 average training hours per week; recruited from sports clubs in Western Australia	Athletics-track, athletics-field, badminton, gymnastics, swimming, triathlon, basketball, cricket, field hockey, rugby, water polo, and soccer	Quantitative	Measures: The brief version of the Trait Self-Control Scale (Tangney, Baumeister, & Boone, 2004) Performance Enhancement Attitude Scale (Petróczi & Aidman, 2009) Intentions (Ajzen, 2002) Doping Avoidance Adherence version of the Self-reported Treatment Adherence Scale (Chan, Dimmock, et al., 2014) Prevention of Unintended Doping (Chan, Donovan, et al., 2014)
D. K. C. Chan et al. (2015)	To determine whether motivations in sports are predictive of motivations and social-cognitive factors related to doping avoidance	N = 410 young elite and sub-elite athletes (227 males); age range = not reported; mean age: 17.70 years; 9.1 years average experience in competitive sports; 12.43 average training hours per week; recruited from sports clubs in Western Australia	Athletics-track, athletics-field, badminton, gymnastics, swimming, triathlon, basketball, cricket, field hockey, rugby, water polo, and soccer	Quantitative	Measures: Behavioral Regulation in Sport Questionnaire (Lonsdale, Hodge, & Rose, 2008) Treatment Self-Regulation Questionnaire (Levesque, Williams, Elliot, et al., 2007) Attitude, subjective norms, perceived behavioral control, and intentions (Fishbein & Ajzen, 2002; Chan et al., 2014) Questionnaire adopted from the Prohibited List Substances of World Anti-Doping Agency 2006
da Silva et al. (2017)	To investigate the self-reported use of illegal substances among young Brazilian school-aged athletes participating in the National Youth Scholar Games	N = 402 young athletes (197 males); age range: 14–17 years; mean age = not reported; with at least 2 years' training and competition experience; randomly selected during the National Youth Scholar Games of 2006 in Brazil	Athletics, judo, swimming, table tennis, chess, basketball, indoor soccer, handball, and volleyball	Quantitative	Questionnaire adopted from the Prohibited List Substances of World Anti-Doping Agency 2006
Denham (2014)	To examine the relationships between participation in competitive high school sports and substance use behaviors	N = 1971 high school students (948 males), including 233 black respondents, 1348 white respondents, and 390 Hispanics; a subsample included 1663 respondents (799 males) who answered questions about specific sports; age range = not reported; mean age = not reported; recruited from the United States	Track, swimming, baseball, basketball, football, soccer, volleyball, and softball	Quantitative	Measures: Use of alcohol, marijuana, and prescription drugs Race and sport participation Self-esteem index
Lazuras et al. (2015)	To investigate adolescent athletes' doping intentions	N = 650 adolescent athletes (444 males); age range 14–20 years; mean age: 16.09 years; recruited from sports	Athletics, swimming, shooting, Tae Kwon Do, bowling, water polo, football, basketball, volleyball, and handball	Quantitative	Measures: Social Desirability Scale (Stroeber, 2001) Age and gender Sport Motivation Scale (Pelletier,

(continued on next page)

Table 1 (continued)

Author(s)	Purpose	Participants	Sport(s)	Design	Data collection
		organizations in Northern Greece			Fortier, Vallerand, Tuson, & Briere, 1995) Approach and Avoidance Achievement Goal Questionnaire for Sports (Gonroy, Elliot, & Hofer, 2003) Multidimensional Sportspersonship Orientation Scale (Vallerand, Briere, Blanchard, & Provencher, 1997) Attitudes toward doping use (Barkoukis et al., 2013; Lazuras et al., 2010) Norms (Petroczi et al., 2008; Ravis & Sheeran, 2003) Self-efficacy (Barkoukis et al., 2013; Gucciardi et al., 2010; Lazuras et al., 2010; Pierce et al., 1996)
Madigan et al. (2016)	To examine the relationship between perfectionism in sports and attitudes toward doping among male junior athletes	N = 130 male junior athletes, age range: 16–19 years, mean age: 17.30 years, averaging 9.7 h of training per week, recruited from two sports academies in the UK	Tennis, squash, athletics and soccer, rugby, and basketball	Quantitative	Measures: The Sport Multidimensional Perfectionism Scale (Dunn et al., 2006) Multidimensional Inventory of Perfectionism in Sport (Stoeber et al., 2006) The Performance Enhancement Attitude Scale (Petroczi & Aidman, 2009)
Mayer et al. (2018)	To investigate the willingness to compete while hurt (WCH) in a sample of elite adolescent athletes, explore whether there exist subsets with notably different WCH values, and identify groups that are willing to take the highest and lowest health risks to maintain their sports activities	N = 1138 elite adolescent athletes (638 males); age range: 14–18 years; mean age: 16.33 years; engaging in one of the 54 Olympic sports; competing at one of the four highest national squad levels or a corresponding team level in Germany	Not reported, but contrasting sports groups were categorized into subcategories (technical, esthetic, power, endurance, antigravitation, and ball games)	Quantitative	Measures: Revised leadership style of the coach (Lewin, Lippit, & White, 1939) Perceptions of direct and indirect pressure to compete while hurt, and willingness to compete while hurt
Mroczkowska (2011)	To examine the probability of loss in the view of young sportspersons	N = 89 adolescent athletes (sex not reported); age range: 16–18 years; mean age: 17.20 years; recruited from the Sport Championship School in Poland	Fencing, track and field, martial arts and football	Quantitative	Measures: Perception of risk of doping (Mroczkowska, 2011)
Rodríguez-Serrano et al. (2018)	To explore adolescent athletes' knowledge and reasoning about health and to describe how health knowledge management structures are associated with different social systems	N = 65 adolescent athletes (sex not reported); age range: 16–17 years; mean age = not reported; represented the general population of young persons involved in organized sports in Sweden	Equestrian, soccer, and floorball	Qualitative	Measures: Focus group interviews
Schnell et al. (2014)	To identify groups of athletes who are particularly willing to take risks and the possible determinants of their risk acceptance	N = 1138 elite adolescent athletes (638 males); age range: 14–18 years; mean age: 16.33 years; athletes who practiced 13.71 h per week on average, had been squad members for a mean length of 2.89 years, engaging in one of the 54 Olympic sports, and competing at one of the four highest national squad levels or a corresponding team level in Germany	Not reported, but contrasting sports groups were categorized into subcategories (technical, esthetic, power, endurance, antigravitation, and ball games)	Quantitative	Measures: Risk perception and willingness to accept the negative physical and psychosocial consequences of their athletic activities Willingness to take physical risks in a very extreme way
von Rosen et al. (2017)	To identify risk factors for injury in adolescent elite athletes	N = 496 adolescent elite athletes (270 males); age range: 15–19 years; mean age not reported; recruited from national sports high schools in Sweden	Skiing, orienteering, tennis, athletics, water skiing, canoeing, rowing, wrestling, bowling, triathlon, golf, cycling, American football, basketball, handball, and volleyball	Quantitative	Measures: The Oslo Sport Trauma Research Center (OSTRC) Overuse Injury Questionnaire (Clarsen, Rønsen, Myklebust, Flørenes, & Bahr, 2014) Sleep (Kecklund & Åkerstedt, 1992) Perceived Stress Scale (Cohen & Mermelstein, 1983) The Swedish Nutrition Food Agency index (Sepp, Ekelund, &

(continued on next page)



Table 1 (continued)

Author(s)	Purpose	Participants	Sport(s)	Design	Data collection
von Rosen et al. (2018)	To explore injury consequences and adolescent elite athletes' perceptions and experiences of injuries	N = 340 adolescent elite athletes (185 males); age range: 15–19 years; mean age: 17 years; recruited from national sports high schools in Sweden	Athletics, cross-country skiing, orienteering, ski orienteering, downhill skiing, freestyle skiing, triathlon, golf, cycling, American football, and handball	Mixed methods	Becker, 2014) Competence-Based Self-Esteem Scale (Johnson & Blom, 2007) Measures: OSTRC Overuse Injury Questionnaire (Clarsen, Myklebust, & Bahr, 2013) Focus group interviews
von Rosen and Heijne (2019)	To explore the association of subjective well-being with injury and injury severity in adolescent elite athletes	N = 386 adolescent elite athletes (204 males); age range: 15–19 years; mean age not reported; recruited from national sports high schools in Sweden	Athletics, cross-country skiing, downhill skiing, freestyle skiing, orienteering, ski orienteering, and handball	Quantitative	Measures: OSTRC Overuse Injury Questionnaire (Clarsen, Myklebust, & Bahr, 2013) Well-being was rated on a scale of 0–100.

quantitative design or with a mixed-method design. More specifically, when coding the qualitative data, we transformed the data from the quantitative and mixed-method studies into a qualitative format using the text from their respective Results sections instead of the numerical outputs. For example, we transformed the correlation between pressure from the coach and athletes' perfectionistic striving (Madigan et al., 2016; i.e., 0.53,  $p < 0.001$ ) into the qualitative code "pressure from the coach", which was one of the several codes constructing the theme "Social drama".

In the first phase of the thematic analysis, we familiarized ourselves with the data by reading and rereading all the articles, with considerable emphasis on the written presentation of the results, which was the basis for the thematic analysis.

In the second phase (coding), we read closely and coded the studies' results. Throughout the coding, we conducted a parallel cross-check of the quantitative articles, ensuring that the qualitative codes corresponded with the numerical results. This coding process was done independently, aiming to capture essential knowledge related to contextual and personal factors associated with adolescent athletes' performance-enhancing and health-compromising behaviors. The coding process was empirically rooted, that is, we stayed close to the texts and worked inductively throughout the process. The authors came together and reviewed all the generated codes. Those that overlapped at first glance were removed, resulting in 55 codes. After closer inspection and discussion, 26 more codes were excluded as they did not add new meaning to the coding, resulting in 29 unique codes.

In the third and fourth phases (creating and reviewing themes), the 29 codes were unfolded in a visual way using a smart board to facilitate an overview of the codes and the construction of meaningful themes. The codes that emphasized a common topic were grouped together under the same theme with the aim of providing an extended description and understanding of the data material analyzed.

Finally, the themes were defined and named, resulting in five themes: *social drama*, *sense of self*, *emotions*, *cognitions*, and *a means to an end*.

### 3. Results

This section presents the study characteristics, the quality appraisal, and the five constructed themes by drawing on the studies and codes falling under each theme.

#### 3.1. Study characteristics

The 15 studies included in the current systematic review provided data from 8584 athletes with a mean age of 16.84 years, of whom 3700 (44%) were females, and 4730 (56%) were males (154 athletes did not

answer the question about gender). The competitive level ranged from regional to international. The 15 studies covered a wide variety of individual and team sports. Represented nations were Sweden, Poland, Germany, Greece, the United Kingdom, the United States, Brazil, and Australia. See Table 1 for a detailed description of the study and sample characteristics.

#### 3.2. Quality appraisal

The details of the MMAT methodological quality criteria are provided in Table 2, and the resultant appraisal of each study is presented in Table 3. MMAT focuses on core relevant methodological criteria and has five criteria per study design category (Hong, Fàbregues, et al., 2018). Each included study was independently appraised using methodology-specific criteria. All the criteria were rated as "yes," "no," or "can't tell," producing an overall quality score ranging from 0 to 5. Notably, the score did not provide an exact metric for study quality; instead, it guided the relative fulfillment of each included study, which was yielded against the MMAT criteria. In addition, the percentage of studies that met each of the relevant criteria was calculated, thus providing trends across the included studies.

#### 3.3. Social drama

*Social drama* refers to the contextual influences associated with adolescent athletes' performance-enhancing and health-compromising behaviors. This theme comprised five codes: social pressure, peer norms, social acceptance, social media, and sources of information. Six studies presented findings that referred to such conditions.

Social pressure was identified in three studies. In one of them, the researchers, Schnell et al. (2014), reported that young athletes were more willing to take psychosocial risks in sports by resorting to health-compromising behaviors when they perceived a greater amount of pressure to hide pain, continue training, and compete despite being injured or experiencing illnesses. Moreover, Madigan et al. (2016) reported that young athletes who thought their parents expected them to be perfect had more positive attitudes toward doping than those who did not think that their parents had such expectations of them. Collectively, these findings suggest that parental pressure and exceedingly high expectations to perform well may lead young athletes to favor health-compromising behaviors.

In line with the findings related to social pressure, one study identified sport discipline and age as contributors to athletes' willingness to compete when injured or in pain. Athletes taking part in ball games and esthetic and weight-dependent sports are more willing to compete hurt when experiencing greater social pressure than those competing in other sports (Mayer, Giel, et al., 2018). However, there were no differences

**Table 2**  
Mixed Methods Appraisal Tool criteria.

Screening questions (for all types)	Qualitative	Quantitative randomized controlled trials	Quantitative non-randomized	Quantitative descriptive	Mixed methods
S1. Are there clear research questions?	1.1. Is the qualitative approach appropriate to answer the research question?	2.1. Is randomization appropriately performed?	3.1. Are the participants representative of the target population?	4.1. Is the sampling strategy relevant to address the research question?	5.1. Is there an adequate rationale for using a mixed methods design to address the research question?
S2. Do the collected data allow to address the research questions?	1.2. Are the qualitative data collection methods adequate to address the research question?	2.2. Are the groups comparable at baseline?	3.2. Are measurements appropriate regarding both the outcome and intervention (or exposure)?	4.2. Is the sample representative of the target population?	5.2. Are the different components of the study effectively integrated to answer the research question?
	1.3. Are the findings adequately derived from the data?	2.3. Are there complete outcome data?	3.3. Are there complete outcome data?	4.3. Are the measurements appropriate?	5.3. Are the outputs of the integration of qualitative and quantitative components adequately interpreted?
	1.4. Is the interpretation of results sufficiently substantiated by data?	2.4. Are outcome assessors blinded to the intervention provided?	3.4. Are the confounders accounted for in the design and analysis?	4.4. Is the risk of nonresponse bias low?	5.4. Are divergences and inconsistencies between quantitative and qualitative results adequately addressed?
	1.5. Is there coherence between qualitative data sources, collection, analysis, and interpretation?	2.5. Did the participants adhere to the assigned intervention?	3.5. During the study period, is the intervention administered (or exposure occurred) as intended?	4.5. Is the statistical analysis appropriate to answer the research question?	5.5. Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?

**Table 3**  
Scores of the studies included in the review against the Mixed Methods Appraisal Tool criteria.

Author(s)A	Screening questions		Qualitative					Quantitative descriptive					Mixed methods					Overall quality score	Quality score (%)
	S1	S2	1.1	1.2	1.3	1.4	1.5	4.1	4.2	4.3	4.4	4.5	5.1	5.2	5.3	5.4	5.5		
Barkoukis et al. (2014)	✓	✓						✓	✓	X	X	✓						3	60%
Barkoukis et al. (2015)	✓	✓						✓	✓	X	X	✓						3	60%
D. K. C. Chan et al. (2015)	✓	✓						✓	X	✓	X	✓						3	60%
D. K. C. Chan et al. (2015)	✓	✓						✓	X	✓	X	✓						3	60%
da Silva et al. (2017)	✓	✓						✓	✓	✓	X	✓						4	80%
Denham (2014)	✓	✓						✓	✓	✓	X	✓						4	80%
Lazuras et al. (2015)	✓	✓						✓	✓	✓	✓	✓						5	100%
Madigan et al. (2016)	✓	✓						✓	X	✓	✓	✓						4	80%
Mayer et al. (2018)	✓	✓						✓	✓	X	✓	✓						4	80%
Mroczkowska (2011)	✓	✓						✓	X	✓	X	✓						3	60%
Rodríguez-Serrano et al. (2018)	✓	✓	✓	✓	✓	✓	✓											5	100%
Schnell et al. (2014)	✓	✓						✓	✓	X	✓	✓						4	80%
von Rosen et al. (2017)	✓	✓						✓	✓	✓	X	✓						4	80%
von Rosen et al. (2018)	✓	✓											✓	X	X	X	X	1	20%
von Rosen and Heijne (2019)	✓	✓						✓	✓	✓	✓	✓						5	100%
Percentage of studies that met relevant criteria	100	100	100	100	100	100	100	100	69	69	38	100	100	0	0	0	0		

Notes: ✓ = criteria met; x = criteria not met or insufficient information provided in the study.

related to gender. Mayer, Giel, et al. (2018) suggested that this could be related to the fact that highly specialized groups of elite athletes adopt the same fundamental values, which may increase the difficulty of legitimizing a break from competition when injured or in pain.

Three studies addressed peer norms and social acceptance. According to Denham (2014), young sports participants might use performance-enhancing substances more often due to “bravado and peer-driven expectations” (p. 152). These results are in line with the findings of Barkoukis et al. (2015), who stated that these patterns of reasoning serve a self-justification purpose and protect young athletes from counterarguments and reasoning against doping. Young athletes may end up rationalizing such a practice by thinking, “If everyone is doing it and it is acceptable, why shouldn’t I do it?” (Barkoukis et al., 2015, p. 587).

Finally, environmental conditions related to social media and sources of information were investigated in Rodríguez-Serrano et al. (2018) study. In particular, the study findings suggest that young athletes receive confirmation and share information about themselves on social media and pay close attention to the opinions of their peers, even though the latter are not their close friends. The availability of health experts’ advice was also found to be important. Adolescent athletes emphasized the value of receiving advice from health experts and of a communication mechanism that enabled them to rapidly establish “fast help and fast response” with such experts (p. 1276).

### 3.4. Sense of self

The theme *Sense of self* comprised five codes: athletic identity,

expanded sense of self, identity threat, future concern, and sports-personship. This theme drew attention to athletes' understanding of the question "Who am I?" and to what nurtures and threatens their identity in relation to performance-enhancing and health-compromising behaviors. Three articles in our review shed light on these issues.

von Rosen et al. (2018) explored adolescent elite athletes' perceptions and experiences of injury and injury consequences. One of their main findings suggests that athletes start questioning their identity as elite athletes and are often struck by the fear of not being able to reach the same physical status again. The athletes also expressed a need to belong and be considered part of the group even while they were injured. They highlighted that their teammates' perception of them as normal athletes rather than "the injured ones" was vital to maintaining their athletic identities. For example, a runner can struggle with the sense of "I am a runner" if she is unable to run, which may threaten his or her athletic identity. Injured athletes also expressed a desire to continue to experience admiration and attention from others, as they were used to in their athletic lives.

Schnell et al. (2014) aimed to identify groups of athletes who were notably willing to take health risks, particularly a willingness to accept the negative physical and social consequences of their athletic activities as they strove to achieve peak performances. Their findings suggest that athletes who have a strong athletic identity and do not engage in non-sport practices in their social lives are more inclined to take risks. Furthermore, the authors found that athletes who were concerned with athletic role fulfillment and were highly perfectionistic were part of a high-risk group. Taken together, these findings support the notion that young athletes with a broader distribution of interests and goals and who are not overly perfectionistic can reduce their willingness to take risks for performance-enhancing reasons.

In another study, Lazuras et al. (2015) examined several predictors of doping intentions among young athletes. Their results suggest that sportpersonship orientations, the way athletes respect rules, officials, and/or social conventions influence young athletes' attitudes toward doping. In other words, the athletes who reported being less fair than those respecting rules of good sportpersonship had more positive attitudes toward doping and had stronger intentions to engage in such behavior.

### 3.5. Emotions

The theme *Emotions* comprised six codes: self-blame, self-esteem, anticipated regret, loneliness, temptation, and well-being. Five articles that represented these codes described athletes' ways of experiencing and handling different, primarily negative emotions, which activate varying degrees of perceived discomfort.

Self-esteem is related to athletes' substance use and risk of injury in various ways. Denham (2014) investigated the association of self-esteem with the use of different substances (e.g., non-prescription painkillers) and found that female athletes reporting lower self-esteem demonstrated higher vulnerability to more excessive use of different substances than their peers with higher self-esteem. von Rosen et al. (2017) found that high self-esteem was associated with a higher risk of injury. Apparently, both high and low self-esteem increased the risk of engaging in different yet unhealthy practices.

In a study by von Rosen et al. (2018), athletes who were injured and received rehabilitation therapy reported feeling lonely despite taking part in a training context with their peers. Therefore, despite the fact that the injured athletes were included in the training, this was not enough to enable them to overcome their sense of solitude. Those athletes who felt lonely also often expressed experiencing other negative emotions, such as self-blame and/or criticism.

Concerning well-being, one study (von Rosen & Heijne, 2019) showed an association between severe injuries (e.g., acute and overuse injuries) and lower levels of self-reported well-being. Accordingly, when experiencing lower levels of well-being, athletes were found to be more

prone to injury and injury severity the subsequent week. Von Rosen and Heijne (2019) suggested that the association between lower well-being and injury risk could be modified by stressful life-events (Johnson & Ivarsson, 2011) and daily hassles (Laux et al., 2015). The results also revealed gender differences, with more injured female athletes reporting a higher sense of well-being than injured male athletes. These findings may suggest that injury has a greater effect on well-being in males than in female athletes. The authors suggested that coaches of young elite athletes should consider monitoring the athletes' subjective well-being as this may influence the potential risk of their incurring injuries (von Rosen & Heijne, 2019)

Lazuras et al. (2015) reported that situational temptation (e.g., when the coach suggests that an athlete should use performance-enhancing substances) and the anticipated negative effects of doping were two of the several predictors in their study that influenced young athletes' doping intentions. Their findings suggest that higher temptation and less anticipated regret predict stronger intentions to engage in doping.

### 3.6. Cognitions

The theme *Cognitions* consisted of seven codes: attributions, perfectionism, cognition as a first step, self-control, attitudes, values, and types of motivation. This theme was found in six studies that described various cognitions influencing athletes' decision-making.

Barkoukis et al. (2014) examined a set of predictors of doping intentions, including attributions about the causes of success in sports. One of their findings suggests that athletes who attribute their success to external factors, such as cheating, are more likely to report doping intentions. Madigan et al. (2016) examined how perfectionism influences athletes' attitudes toward doping. They found that athletes who had high scores in perfectionistic striving and were focused on their achievement goal were more likely to hold more negative attitudes toward doping compared to their counterparts who were more concerned about making mistakes and experiencing other people's negative reactions to their imperfection. In a related study, Chan, Lentillon-Kaestner, et al. (2015) found that athletes with low self-control were more likely to have heightened attitudes and intentions toward doping and reduced awareness of the importance of doping avoidance and intentions toward and behavioral adherence to it.

Concerning cognitions, Barkoukis et al. (2015) investigated the association between nutritional supplement use and doping among adolescent athletes. They found that nutritional supplement users held more positive attitudes toward doping and reported stronger intentions to engage in it compared with athletes who did not use nutritional supplements. The authors argued that nutritional supplement users may have a biased reasoning pattern toward doping, and that their "shared mental representations" might be a factor behind these associations. In other words, using supplements might start a value slide for athletes toward accepting prohibited performance-enhancing measures in the future. In terms of values, the findings of the aforementioned authors also suggest that the use of nutritional supplements influences athletes' reasoning patterns and motivational impetus to resort to doping. Compared to their non-user counterparts, nutritional supplementation users displayed reasoning in favor of doping (e.g., behavioral beliefs that doping will lead to a favorable outcome or a specific attribute) and perceived supplement use as less risky for progressively endorsing prohibited performance-enhancement in the future (Barkoukis et al., 2015).

Finally, in line with the findings related to the types of motivation, two studies were identified. Lazuras et al. (2015) examined the mediating role of situational temptation in the relationship between achievement goal orientations and doping intentions. They found that mastery-oriented athletes had lower intentions to practice doping, which was mediated by a reduced temptation to do so. Apparently, athletes who were mastery-oriented were more capable of overcoming the temptation to use doping. In a related study, Chan, Dimmock, et al. (2015) examined motivational factors and their associations with

attitudes, subjective norms, perceived behavior control, and doping avoidance intention. Their results revealed that different types of motives were differentially related to doping attitudes. For instance, controlled motives, such as winning and financial rewards, were associated with less adaptive motivational and social cognitive patterns (e.g., attitudes, subjective norms, and perceived control) concerning the intention to refrain from doping.

### 3.7. A means to an end

The theme *A means to an end*, which refers to overt and observable actions, comprised six codes: health views, appearance, perception of pain, rest, shortcuts, and differences among sports. Five studies presented findings that were interpreted as referring to overt and observable actions associated with adolescent athletes' performance-enhancing and health-compromising behaviors.

Health views and appearance were identified in two studies. Rodríguez-Serrano et al. (2018) reported that young athletes viewed health as a resource for sports performance and achievement in life. In addition, athletes' interpretations of health were related to striving for the perfect body. Consequently, many athletes reported engaging in maladaptive strategies, such as an excessive use of energy drinks, saying that "energy drinks are good [because they help] you become more alert" (Rodríguez-Serrano et al., 2018, p. 1275). Alongside these findings, Schnell et al. (2014) concluded that young athletes' carefree attitude toward their health and predominant focus on the present pose risks to their psychosocial health. Conversely, the young athletes in their study who had knowledge about health-damaging factors, such as ignoring pain, were less willing to accept the physical consequences resulting from sports engagement. Furthermore, in relation to the potential consequences of using doping, Mroczkowska (2011) reported a lower risk of doping among those athletes who valued their health and appearance and the respect of others.

Two studies were related to perceptions of pain and rest. In a study by von Rosen et al. (2018), young athletes associated pain with average sports participation. As one athlete stated concerning the use of coping strategies when injured, "Everybody gets injured, and you have to accept the injury to be able to continue with sports participation" (von Rosen et al., 2018, p. 736). However, the athletes who had sustained injuries described a change in their awareness of injury threats, accompanied by an increased understanding of their bodies. Furthermore, the perceptions of pain of young athletes who sustained an injury changed from accepting pain to recognizing it as an abnormal training response. However, the athletes who had sustained injuries (e.g., stress fracture) described a change in their awareness of injury threats, accompanied by an increased understanding of their bodies. Furthermore, the perception of pain of young athletes who sustained an injury changed from accepting pain to recognizing it as an abnormal training response. Hence, coaches are encouraged to educate athletes about the interpretation of pain signals and the importance of listening to one's body.

In another study, von Rosen et al. (2017) argued for a holistic approach to understanding the causes of injuries among adolescent athletes. In their appeal to change, the researchers stressed the relevance of behaviors in relation to injuries. For example, increasing one's sleep volume may reduce one's risk of injury. Conversely, increased training load and intensity, along with decreased sleep volume, may pose a higher risk of injury to young athletes.

Finally, overt and observable actions related to shortcuts to enhance performance and differences among sports were identified in two studies. The findings related to the use of doping and increased training loads suggest that some adolescent athletes aim for rapid gains in performance to compensate for short practice periods (da Silva et al., 2017). Other means employed to cope with emotional stress were the use of specific medicines (e.g., beta-blockers) and the use of illicit drugs (e.g., marijuana).

The aforementioned results are in line with the findings of Rodríguez-Serrano et al. (2018), which suggest that some athletes resort to excessive and maladaptive strategies (e.g., the use of energy drinks) to achieve attractive bodies and improve their physical performance.

## 4. Discussion

In the current systematic review, we explored the literature by searching for contextual and personal factors associated with adolescent athletes' performance-enhancing and health-compromising behaviors. Our thematic analysis identified five themes and provided essential insights into them. These themes are discussed separately in the following subsections.

In the context of youth sports, many adolescents have demanding obligations and participate in stressful competitions, causing them to worry about unfulfilled goals and the pressure to perform well (Mellalieu et al., 2009). These experiences during adolescence, a period characterized by ongoing changes and transitions, either facilitate or inhibit behaviors that may have negative consequences for their health (Petersen & Leffert, 1997). Generally, the studies included in the current review revealed how performance-enhancing and health-compromising behaviors are directly and indirectly affected by contextual influences, including the coach, peers, and family.

### 4.1. Social drama

The extracted studies revealed a notable focus on identifying athletes' use of social media and sources of social pressure, such as coaches, peers, and parents. In particular, young athletes use social media for confirmation and share information about themselves with peers and health experts. Social media are also an avenue where adolescents share their "good", "bad" and "ugly" side of life and discuss and express different viewpoints (O'Reilly, 2020). When doing so, adolescents may also experience some downsides, such as being exposed to peer pressure, and to unrealistic views of other people's lives, which may influence their behavior and mental health (O'Reilly et al., 2018). In relation to social pressure, young athletes were found to be more prone to risking their health when they perceived a great amount of pressure from their entourage. Moreover, when experiencing greater social pressure, older athletes found it difficult to legitimize a break from competition. Thus, the extent of taking health risks is not solely dependent on age but is a function of the norms and values within a specific sports culture (D'Amico & Barni, 2019).

The experience of parental pressure for one to be perfect led to more positive attitudes toward doping among young athletes. This finding may also suggest that parental pressure influences young athletes more, whereas pressure from coaches may have a greater impact on adult athletes (Madigan et al., 2016). These findings corroborate the findings of Barkoukis et al. (2019), which suggest that athletes' entourages play an essential role in shaping their attitudes toward and decisions regarding doping. Therefore, for young athletes, in addition to their coaches and peers, their parents play an important role in their sports careers.

### 4.2. Sense of self

Athletic identity can be a positive driving force for enhanced sports performance among young athletes. However, the findings of the studies in the current review suggest that holding several identities acts as a protective measure against health risks for athletes because it enables them to acquire an "expanded sense of self." In other words, playing several social roles must not be considered a limitation in achieving sports performance because it can liberate young athletes from pressure and help them deal better with their situations when injured. Athletes identifying with other social roles are likely to take fewer risks, which could consequently drive them to stay longer in sports, experience fewer

injuries, and achieve greater well-being (von Rosen et al., 2018).

At the same time, injured athletes receiving rehabilitation therapy express feelings of loneliness despite taking part in a training context with their peers. This may illustrate different dimensions of identity, both a personal one ("I") and a social one ("us") (Turner et al., 1994), and injured athletes may experience fractures in both these identity dimensions. Turner et al. (1994) concluded that the experience of group affiliation is dynamic and context-dependent and can thus be especially challenging for injured athletes.

One study (Barkoukis et al., 2015) revealed that sportspersonship orientations shape athletes' attitudes toward doping. In contrast, an earlier study by Barkoukis et al. (2011) also examined sportspersonship profiles concerning doping behavior and found no relationship between sportspersonship orientation and past doping use or doping intention. Taken together, these findings support the idea that athletes with a fair sportspersonship profile do not necessarily perceive doping as immoral.

#### 4.3. Emotions

Athletes' emotions have received little explicit attention in relation to studies on performance-enhancing and health-compromising behaviors. In line with the findings of Friesen et al. (2013), our findings suggest that emotions, whether positive or negative, provide valuable information about fulfillment of needs.

On the one hand, von Rosen et al. (2017) suggested that athletes with high competence-based self-esteem may be more willing to downgrade their rehabilitation time and to compete and train without protective equipment. The authors argued that these athletes may also have negative patterns of perfectionism, which may trigger risk behaviors when dealing with setbacks and stress. On the other hand, Laure and Binsinger (2007) showed that athletes with low self-esteem, accompanied by other risk factors, engage more often in doping compared to their peers with higher self-esteem. Although the studies operationalized self-esteem in somewhat different ways, in both of them, athletes reporting high self-esteem and those reporting low self-esteem both expressed a willingness to take risks. Taken together, these findings underline the complex pathway between athletes' self-esteem and their risk behaviors. Hence, coaches and other support personnel should acknowledge that both high and low self-esteem can have undesirable consequences when it comes to health risk practices.

Barkoukis et al. (2014) studied athletes' vulnerability to doping and found that athletes who are situationally tempted are more susceptible to doping. The authors observed that athletes' experience of greater temptation activates both cognitive and affective responses favoring the use of performance-enhancing substances.

#### 4.4. Cognitions

We observed a notable trend toward identifying cognitions influencing athletes' decision-making processes and their regulation of performance-enhancing and health-compromising behaviors. With respect to cognitive influences, adolescent athletes' attitudes toward situational temptation and beliefs about their ability to resist it guide their decision-making. The studies also highlighted that the quality of motivational regulation could influence subsequent behaviors, such as doping. Taken together, these findings suggest that the value-expressive functioning of adolescent athletes' attitudes toward situational temptation and beliefs about their ability to resist it may act as a buffer against external factors under risk-conducive circumstances. Athletes with extrinsic motives for participating in sports, such as winning or financial rewards, may have less adaptive motivational and cognitive patterns (Reeve et al., 2012).

Consistent with the findings of other studies (Barkoukis et al., 2011, 2013), the aforementioned findings suggest that individuals who are more autonomously guided are more likely to reinforce their intrinsic values and effectively self-regulate their behaviors. Hence, although

anti-doping work based on rules and regulations seems to have merits, psychologically supportive educational approaches that help reinforce athletes' self-regulation and autonomous motivation appear to be better avenues.

#### 4.5. A means to an end

We observed a trend in the included studies as we identified antecedents to the behavior in question. The studies' findings mostly suggest that young athletes view health as a resource for achieving their life goals rather than as a bodily state or condition. In their struggle toward performance enhancement and greater achievement both on and off the sports arena, young athletes are more willing to employ maladaptive types of coping, such as using energy drinks. In the context of youth sports, such means could be considered typical as athletes use them to better cope with the demands of competition. However, athletes' over-reliance on these means over time might cause adverse effects on health such as insomnia, dehydration, and heart complications (Breda et al., 2014) and make them more vulnerable to endorse prohibited performance-enhancement in the future (Barkoukis et al., 2015; Lazarus et al., 2017). The studies also underlined young athletes' carefree attitudes toward health and predominant focus on the present. These findings are somewhat alarming because they indicate the existence of rationalizing cultural norms that push athletes to do anything for the sake of athletic success. As such, athletes may be more willing to persevere against injury, accept pain, and take unacceptable substances to obtain an advantage over their competitors (Schneider et al., 2019).

### 5. Limitations

When exploring our research question in the existing literature, we found that the different methods employed by the studies caused variance in the construction of knowledge in the studies. Systematic reviews are mainly done as meta-analyses of quantitative studies or meta-syntheses of qualitative studies. As a consequence of the increasing conduct of mixed-method research in recent decades, a third option for systematic reviews has evolved: synthesizing quantitative, qualitative, and mixed-method articles in the same systematic review (Pluye & Hong, 2014).

There are some apparent challenges when combining various study designs. Not only is the knowledge derived using different methods, but the studies are also based on different ontological and epistemological assumptions. To accommodate this variance and as described in the first phase of our data analysis, we coded the results presented in words for all the research design types. The codes were given names that captured meaning and, at the same time, stayed close to the results they represented to hinder making conclusions past them.

The recommended MMAT framework was used to judge the quality of the included articles because it consists of evaluation criteria for different research designs. Furthermore, to judge the quality of the results of the current systematic review, we made the data analysis process transparent by presenting a rich and detailed description of each phase of the thematic analysis.

According to Thomas and Harden (2008), thematic analysis is a viable research synthesis method in systematic reviews. This approach has recently been used in sports research reviews (e.g., Edwards et al., 2017). Dixon-Woods et al. (2005) stated that thematic analysis is a structured and flexible method for integrating quantitative and qualitative studies. However, they also identified challenges. For instance, they found that previous examinations failed to be transparent regarding whether the analyses followed an inductive or deductive path, and that many previous thematic analyses did not go beyond simply summarizing themes from the primary studies, thus failing to develop higher-order themes that could make an original contribution to the literature (Dixon-Woods et al., 2005).

To address the aforementioned issues, we made our findings and our



interpretation of more general themes represent more than what was reported in the selected studies. When constructing themes, we strove to stay true to the nature of qualitative analysis by focusing on the nuances in the study findings, without overemphasizing the frequency of codes. However, we also acknowledge that thematic analysis is never exhaustive.

## 6. Future research directions

Further research is needed to obtain knowledge about the complex interplay between contextual and personal factors shaping performance-enhancing and health-compromising behaviors among young athletes. To better understand the decision-making processes involved in prohibited substance use, we must also investigate various health-compromising and performance-enhancing practices and behaviors that represent the forerunners of doping. Furthermore, most of the studies reported in the articles published to date utilized quantitative methods and cross-sectional research designs. There is a need for more longitudinal and qualitative studies that can capture the interplay between contextual and personal influences. Longitudinal studies can deepen the understanding of how this interplay influences athletes' cognitive processes and subsequent behaviors concerning the developmental changes they experience during adolescence. Moreover, qualitative research can provide rich descriptions of athletes' experiences and interpretations of meaning (or the lack thereof) regarding different substances and other health-compromising behaviors.

In line with previous studies suggesting a more comprehensive social and sociocultural approach to investigating athletes' decision-making processes (Aubel & Ohl, 2014; Connor, 2009; Ohl et al., 2013; Pappa & Kennedy, 2012), we believe that research and practice should examine athletes' entourages and sports culture more broadly. We recommend that future research recognize, to a larger extent, the complexity of personal and contextual factors. Without such recognition, research may oversimplify athletes' lives, which may lead to reduced validity and transferability of its results.

## 7. Conclusion

To the best of our knowledge, the current study was the first to synthesize all the relevant published data on personal and contextual factors associated with performance-enhancing and health-compromising behaviors among young athletes. Our identified themes (*social drama, sense of self, emotions, cognitions, and a means to an end*) synthesize the results of previous studies that provided insights into the lives of athletes from their own perspectives.

A key finding of the current study is that coaches, peers, and parents all matter in the formation of norms and values, indicating that athletes' entourages are essential sources of socialization. Apart from facilitating athletes' performance, such entourages offer unique opportunities to meet athletes' other psychological and social needs. For example, they can foster environmental conditions in which young athletes can expand their identities and achieve a greater sense of self beyond sports.

Another important finding is that athletes who are autonomously motivated to engage in sports are more likely to avoid health-compromising behaviors than those motivated by external factors such as gaining rewards or avoiding punishment. Although legislation, control, and punishment may all be effective measures against doping, athletes' entourages must look into the potential benefits of facilitating athletes' autonomous values and life meanings and the satisfaction they attain with learning and personal growth in sports. In addition, the entourages of athletes must support them and provide expert advice to them when needed. In the long run, athletes in these situations are more likely to refrain from resorting to health-compromising behaviors when pursuing their sporting careers.

## Authors' contributions

Kristensen and Skilbred contributed equally to this work and therefore share co-first authorship. Ommundsen and Loland proposed the initial idea for the study, whereas Kristensen and Skilbred presented a conception of the work. Kristensen, Skilbred, and Abrahamsen assessed the eligibility of the included studies. Kristensen and Skilbred systematically reviewed the literature and performed the synthesis. All the authors critically revised the manuscript and approved the final version.

## Declaration of Competing Interest

The authors declare that they have no competing interests.

## Acknowledgments

The authors thank Åse Strandbu for helping revise this manuscript's final version, and the Norwegian Olympic and Paralympic Committee and Confederation of Sports, Anti-Doping Norway, and Norwegian Research Centre for Children and Youth Sports for funding this work.

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## **Paper 2**



## **Young networked athletes and performance-enhancing substances: Who are the actors in their network, and how do the actors shape athletes' meaning-making?**

Ambitious youth athletes continually strive to enhance their performance, and as they age, more people are involved in this process. Athletes are parts of networks of actors that shape and influence their choices regarding performance enhancement. In this study we explore how young athletes ascribe meaning to performance enhancing substances, primarily in the form of nutritional supplements of various kinds, through interactions with different actors. Twenty-four athletes from private elite upper secondary sport schools (PEUSS) in Norway were interviewed, with a semi-structured approach to facilitate the various tales. We wanted to map *who* are the actors that contribute to young athletes meaning-making of nutritional supplements and anti-doping and to examine how the young athletes describe these actors' contribution. Our analysis revealed seven actor groups in athletes' network. The actor groups were diverse and contributed to athletes meaning-making in different ways. We argue that the diversity of actors illustrates the relevance of the networked athlete concept and that the concept should be further developed by interactionist perspectives.

Keywords: youth athletes; performance-enhancing substances; nutritional supplements; networked athlete; interactions.

## **Introduction**

In the context of competitive sport, athletes continuously push the limits to enhance their performance. In this pursuit, athletes plan and monitor training load, nutrition, restitution, and also the use of various nutritional supplements. Athletes manage these tasks with direct and with more implicit influence from several actors.

Very few young athletes engage in the use of banned performance- enhancing substances, that is, doping (Sandvik et al., 2018). Our primary focus in this study is young elite athletes' understanding of various permitted substances assumed to enhance performances, such as nutritional supplements, also called dietary supplements, sport supplements, energy drinks, and protein supplements. In addition and related to the understanding of nutritional supplements we explore athletes understanding of the anti-doping system and their views on the education they receive from both Antidoping Norway and the staff of their elite sport school.

Overall, the main body of research on how athletes think and behave concerning permitted and banned performance-enhancing substances has focused on personal characteristics. These studies are guided by psychological theories, and focus on the intrapersonal processes, such as cognition, motivation, and moral reasoning (Barkoukis et al., 2015). Scholars have argued for the individual perspective to be complemented with studying the context in which athletes live (Aubel & Ohl, 2014; Connor, 2009; Ohl et al., 2013; Pappa & Kennedy, 2012), and to explore in more detail the broader social context (Hauw & McNamee, 2015; Smith et al., 2010) and the role of significant others (Mazanov et al., 2014; Patterson et al., 2023).

The broad social context and the role of significant others are particularly interesting when studying youth elite athletes as they are in a formative phase and often with the ambition of transitioning into a professional career (Bruner et al., 2008). They are in a

process of developing their athletic identity (Ronkainen et al., 2016). Compared to adult athletes, they may be more vulnerable to pressure and persuasion from influential individuals and institutions (Damon, 2004). More generally, they are the biological, cognitive, and psychosocial changes all young people face in their transition to adulthood (Rutter, 1997).

Based on these research gaps we explore two main questions, drawing from interviews with youth athletes aged 17 to 19 from private elite upper secondary sport schools (PEUSS) in Norway. Firstly, *who* are the actors that contribute to young athletes meaning-making of nutritional supplements and anti-doping? Secondly, *how* do the young athletes describe these actors' contribution?

This article contributes to an increasing body of knowledge regarding athletes' context-dependent lives and to the development of *the networked athlete* concept (Connor, 2009).

### **Theoretical perspectives**

Connors's (2009) concept of *the networked athlete* highlights the importance of several actors in athletes' lives, such as coaches, doctors, nutritionists and physiotherapists.

According to Connor, one important aim with this concept is that it can facilitate in understanding 'the micro-sociological interactions in this peculiar social world; that of the elite athlete' (p, 339). We find this a fruitful approach that is nevertheless sparsely theoretically elaborated in Connor's paper. We suggest including symbolic interactionist perspectives to be able to analyse in more nuanced ways the relations between young athletes and their network actors (Blumer, 1968; Goffman, 1964, 1974; Mead, 1934).

Generally speaking, symbolic interactionism '...sees meanings as social products, as creations that are formed in and through the defining activities of people as they interact' (Blumer, 1969, p. 5). Blumer (1969, p. 132) suggests that all human action - single, collective, and societal - are based on our interpretation of meaning of the situation in which

we find ourselves and how things make sense to us. We focus on how interactions shape young athletes' meaning-making of nutritional supplements and anti-doping with the actors in their network.

In symbolic interactionism, *the others* are central to meaning-making. Mead employs the concepts of 'the significant other' and 'the generalised other' to explain this process. While the significant others are the concrete important actors in the athletes' environment, generalised other is the result of '... taking the attitudes of others toward himself and of his finally crystallising all these particular attitudes into a single attitude or standpoint' (Mead, 1934, p. 90). According to Mead (1934), the counterpart to the generalised other is the 'me'. The adoption of the attitudes of others towards oneself implies a development of self (me). In other words, the self finds its form in, and is a product of, social interaction. In our case, and in their network interactions athletes manoeuvre opinions towards various forms of nutritional supplements and sometimes even banned substances of various actors in ways that impact and shape their personal standpoint and their ideas of what it means to be an athlete.

When delving into *how* the athletes describe actors' contribution to their meaning-making, we will discuss different socialisation and interaction perspectives. We are inspired by Goffman's (1964-1983/2020) work regarding social encounters in everyday life, either direct face-to-face or through mediated contact. In all these meetings, people are likely to practice what Goffman calls 'a line': a pattern of verbal and non-verbal actions expressing a person's perception of a situation and his/her assessment of the persons involved, especially of him/herself. The concept 'face' refers to the positive social image we desire to maintain in social interactions (Goffman, 1964-1983/2020, pp. 43-78). Facework can be described as different acts individuals perform to project a specific social image of themselves (Goffman, 1964-1983/2020, pp. 43-78). For our study, athletes may desire to give the impression that

they distance themselves from performance-enhancing substances, especially in their banned forms in terms of doping (Sandvik et al., 2017).

Another relevant concept from Goffman is *frames*, which can be describes as an organisation of experiences that enables people to ascribe meaning to ‘what is going on’. People are prone to use certain *frames* or interpretation forms to react to a phenomenon. The frame enables the perception, identification, and classification of an infinite number of concrete events. Goffman points to that people are mostly not aware of the extent to which frames organise their world (Goffman, 1964-1983/2020, pp. 221-241). As athletes are exposed to strict anti-doping regimes, an antidoping frame can be assumed to play an essential role in athletes’ meaning-making of performance-enhancing substances.

In our study the framing and meanings that are ascribed to permitted vs banned substances in this context are expected to differ. Especially, since doping has shown to evoke touch anxiety (Sandvik et al., 2017). However, as the focus of this article is the actors and their contribution in meaning-making we argue that the antidoping discourse also shape the interaction related to various nutritional supplements as well.

Overall, taking an interactionist perspective, our analysis of young athletes’ interactions with their network is guided by three central premises, (1) individuals act based on the meanings objects have for them, (2) meanings are shaped in social interactions with other actors, (3) meanings are continuously created and recreated through interpretation processes in individuals’ dealing with the actors they encounter (Blumer, 1969, p. 2).

### **Previous research: Performance-enhancing substances and athletes’ network in youth sport**

Research on important actors regarding athletes’ sense-making of performance-enhancing substances (including permitted nutritional supplements) has addressed actors like coaches



(Waddington, 2000), support personnel (e.g. team doctors, physiotherapists) (Patterson et al., 2023; Waddington, 2000), and teammates (Barkoukis et al., 2019).

One such study is Pappa and Kennedys' (2012) interview study of athletes with a history of doping in their previous sport career. The athletes explained doping as a normalised practice and described the coaching staff's widespread involvement. The authors expected the athletes to blame the social context and sport culture whereas the athletes emphasised that doping use was their own fault. So, even though athletes' narratives confirmed the idea of *the networked athlete* (Connor, 2009), the athletes insisted on their individual responsibility for engaging in doping.

Ohl et al. (2013) has addressed how the interactions between cyclists and other actors influence socialisation processes by which cyclists learn their job, and how this determines doping attitudes. The authors described seven key socialisation factors that can explain various attitudes. One key factor was organisational contexts, that grasp the different ways the cycling teams are organised. Other factors were linked to sponsors, family involvement, use of pharmaceutical techniques and so on. Overall, the authors argued that the socialisation in each cycling team is multifaceted, demonstrating the impact of specific and context-dependent social relationships on sense-making.

An interactionist study from the Norwegian context deals with how young, ambitious cyclists communicate about doping (Sandvik et al., 2017). Based on focus group interviews the authors gained insight into cyclists' interaction and communication regarding doping which appeared brief and strictly norm-regulated. The authors suggest this reflects the strong and hegemonic frame of anti-doping. They observed too, the significant role of non-verbal communication used as mutual control mechanism of what could be said and not said about doping.

A survey study of elite youth athletes from Serbia, Germany, Japan and Croatia, exploring their knowledge, attitudes, beliefs and practices concerning sports supplements, shows that athletes reported using them to enhance their athletic performance. Also, the survey indicated high prevalence, although well over half of the respondents considered some sports supplements to carry certain health risks. Half of the athletes considered the coach their primary source of information (Jovanov et al., 2019).

A recent systematic literature review revealed that qualitative studies on youth athletes' understanding of performance-enhancing substances are scarce (Kristensen et al., 2022). To accommodate this research gap, our study focus on youth athletes, or, to be more specific, on ambitious 17 to 19-year-old athletes attending elite sport schools.

A solid body of research on young athletes' relations and networks in sport have addressed parents and peers (Atkins et al., 2013). Research suggests this early socialisation within the family has a lasting effect on youth's future sport participation (Haycock & Smith, 2014; Strandbu et al., 2020). A recent study on Norwegian youth athletes found that they wanted their parents to be involved in their sporting activities but also wanted to define how their parents should be involved (Strandbu et al., 2019).

As young and ambitious athletes head towards a more professional sport scene, their network of significant individuals expands. Sporting staff such as coaches, physiotherapists, and nutritionists facilitate and serve sporting development. This involvement also exerts power on athletes' understanding of PES (Barkoukis et al., 2019). Additionally, when performing at higher levels, anti-doping regimes and organisations enter young athletes' lives (Gleaves & Christiansen, 2019). The study illustrates how athletes' network grows with the professionalisation, at the same time as there is an increased expectation of independence.

## **Method**

In the Norwegian context there are a history of strong anti-doping work in sport and broader society (Gilberg et al., 2006). The reported doping prevalence is low (for example, anabolic steroids) (Sandvik et al., 2018), while the supplement use is estimated as relatively high. In 2020, Norwegian Health authorities reported that 79% of the adult population used at least one nutritional supplement product during the last 12 months, and 46% used supplements daily or most days (Abel & Totland, 2021, p. 7).

In the sport context, substance use is even more visible, typically in the form of protein and pre-workout supplements and energy drinks of different kinds. The broader context of this study is a culture of strong anti-doping attitudes, while nutritional supplements are not as sensitive.

### ***Youth athletes at private elite upper-secondary sports schools***

In 2006 elite sport was introduced as an elective academic subject in Norway's national public-school curriculum. Since then, the number of schools, both public and private that offer elite sports in their programme has grown massively, with 110 schools in 2019 (Kårhus, 2019). The athletes in our study are exclusively from the private sport schools, which are approximately 30 schools spread across Norway. The schools are partly financed via the Ministry of Education and do not have a formal role in the Norwegian sports model, but they are recognised in Norwegian sports as an important contribution to elite sport development (Sandbakk et al., 2023). Anyone with a completed lower secondary school diploma can apply at the different sport schools. Although the government provides support in line with pupils attending public sport schools, the school fees are higher and require stronger financial background.

Twenty-four athletes aged 17 to 19 from three different PEUSS in Norway participated in this study. The athletes practice various sports; ice hockey, handball, biathlon,

motocross, track and field, swimming, cross country, and football. The schools are located across Norway, and share the vision of developing elite athletes. Most athletes have left their hometowns to attend a specific sport school to develop their athletic skills and career. Living away from home implies handling household chores such as making food, cleaning clothes, and managing good everyday routines such as regular and healthy meals, and enough sleep. All these duties come in addition to a strict time schedule with lectures and training sessions. Weekdays and also weekends consist of school and sport activities, and there is little spare time. The athletes can be described as ambitious, and, compared to the average teenager, they are all making significant sacrifices to reach their goals.

### ***Interviews***

In line with our theoretical perspectives, we view the interviews as a window into meaning making processes. We explore what actors are important in the meaning-making, and the way their interaction shape the meaning-making. The interview guide therefore consists of questions about who the young athletes turn to for help and information, and who they trust and also distrust. The intention is to capture the patterns and variations in the network of actors with whom athletes interact.

The athletes who participated in the interviews got information regarding the research project and agreed to be contacted by the first author for arranging interviews in line with what was most convenient for them. The sample is based on self-selection, but also on pragmatic concerns linked to time-schedule, training camps and sport season. Some athletes had to withdraw for reasons such as sickness. There were no further criteria for their interview attendance other than going on a PEUSS.

The first author conducted the interviews, transcriptions, and analyses. Most interviews were face-to-face, while two were via video. The interviews lasted from 40 to 70 minutes and were semi-structured, ensuring the same topics were covered in all interviews

and simultaneously enabling diversity in the athletes' narratives (Brinkmann & Kvale, 2015). The topics were performance and ambitions; knowledge, information and presence of nutritional supplements; norms and values linked to various nutritional supplements in the sport context (and indirectly the borderlines towards banned substances and doping), and the athletes' experience with anti-doping work. The interviews were recorded, allowing the interviewer to focus on the conversation with the athlete and ask follow-up questions. Immediately after each interview, the interviewer wrote down thoughts and impressions.

Interviews were transcribed in MAXQDA, and to the possible greatest extent, every word was recorded in text. However, changes have been made to improve readability and ensuring that the meaning is maintained (Lareau, 2021). In addition, as the interviews were conducted in Norwegian. We have translated with caution when reporting the quotes. Young people use many slang expressions and 'fill' words that give meaning in Norwegian but, when translated into English, do not express the same meaning.

### ***Interview analysis and construction of actor groups***

The interviews were analysed following Braun and Clarke's systematic yet theory-flexible approach (Braun & Clarke, 2006, 2019; Clarke & Braun, 2013).

When exploring *who* is relevant actors in athletes meaning-making and to find the notable actors, all transcribed interviews were read and reread. In some cases the interview guide directed what actors were mentioned. In other cases, it invited athletes to explore and elaborate on what they found to be other important actors. Several actors were revealed, representing individuals, groups of people and organisations. The actors had different proximity to the athletes. Some were involved in face-to-face interaction, while others were more distant. When constructing the themes in meaningful manners, we wanted to stay close to how the athletes described the actors in the interviews. For example, the athletes often referred to the school as a unit, although the school consisted of various

employees and employee groups. Other actors are grouped together as they played similar professional roles, such as coaches, physiotherapists and nutritionist. All in all, we aim to capture the variety in actors in athletes' network, as defined by the athletes themselves, while also creating a comprehensible overview. This resulted in actors that reflect different compositions and proximity to the athletes. The outcome of our thematic analysis led to the following actor groups: *Coach and other Experts, School, Antidoping Norway, Family, Teammates, the Internet* and *Other athletes*.

When we explored *how* the different actors contributed to athletes' meaning-making concerning performance-enhancing substances, all quotes related to each actor group were clustered together, followed by scrutinising all quotes searching for how the athletes describe the various actors' contribution.

We have strived to describe what is common in athletes' telling about each actor while at the same time looking for differences and also contradictions (Dowling & Flintoff, 2011). When presenting our findings, each actors' contribution is described in general terms, and athletes' quotes illustrate how the actors contribute to athletes' meaning-making. Moreover, in line with our symbolic interactionist theoretical position, we recognise the authors' impact in the different phases of this research, and are aware of that our interaction in both the interview and the analysis is part of the co-construction of meaning (Berger, 2015).

### ***Ethical consideration***

To ensure athletes' confidentiality and anonymity, we use pseudonyms that only reveal the participant's gender. The athletes' sports and other facets that could identify them are anonymised to protect their right to confidentiality. The project has been approved by the Norwegian Centre for Research Data (NSD), and all athletes signed the informed consent before the interviews.

## **Findings**

Overall, most athletes paint a picture of everyday life with several actors who, in various ways, have a role in their meaning-making. This is illustrated by Victoria's response to the question about to whom she turns to if she needs knowledge or information concerning supplements:

*I think I maybe will ask mum first. She is, in a way, my second coach, kind of, so I will ask maybe her, and then I will ask my coach. But also, we have this nutritionist, and we know we can send a message to her.*

In the following section, all actors are summarised, described, and illustrated, with athletes voicing each actor group's contribution to their meaning-making.

### ***Coaches and other experts: knowledgeable and trustworthy***

In many athletes' accounts, coaches appear as knowledgeable and credible. The athletes frequently turn to them with trust in the coaches' knowledge and based on their previous experience as athletes. Some athletes describe the coach as someone who can be very clear about what is necessary for performance development, and what is not. Although the majority express that the coaches have restrictive views regarding supplements, variations can be found. Mari explains how her coaches have slightly different views regarding nutritional supplements:

*Our coach is a bit more, I don't want to that he is negative about it, but he thinks that we don't need it, and we don't really need it. I also have the coach at my club. He is more neutral about it as long as you pay attention to the content.*

Some coaches are described as having more liberal supplement views and that this has consequences for their approach. For example, John describes how he and his teammates rather go to their physical coach than to the teachers at school:

*I guess there is no one on the team that would go to anyone at school, but maybe yes, our fitness coach. He has recommended some [supplements] to someone.*

As seen in John's quote, some athletes hesitate to ask actors they believe hold a restricted view.

In addition to coaches, the athletes talked of other experts, such as dietitians and physiotherapists, who either give lectures or convey information and knowledge in other ways. Several of the athletes mentioned that a dietitian held lectures when starting at the school with a focus on a good and healthy diet in line with the 'the plate model'<sup>1</sup>. Olivia sums up some of the content in the nutrition seminar:

*We talk about what it is important and what can be smart to refill with. And one PowerPoint slide says there is no point in drinking energy drinks. It gives you nothing. And nutritional supplements, you must be careful with and check what's in them before taking them.*

The overall impression is that coaches and experts are seen as trustworthy and knowledgeable. In our study the interaction with coaches are in line with other experts. Considering the relatively high level of education in elite sport school coaches, their expert status is meaningful in this context. The coaches' and experts' and their advice are held to be dependable. In general, experts are consulted when athletes have a concrete question. However, some athletes avoid experts as they are seen to have restrictive views. Nevertheless, this does not seem to be an expression of a lack of trust but perhaps a concern about being misunderstood or taken as an athlete who is tempted to use discommended

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<sup>1</sup> A common term that defines the distribution of different foods on the plate. From Norwegian governments the recommendation is 1/3 vegetables, 1/3 carbohydrates and 1/3 fish, meat or vegetarian Helsenorge. (2021). *Slik kan du sette sammen et sunt måltid*. <https://www.helsenorge.no/kosthold-og-ernaring/sma-grep-for-et-sunt-kosthold/dagens-maltider/>



supplements, or simply that they don't want this knowledge in their meaning making. Also, as they express it as a repetitive message, it seems that athletes experience an overload of messages and advice about proper diet and avoiding nutritional supplements.

***The school: clear messages and strictness***

The actor group 'school' consists of various people with different roles, including school coaches, teachers, nutritionists, and other sport related staff. However, in the interviews several athletes refer to 'the school' as a unit. Most of the athletes describe the school as having a strong voice with a clear point of view towards nutritional supplements. Banned substances have been explicitly notified as unacceptable, and the athletes share stories about the schools' clear mantra about a 'healthy' and 'normal' diet as the best option. Athletes describe the school as strongly encouraging them to work hard to get this into their routines. Furthermore, athletes retell two clear signals from the school 1) nutritional supplements are unnecessary, and 2) their use implies a risk of contamination of banned substances. Charlotte confirms the school's communication in this respect:

*They don't recommend any nutritional supplements or energy drinks. They just want us to have a regular healthy diet with fruit and vegetables and fish and things like that. So I feel like the diet guidance is good because we learn about eating disorders in our milieu and that you should have lots of snacks and food when training, and so on even though it is very individual.*

In line with Charlotte, all athletes express feeling supported and helped by the school when it comes to questions of diet and supplements one or more ways. Also, many of the athletes support the school's point of view. However, as indicated above, some athletes seem to experience the school as rigid in their healthy diet recommendations. John argues that the school has only one main answer to the use of other supplements:

*No to, for example, powder or really everything. They just say, eat normal food.*

*That's really the main answer.*

At the same time, some athletes hold a somewhat contrasting impression of the school as not being absolute in their signals. Helena's statement illustrates this:

*They [teachers] do not like that you drink sports, no, not sports drinks, energy drinks.*

*But many at school do that, and the teachers don't care. So it was more like it's not something you need as an athlete.*

All in all, the school is perceived as communicating a unified position that nutritional supplements are not necessary and should be avoided. Some athletes experience the school as narrow-minded about certain supplements, and, at the same time, the athletes see ambiguity in practice in terms of the lack of reactions when someone drinks energy drinks.

#### ***Anti-doping Norway: fair and complex***

The athletes express a strong trust in Anti-doping Norway (ADNO) and their work to keep the sport fair and clean. Although most athletes in our study have not been subjected to a doping test, ADNO seems visible in the athletes' sphere. This is through their presence at competitions, in courses and lectures at school, and in ADNO's mandatory and annual online course called 'Clean Athlete'. In addition to the explicit presence of ADNO, the athletes express a strong presence of anti-doping attitudes in their context.

Helena expresses an unwavering trust in the ADNO system and talks of Norway as a unified community when it comes to rejecting doping:

*I would say that I have a good impression of them [ADNO] and the work they do. And that they are very exact and fair with the rules. There is no doubt that doping is something Norway distances itself from. And if there are cases where people have taken doping, it has hard-hitting consequences.*

William shares this view and considers ADNO's visibility in competition as important when it comes to countering doping use and prevention:

*I don't think it's that much [doping] in The North because there are extreme rules here. Anti-doping Norway comes to many races during the year, so in Norway, it's probably not much. I don't think there's anything, there's probably someone who tries, but in the USA, for example, which is biggest within [sport], there are probably a few people who try.*

Although they have strong confidence in the system, some athletes describe a concern that the rules are highly detailed and complicated. This include John, who argues that the length of the doping list and the use of Latin terms make it hard to figure out whether one is on the safe side.

*That doping list is quite long, isn't it? So it is, when you don't really know what some of those things are, it's very difficult without help to go in there to check a substance. Or if you're unsure if you have some medicines or allergy tablets and will check them because there are Latin names for everything, and you don't know what any of it is.*

All in all, ADNO is described as a visible and fair actor. Their work is well known among athletes, although most have not taken a doping test. However, some athletes express concerns that the anti-doping system is complex and hard to understand. This is especially related to the increased responsibility they themselves have in that setting.

***Family: advocates of a healthy diet***

Family members and family values are often part of athletes' accounts. The athletes refer to siblings, parents, and cousins in this coherence, but parents are most frequently mentioned. They are thought to have solid knowledge about the topic or have experience as former athletes and are often highlighted as advocates for proper, healthy, and enough food. In

continuation, some of the parents have a clear voice about nutritional supplements and their irrelevance.

Emma talks about how she was raised to eat healthy food and understand the importance of enough food:

*I don't quite see the point in having a shake or something before or after training. I'm more just brought up with the fact that you have to get enough food and enough healthy food, and that's, in a way, good enough.*

Robert describes similar experiences from his upbringing:

*At home, we've been completely against dietary supplements. And now when I look back on it, it's perfectly fine, there's no problem, I don't need it.*

The young athletes retell their parents' views about dietary supplements as something that is 'no point' and should be avoided. Their parents' views are 'anti-nutritional supplements'.

Christina tells about her father:

*My older brother was concerned about being pretty big before, so he took a lot of protein powder. But my father was very like, it's no point [Christina] you shouldn't do things like that. So, I was like, okay, I don't need that.*

In sum, the family influences athletes by their upbringing with food and nutrition views and habits that the athletes bring to their school life. Many athletes refer to their family origins when arguing for their views about performance-enhancing substances, and in particular nutritional supplements, highlighting families' continued importance.

### ***Teammates: exploration***

This actor group represent teammates and other in-groups such as training groups and the class. The overall interpretation is that the athletes rarely discuss performance-enhancing substances. Some athletes say they never discuss the topic, while others say they rarely do.

Some argue it is unnecessary to talk about it, as they seem to take for granted that the group shares the same values.

Ella talks about how they rarely discuss nutritional supplements or doping, but that they still have a shared view of what is right:

*We don't really talk about it, really. I just feel that people do, in a way, a bit as they want. If it's not illegal. Because then, I feel like everyone agrees that it's not okay. If you take something that enhances performance or something, that's not okay.*

The notion that the athletes agree on what is permissible and not permeates many of the athletes' stories, and it seems like a backdrop to why they consider the discussions as irrelevant. Some discuss certain supplements whereas talking about doping is almost absent. There seems to be a signal in the absence of communication. This might be caused by doping being a sensitive issue, but also by that the athletes more or less agree on what is ok and not.

As Ella explains, there is not much discussion about these topics. However, she reports that athletes interact through non-verbal signs, and compromises the school's recommendations:

*You get the message that energy drink is not good for you, and you see everyone in the class drinking them.*

There are, of course, exceptions where athletes talk about doping with their teammates. One such occasion is when controversial situations are highlighted in the media, especially cases that have received extensive attention in Norwegian society. Other occasions to discuss nutritional supplements is when someone is curious and wants to explore alternatives. Also, the athletes describe to how the interaction with teammates can involve a form of positive pressure, and that they influence each other's choices. The positive pressure takes various forms. Tomas explains how they push each other not to choose the unhealthy pizza but the

chicken and the vegetables, while at the same time encouraging the use of, for instance, pre-workout supplements:

*Yes, it happens that we tend to push each other not to take the pizza, and rather take the chicken and rice or salmon and salmon and pasta with broccoli and try to have that vegetable on the side of the meal if we cook together [...] But it's also the other way around, that, yes, you have to buy that pre-workout because it was insanely good, so it goes a bit both ways.*

Although the athletes rarely discuss supplements in broad sense, there is the impression that they are not overly scared about bringing up the topic in the peer groups. In some groups, supplements are visible, but not necessarily brought up in discussions. Athletes describe supplements as something that just *is* or that they just *do*, and not necessarily as controversial issues in need of discussion.

### ***Internet: ambiguity***

Apart from the official websites of ADNO and Olympiatoppen<sup>2</sup> (OLT), most athletes are sceptical about the information they find online. Other sources they mention from internet are influencers and athletes. The internet generally does not appear as a widely used source. At the same time, some athletes say they get curious about substances that are claimed to have an effect, though, they frequently state that it is not safe to follow internet advice. Lilly's reasoning on online promotions by influencers can serve as an illustration:

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<sup>2</sup> Olympiatoppen is an organisational body of The Norwegian Confederation of Sports and has the operational responsibility and authority to develop Norwegian elite sport, and the overall responsibility for the results in Norwegian elite sport.

*I'm afraid that there are so many people who checked it out properly. Yes, I think it's a bit scary because I don't quite know why they promote it. Whether it's because they know a lot about it, it's because it has worked for them, or it's because they get paid.*

One source of uncertainty is whether influencers and athletes are sponsored and just promote for the sake of money. If the recommendations come from elite athletes, especially those that are reputable, the athletes are more positive. Jack reflects on who he thinks is trustworthy on the internet and who is not:

*On social media, you are critical because it is most likely for the money. There are always many people doing everything for money. But if it had been a national team athlete, an elite athlete, and you know that they use it, don't just say that they use it, then I wouldn't be so critical because they are at the top and are tested all the time.*

The athletes' discussion about internet as a source to supplement knowledge is characterised by ambiguous trustworthiness. On the one hand, ADNO and OLT's web pages are considered viable sources of information. Likewise, elite athletes are met with certain credibility and sometimes used as inspiration concerning nutrition. On the other hand, advice coming from internet influencers is described as questionable as their motives are unclear.

### ***Other athletes: an anti-doping identity***

This actor group consists of athletes not part of the athletes' ingroup—meaning athletes from other sports, other nations, etc. Therefore, with this actor group there is not necessarily face to face interaction. The reasoning of the athletes testifies to an 'us versus them'-logic, in their reasoning about doping on other sport milieus. One such view is expressed by some team sport players, who describe their sport as too complex to gain an advantage by using doping, whereas they argue that endurance athletes, especially individual athletes, have a lot to win.

Lucas explains why he thinks doping is more present in cycling and are not relevant in his own team sport:

*It doesn't help a lot in [my sport] as it might do in cycling because in cycling, it's about having good endurance and doping substances is absolutely perfect. But in [other sport], it's like maybe doping substances make you stronger, but being strong doesn't mean you become a better player, so there's not much like that in [my sport].*

Jack shares Lucas' view on how certain athletes, such as individual endurance sports athletes, have more to gain by using doping:

*There is not so much doping in our sport, as for example in cross-country skiing and cycling, which need fitness, there it is very easy to find something that can help you with that.*

Also, this assumption about who has the advantage to gain from doping impacts the athletes' thoughts about whom the education and information are more relevant for. Charlotte expresses that she thinks other athletes, such as cross-country athletes, benefit more from the anti-doping lectures:

*They have a bit of it in their milieu, so I would think that they might get more out of that education and take it to heart more than we do.*

Overall, when athletes are to think about where doping might be more frequent, certain sports and countries come easier to mind, such as endurance sports and Russia. In other words, it is harder for the respondents to picture doping in their milieu, sport, or country. Although *Other athletes* differ a bit from the other actors, as this is not an actor used for information and discussions, the actor still shapes athletes' construction of meaning. It seems especially salient in constructing athletes' anti-doping identity, both personally, but also related their milieu and even the nation. Other athletes seem especially salient in the young athletes' construction of an anti-doping identity, that is, antidoping attitudes as part of who they see themselves as athletes.



## **Discussion**

One ambition of this article is to further develop Connors (2009) concept of *the networked athlete* and show how the network can look like in a youth sport context. He suggests that the concept can contribute to 'understand the micro-sociological interactions in this peculiar social world; that of the elite athlete' (p, 339).

Our analysis of the actors in athletes' network and how they contribute to athletes' meaning-making about various supplements and doping, shows the relevance of *the networked athlete* concept. The uncovering of several actors outside the support personnel having considerable influence illustrates the complexity of the social web of which athletes are parts. The networked athlete concept is mainly an inspiration and included to remind us of how 'the athlete is part of a social web' (p. 339). In combination, however, it provides a useful theoretical lens through which the relations between athletes and various actors with varying relational and interactional quality can be analysed. The network of actors identified illustrates the multiple interactions athletes engage in, some taking the form of personal relationships and others as interactions with elite athletes online.

Regardless of the form and quality of the relationship and interaction between athlete and the various actors, we argue they are all part of the athletes' sphere. From the perspective of symbolic interactionism athletes' sense-making of various supplements and doping is an ongoing formative process, and not an arena for expressions of pre-existing meanings. According to Blumer it is the interactional elements, indications and definitions that determine meaning and status to objects, suggesting they have no fixed status (Blumer, 1969, pp. 10-12). In our context, this means that meaning arises from how performance-enhancing substances are defined in the athlete-actor group interaction.

With our analysis we go beyond, parents and coaches, often referred to as the athletic triangle (Smoll et al., 2011, p. 14) and the support personnel (Patterson et al., 2023), and

display the complexity of the athletes' network. Considering the various relationships to the actor groups, some being formal in character as with nutritional experts and anti-doping personnel, others being semi-formal as with coaches, and some personal as with family and close athletes, it is not startling that the actor groups contribute differently to athletes meaning-making. The findings reflect variations inside the actor groups and illustrate the diversity of proximity from athletes to the different actor groups. The face-to-face interaction that Goffman (1964-1983/2020) emphasises in his work is highly relevant in the PEUSS context of youth athletes. However, actors 'further' away also play a role in athletes' meaning-making. For example, the young athletes carry values about a healthy diet from family upbringing as they move out, and elite athletes online can inform and inspire when it comes to various forms of performance-enhancement.

In our study, we found seven actor groups with which athletes interact. Coaches and other experts (e.g. physiotherapists and dietitians) are described as a knowledgeable and helpful actor group that seemed approachable in their everyday life. Many similar descriptions can be found when athletes describe the schools' contribution (e.g. teachers, coordinators). When athletes refer to 'the school', they indirectly also refer to some of the same individuals as in the 'coach and other experts' actor group. They are all described as helpful in facilitating athletes' everyday life and as generally conveying the message that permitted substances such as nutritional supplements are unnecessary. Our impression is that athletes, in communicating that supplements are redundant, respect their opinions and trust their knowledge. However, it is our interpretation that interaction with other actors such as teammates with other and more liberal views sometimes weigh more heavily. These findings illustrate that the asymmetrical coach and athlete power relationship (Kerr & Stirling, 2012) does not necessarily mean that coaches' view have primacy even if their messages are clear and is infused with more authority.

As stated above, teammates are, in some cases, the actor group that drives the meaning ascribed to nutritional supplements in a less strict direction, facilitating more exploration. The interaction among teammates can be both verbal, in the form of positive pressure and recommendations, and non-verbal in the form of behaviour, for in seeing teammates having a protein shake after a training session or an energy drinks on the desk in class. The desire to belong and identify with the group (Bruhn, 2009), in this case, teammates and classmates, can overrule expert advice. This seems more likely so in ambiguous situations such as in most cases with nutritional supplements, and less so in situations with banned substances.

Another actor group reported by the athletes to have restrictive views on nutritional supplements is the parents (actor group 'family'). In line with the school, coaches and other experts, parents seem to have some authority in this concern. Their views are expressed in explicit messages similar to the coaches and teachers about supplements as unnecessary and potentially dangerous (contamination). The interaction with parents is also more implicit. As the primary persons in the athletes' socialisation, their role in internalisation of values and habits has a lasting importance in youth athletes' lives (Côté, 1999). The importance of primary socialisation related to nutrition is supported by a previous survey study with an athlete and non-athlete sample (aged 13-25) revealing that the family represents an important source of information (Vázquez-Espino et al., 2022).

The interaction with the actor group 'Other athletes' somewhat differs from actors in everyday interaction. Several times, Other athletes act as a group the young athletes prefer to distance themselves from. This projection of a certain image of themselves resonates with what Goffman (2004) describes as facework: different acts people do, both defensive and protective, ensuring that the wanted impression come across. It is not particularly startling that the young athletes want to voice an anti-doping identity of themselves. However, it is

noteworthy that the groups used to separate 'them' from 'us' are athletes present at their schools but belonging to other sports, as well as more distant groups, such as 'Russian athletes'.

ADNO represents several interactional types; an internet resource where the young athletes find information and an organisation that holds seminars at the school (or online). ADNO'S visibility and persistence seem central to why athletes doubt there exist much doping in Norway. On the other hand, the athletes do not always see the relevance of the lectures about prohibited substances. This can be related to athletes taking for granted that they will never consider using or use doping. Another interpretation is that the strong anti-doping discourse stands in the way of youth athletes seeing the relevance of the lectures that promote anti-doping behaviour. Research from the Norwegian context has illustrated that the strong national anti-doping discourse can restrain athletes from having open discussions about potential dilemmas – and as a consequence also hinder them from preparing for such dilemmas later in their career (Sandvik et al., 2017).

Concerning the Internet, apart from web pages such as ADNO'S, the athletes express a certain scepticism. They are particularly critical of the intentions of non-athlete individuals who share advice and experiences with exercise and food, as they suspect it can be motivated by money. A national survey has shown increased social media use among Norwegian youth estimating an average of 74% spending more than three hours a day in front of a screen outside of school hours (Bakken, 2022). A recent quantitative survey representing mostly non-elite youths in Australia showed that the use of online expertise (19%) equalled their use of dietitians (20%) (Trakman et al., 2019). Hence, we expected online actors to exert some impact of the young athletes' meaning making in these respects. Although some athletes seek information online, it is our interpretation that they are, to some extent, more restricted in their internet consumption than non-athlete youths. This can be due to the specific context of

the sport schools, where athletes are educated frequently and systematically in training and healthy eating and where they are physically surrounded by coaches and experts considered to possess sound knowledge.

In general, the strongly articulated antidoping position from most actor groups seems to exert a general influence on the young athletes. From our theoretical view, this antidoping position can act as a *frame*. In Goffman's work a frame has consequence for meaning constructions related to objects, events and actions, and also shapes what can be said and communicated in the specific context (Goffman, 1974). Frames can be understood at some ground rules, that help individuals read their reality. In our study this means that the athletes world become comprehensible through the frames used. When it comes to nutritional supplements, the anti-doping frame is the main driver of the athletes' explicit distance to it. Although being permitted, athletes' main perception from the face-to-face interaction actors is that nutritional supplements are unnecessary and not negotiable. Although there is a certain statistical chance that nutritional supplements may be contaminated (Helle et al., 2019), other products such as nutritional bars with similar content are framed differently, as snacks and food.

Although not every single actor in athletes' lives is covered in this article, we have extended the subject of analysis and complemented previous research that has focused on how certain actors have influence, such as coaches (Barkoukis et al., 2019) and other support personnel (Patterson et al., 2023). Recent research has also considered other stakeholders (agents, race organisers, and sponsors) and their responsibility in doping issues (Shelley et al., 2023). We argue that this line of research supports Connor's (2009) goal of understanding the interactions going on in athletes' social world it is reasonable to assume that the actors with considerable impact on athletes meaning-making with regards to performance-enhancing substances also have significant impact in other issues, such as training volume,

how to be a serious athlete, and so on. Therefore, we argue that the networked athlete concept can be a fruitful concept for exploring further youth athletes and their navigation in the search for their athlete identity.

### **Limitations and practical implications**

As seen in the study of Sandvik et al. (2017), the strong anti-doping discourse, to some degree, restricts the athletes' willingness to elaborate on these issues in the interviews. Based on the impact of the anti-doping discourse on verbal communication (Bloodworth & McNamee, 2010) and the athletes emphasise on non-verbal communication in interaction about nutritional supplements, it would be interesting to do observations of how this plays out in their context, example by studying gestures and body language. For future research a comparison of described interaction in interviews and observed interaction, could contribute insights into their handling of a potential dissonance.

Our discovery of the varied landscape of actors with whom athletes interact in their meaning-making shows the need for nuancing their understanding of their world. The insights presented here are crucial to enable an environment where sensitive issues such as the use of performance-enhancing substances and so-called grey zones that trigger doubt are more freely discussed. Professionals who work with young athletes can benefit from these insights to create environment where young athletes feel safe and empowered to define their own goals and ambitions in their (sporting) lives.

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## **Paper 3**



## **Youth athletes' framing of nutritional supplements: performance enhancement and food**

Several studies have investigated how some substances used to enhance performance in sports are considered problematic as they are associated with doping. Goffman's frame analysis was applied to scrutinise interviews conducted with twenty-four ambitious youth athletes enrolled in elite sport schools. The analysis enables an exploration of athletes understanding and organisation of so-called grey zone supplements. Our frame analysis of the interviews resulted in two major frames in which the athletes made sense of the supplements. The first performance frame is expected as the context is elite youth sport, and many aspects of these athletes' lives revolve around athletic progress. The more interesting finding is how the performance frame permeates almost all aspects of the young athletes' lives, including how food is consumed. The second frame implies framing supplements as food. The frame is rationalised by practical concerns as hectic training and teaching schedules leave little time for meals, and supplements become a quick fix to meet energy needs. Our analysis demonstrates that meaning-making related to grey area substances found an alternative framing linked to food and eating. At the same time, an overarching logic of performance exert significantly impact also here.

Keywords: youth athletes; supplement; frame analysis; food; enhancement

## **Introduction**

Food and eating represent a whole range of aspects of human life. First and foremost, the need for food is a basic need. Also noteworthy, food and eating can be a social gathering and represent habits, traditions and symbols (Bourdieu, 1987), and the regularity of meals can be a structure around which everyday life revolves (Douglas and Nicod, 1974). In modern society, in particular, food and eating have been given additional functions, among them as means to improving health, appearance, and performance of various kinds. In the sport context, the performance-enhancing potential of food is given a particular emphasis (Close et al., 2016). Athletes and their support staff are constantly surveilling the perfect balance between training load, food, and rest (Doherty et al., 2023). From a very young age, athletes are encouraged to eat the correct amount of certain food types at the right times.

As athletes head into an elite sport career, the intake of various food supplements increases (Garthe and Maughan, 2018). There is no universal definition of what comes under the umbrella of supplements. They can be of many kinds and grouped, for example, in dietary-, nutritional-, and sport supplements (Close et al., 2022). In their consensus statement, the IOC expert group suggests the following definition: “A food, food component, nutrient, or non-food compound that is purposefully ingested in addition to the habitually consumed diet with the aim of achieving a specific health and/or performance benefit” (Maughan et al., 2018: 439).

IOC’s definition illustrates the link between food, supplements, and performance enhancement. Some studies have concluded that nutrition plays a minor role in performance, compared to factors such as physical fitness and skills, and tactical dispositions (Garthe & Maughan, 2018). Others claim that supplements can be beneficial and even necessary in certain situations (Close et al., 2022). Our question in this paper is how youth athletes relate to this topic. Youth athletes’ meaning-making of supplements is interesting for several

reasons. A general point relates to that athletes aged 17 to 19, as in our sample from Norwegian elite upper secondary sport schools, are in a formative stage of development with emerging adult identities, attitudes and conduct. As mentioned, the number of supplements and their use by athletes is increasing (Alonso and Fernández-García, 2020). Furthermore, various supplements are extensively debated as a risk factor for doping (Hurst, 2023; Hurst et al., 2023; Lauritzen, 2022; de Hon and Coumans, 2007) and as a potential grey zone where the distinctions between acceptable and non-acceptable performance-enhancing means are blurred (Fincoeur et al., 2020).

We also argue that food, supplements and eating play a critical role in athletes' everyday life, representing more than a personal choice and behaviour. Athletes meaning-making needs to be understood within wider frames reflecting their experiences within their shared context (Goffman, 1974). Typically, and as we shall see, frames related to nutritional supplements will include discourses with the emphasis on the nutritional components of food, the athletic body, and performance.

These research motivations are outcomes of observations when interviewing 24 youth athletes about how they ascribe meaning to the umbrella term performance-enhancing substances (PES), including prohibited and permitted substances. This article focuses on the athletes meaning-making of various supplements, which we consider a sub-group of PES.

In addition to concerns about performance enhancement and the risk of contamination, food and eating seem central in athletes' construction of meaning related to supplements. This paper looks into the framing of supplements in young athletes' lives in more detail. We ask the following research question: *How are supplements framed by youth athletes in a elite sport school context?*



### **Previous research: supplements and food in the sport context**

The majority of research on PES in sport comes from quantitative studies (Backhouse et al., 2015). This also concerns literature on youth athletes with research mainly from a psychological or social-psychological perspective (Kristensen et al., 2022). Research on various nutritional supplements has mostly been investigated as a potential stepping stone to doping and based on the ‘gateway hypothesis’, that is, the hypothesis that the use of these supplement lowers the threshold for using other and banned substances (Backhouse et al., 2013), and that such use represents a risk for inadvertent doping (de Hon and Coumans, 2007).

Christiansen’s (2005) qualitative study of cyclists’ socialisation and relationships to food and training, their use of vitamin injections, and their perspective on doping emphasised the cultural aspects of athletes’ meaning-making. Christiansen argued that the cyclists’ attitudes towards doping, formed by what is taken for granted inside a culture, do not necessarily appear in dichotomous either-or attitudes and actions but rather unfold on a continuum.

More recently, qualitative studies on doping issues have been conducted with frameworks that emphasise socialisation in face-to-face interactions when it comes to doping issues (Andreasson and Johansson, 2019; Ohl et al., 2013; Sandvik et al., 2017). Qualitative studies using interviews and observations have revealed various nuances in athletes’ views on and how they are influenced by social interaction with different actors and their contexts (Pappa and Kennedy, 2012; Ohl et al., 2013; Christiansen, 2005).

As with PES research, most social science studies on food and eating among athletes are based on quantitative data. There is a significant body of research on the risk of developing of eating disorders and their prevalence including evidence for the increased risk in young elite athletes (Papatomas and Petrie, 2014; Martinsen and Sundgot-Borgen, 2013).

Some research has been devoted to nutrition knowledge (Calella et al., 2021), and eating habits (Cavadini et al., 2000) among various groups of athletic and non-athletic teenagers. The role of significant others has been explored as well: Scott et al.'s (2019) review of research exploring teammates' role in eating attitudes and behaviours shows that teammates are important sources of influence and that the influences can be protective against or create an increased risk for disordered eating. Less research has used a qualitative, interpretative approach (Papathomas and Petrie, 2014; Busanich and McGannon, 2010) to explore athletes' broader understanding of eating, food, and performance enhancement (Ventresca and Brady, 2015).

However, some qualitative studies have been conducted and have looked into how meaning regarding food, body, and exercise is culturally constructed. Based on narrative interviews, Busanich et al. (2012) explored long-distance runners' understandings of the body, food and exercise, and found that athletes use two opposing narratives: On the one hand, a 'just do it' narrative, characterised by running for fun and health. On the other hand, they found a 'just do it better' narrative, characterised by running to improve performance and prevail over others. The runners relying in the just do it better narrative, also showed a limited view of body, food and exercise. Williams (2012) conducted a similar study, exploring how and why the experience of being an athlete manifests itself in dietary decisions. One of his main findings was that the athletes expressed fulfilment when their nutritional practices fortified their athletic identity. He suggests that nutritional practice is informed by and constructed in line with a 'discourse of excellence' within which concern for food and nutrition is primarily connected to performance enhancement. In a critical overview of research on disordered eating in sport, Papathomas (2018) conclude that the sport culture, in many ways, contribute to troubled eating through the emphasis on surveillance, sacrifice, and success.

The use of frame analysis has proved fertile in the study of sporting cultures (Stenling and Sam, 2020) and also in the study of how athletes relate to banned substances and doping (Sandvik et al., 2017). To investigate how *supplements are framed by youth athletes in a elite sport context*, we will pursue a similar line of research with a symbolic interpretative perspective and methodology.

### **Youth athletes negotiating their social landscape: theoretical framework**

The symbolic interactionist perspective provides a micro-sociological lens to explore athletes' interaction with their network, such as teammates, coaches and teachers, in everyday life. A premise is that athletes' social construction of the meaning concerning supplements becomes the basis for how they act upon them (Blumer, 1969). Our objective is to study how athletes organise experience through the theoretical lens of *frames*, as presented by Goffman (1974). In the method section, we will elaborate on how frame analysis guided our analytical approach. Below, we present the theoretical premises.

In a symbolic interactionist perspective, meaning is not inherent in people or objects; rather meaning is constructed in social interaction. Through interaction and interpretation, humans ascribe meaning to objects or people (House, 1977: 167). Following this perspective, we examine athletes' meaning-making of supplements as socially constructed and created in their face-to-face interactions within their network.

According to the interactionist perspective, in face-to-face interactions people are continually taking part in the interaction order, which according to Goffman is "the consequences of systems of enabling conventions, in the sense of the ground rules for a game, the provisions of a traffic code or the rules of syntax of a language" (Goffman, 1983: 5). As part of the maintenance of the interaction order, people also work to ensure the impression they give to others. Goffman (2005) defines these strategies as impression

management, making sure we are perceived in the way that we want and confirm the idea that we hold our expected role.

Goffman's work, in particular his perspective and emphasis on the mundane and immediate in everyday life, and his frame analysis exploring how people organise experiences within a shared context, is relevant (Goffman, 1964-1983/2020). The meaning of food and eating, as necessary parts of the athletes' everyday life, can sometimes be taken for granted. However, as our study will show, food and eating are integrated and interpreted with particular frameworks and ways of understanding.

Goffman argues that frames come into play when humans are confronted with any situations and try to understand 'what is going on here?'. Frames are used by individuals to locate, perceive, identify, and label experiences (Goffman, 1974: 8). He further suggests that 'the primary frameworks of a particular social group constitute a central element of its culture, especially insofar as understandings emerge concerning principal classes of schemata, the relations of these classes to one another, and the sum total of forces and agents that interpretive designs acknowledge to be loose in the world' (Goffman, 1974: 27). In our study and through the interviews, we analyse how young athletes frame and ascribe meaning to nutritional supplements. One way of identifying frames and frame transformation is through what Goffman refers to as 'key' and 'keying'. Goffman (1974) define the key as: "the set of conventions by which a given activity, one already meaningful in terms of some primary frameworks, is transformed into something patterned on this activity but seen by the participants to be something quite else" (p. 43-44). For instance, the framing of the activity of using nutritional supplements might be slightly changed, but the answer participants would reply to "What is going on?" is totally changed (Goffman, 1974, p. 45).

Frames are social products, facilitating and organising individual experiences. Goffman suggests that an overview of a group's framework of frameworks illuminates this

group's belief system. All in all, these circumstances have consequences for how individuals construct their reality (Berger and Luckmann, 2000).

In this study, we are interested in how athletes make sense of supplements, specifically in the context of food and eating. According to Scrinis (2008), current Western society is dominated by a view of food that focuses on its nutrient composition, a view he has named *nutritionism*. He claims that this view shapes a specific relationship between food and the body. Despite the uncertainties and contradictions in nutritional knowledge, we heavily rely on expert advice, creating a discourse with the image of precision and control. Nutritionism has become a dominant discourse in the framing and interpretation of our dietary behaviour.

Ventresca and Brady (2015) suggest that nutritionist ideas exert a particular impact in the sporting context characterised by relatively rigid dietary plans and regimes. They claim that sport-related food, nutrition and dietary practices have been sparsely researched from critical and sociocultural research traditions, which is strange given their description of 'food and eating as cultural sites through which important questions can be raised about the connections between sport, the body, and athletic performance' (p. 414). Although not specifically based on frame analysis, Ventresca and Brady's (2015) study provide significant insights to our analysis.

Based on these theoretical premises and recommendations, we will provide more detail on the methods applied and present and discuss our findings.

## **Method**

### ***Population and context***

Twenty-four athletes aged 17 to 19 from three different private elite upper secondary sport schools (PEUSS) in Norway participated in this study. The schools can be both public and

private in kind and are located across Norway and combine athletic development with education. The schools share the vision for developing goal medals winner and also to contribute to local society. PEUSS are recognised as an important part of the Norwegian elite sport system. In this study, only private schools attended. The school administration was contacted with a request to participate in the project, and the first three schools asked confirmed participation. The administration forwarded the informed consent form to athletes, and the first author received a list of possible participants. The first author established and had direct contact with the athletes, and interviews were planned to fit their schedules.

Twenty-two interviews were conducted at the school campus, and two interviews were online. The athletes practice various sports: ice hockey, handball, biathlon, motocross, track and field, swimming, cross country, and football. Most of the athletes have moved away from home to start at a specific PEUSS. This means that, in addition to working for a progression in sports performance, they must establish new habits and routines related to everyday life, such as eating, sleeping and prioritising their spare time. The athletes are encouraged by the school to see themselves as a 24/7 athletes, which means acting in line with their athletic identity in their lives also outside of sport.

### ***Interviews***

Following our theoretical underpinnings we perceive interviews as ‘windows into collective thought processes’ (Smith, 2003: 705). This means we see interviews as not only reflecting individual experiences but as providing insights into what is meaningful in the social context in which the youth athletes find themselves.

Meaning is therefore not considered as something ‘behind’ the interviewee’s statements, or as a stable individual essence (Järvinen, 2005). From an interactionist perspective, we view language as reflecting and creating social reality. We perceive meaning

in line with Blumer's definition, 'as social products, as creations that are formed in and through the defining activities of people as they interact' (Blumer, 1969: 5).

Our aim with this study is to demonstrate how supplements are given meaning in the sport context via frame analysis. More specifically, we aim to study how athletes' stories around supplements are intertwined with and framed by discourses linked to food and eating, and to performance enhancement.

The first author conducted the interviews, transcriptions and analysis. Interviews lasted from 40 to 70 minutes. All interviews were semi-structured, ensuring the same topics were covered in the interviews and, at the same time, accommodate varieties in the athletes' stories. Also, many of the interview questions were exploratory, intending to ensure the variations in athletes' associations. The topics were athletes' knowledge of various PES, their contacts when in wanting help, and with whom they had informal chats or in other ways interact with in relation to PES and with a particular emphasis on nutritional supplements.

The interviews were tape-recorded, enabling the interviewer to focus on the conversation and ask follow-up questions. Immediately after each interview, the interviewer wrote down thoughts and impressions that could facilitate subsequent analysis and stress reflection on the interviewer's position and point of view (Berger, 2015).

In all interviews, after a ritually warm-up, the conversation was led towards questions like: who do you talk to about various forms of PES, where do you seek knowledge, what do you know about PES, and what do you find challenging?

Many athletes offered a questioning response associating PES with doping and with prohibited substances. The interviewer's main response was to try to open up and underline that PES can be seen as a broad umbrella including both permitted and prohibited performance-enhancing substances.

The initial experience was a certain restraint to discuss these topics. As confirmed by previous research, we know that the hegemonic anti-doping discourse influences athletes, leaving little space for discussion (Sandvik et al., 2017). However, in our case, we found more nuances as all athletes turned the conversations about PES and supplements towards food and eating in various ways. Supplement use, for example, was related to whether the athletes got enough food, enough energy, and also to practicalities about making food.

Also, the athletes talked about different supplements. Most were familiar with several kinds, but it was few long elaborations about what supplements are and what athletes think about them. On several occasions, athletes' responses were brief, with short descriptions and explanations. Going into the interviews, the ambition was to generate so-called 'rich' and detailed descriptions based on the initial open questions. It turned out to be challenging, and several of the sub-questions from the interview guide had to be used to get more detailed descriptions.

Interviews were transcribed in MAXQDA. To the greatest extent, every word was transcribed, matching how the interview sounded. However, some changes have been made to improve readability.

### ***Interview analysis***

To guide the analysis, we used Goffman's frame analysis. Questions often answered with a frame analysis are: What is going on here? What is being said? What does this mean? More specifically, the concept of *frame articulation* guided our analysis. In the literature, frame articulation is described as one among a few cornerstones and 'involves the connection, or splicing together, and coordination of issues, events, experiences, and cultural items, including strands of one or more ideologies, so that they hang together in a relatively integrated and meaningful fashion' (Snow et al., 2019: 397). Benford and Snow (2000: 623)



describe frame articulation as a discursive process, which refers to the talk and conversations and written communications among members in a certain context.

The initial step in the analysis was to read and reread the transcript and listen to the original tapes to increase familiarity and to prepare for a more systematic analysis. As already mentioned, during the interviews the interviewer experienced the conversations as sliding into food and eating, and got an awareness of athletes providing more elaborate accounts when talking about nutritional supplements in relation to food and eating. These observations were the foundation for the analysis, exploring in more systematic ways the athletes' framing of nutritional supplements. In order to scale down to what was meaningful in this analysis and enable exploration of the possible patterns within interviews and across interviews, every quote that related to nutritional supplements were extracted. Patterns in this context is interpreted as frames, as athletes talked about nutritional supplements in a way that is meaningful in their context. After scrutinising all quotes and merging them in what we interpreted as meaningful categories, this resulted in two major frames: *framing supplements as performance enhancement* and *framing supplements as food*. We want to emphasise that the frames consist of variations and nuances but still illustrate two different patterns for the athletes within which they made sense of the supplements.

### ***Ethical considerations***

The project has been approved by the Norwegian Centre for Research Data (NSD), and all athletes signed the informed consent before the interviews. The interviews were conducted in Norwegian, and we have translated with caution when reporting the citations. Youth uses a lot of slang and 'fill' words that give meaning in Norwegian but, when translated, do not have the same meaning in English. Therefore, if needed, we have changed the quotations to ensure the meaning is retained.

## **Frames and discussion**

Overall, the athletes describe themselves as informed and knowledgeable about diet, food, supplements, and what constitutes a healthy lifestyle in terms of nutritional consumption. Our analysis revealed two major frames that, by and large, summarise the athletes' understanding and organisation of supplements. In the following sections, we will describe the frames and their occasional overlaps in more detail: *framing supplements as performance enhancement* and *framing supplements as food* before ending with an overall discussion.

### ***Framing supplements as performance enhancement***

In our view, there is little doubt that the athletes differentiate between supplements and doping and have clear views about what is acceptable and what is not. In the anti-doping debate and the research literature, on the other hand, supplements are usually defined as a grey zone with blurred lines. In the interviews we see two tendencies that connect supplements to such grey zones. Firstly, athletes report that supplements are communicated as *unnecessary* by coaches, nutritionists and parents, although other sources claim benefits when using supplements. Since *unnecessary* and *prohibited* points to different issues, this leads athletes to reflect and negotiate in similar ways as Mari:

*They [school] have pushed the fact that we don't need it [creatine], in addition to protein supplements, and I completely agree with them to a certain point.*

*There is a lot of research on creatine and things like that, showing that it can have a great effect for some people and that it can help. So I feel it it's a bit mixed who thinks it's okay and not okay and if it is necessary.*

Secondly, there is communication that there is a risk of supplement contamination with banned substances. It seems that the athletes view the contamination risk as a deterrent but also as exaggerated, as illustrated by Benjamin's and Daniel's quote:

*If you are unfortunate and it [protein powder] contains substances on the doping list, then it is your responsibility and your fault. You get a little scared by that.*

*You see some advantages in taking it [protein shake], it's legal, it's a bit risky, but there's so little risk. There are several of those in the club who have been tested for doping and it's always negative. I think there is very little risk that it has been contaminated enough to fail a doping test.*

Here, supplements are considered as either involving low or high risk. Still, in a certain sense both views are in the performance frame. Athletes want 'to save face' and come across as athletes that evaluate risk properly (Goffman, 2005). An interesting aspect of our findings is that the framing of supplements as performance enhancers have parallels to how athletes understand their nutritional routines. The performance frame capture supplements and also food and eating more generally. Elisabeth's quotes illustrate the point:

*Before training we eat a slice of bread. And right after, during a half hour afterwards we eat a protein bar, but I feel in a way it's just to get enough so the training is worth something. You also eat proper food, so it isn't, and we drink sugar-beverage during training just for energy.*

Many of the athletes mention the nutrition advice regarding correct food, as seen here in Elisabeth's explanation when she says that they also eat proper food in addition to a protein bar. In the nutritional education there is also the notion that one should eat just after training in order to get the greatest benefit. Ella says:

*Food, it's a very big part. You should eat food right after training, get it right away. Maybe if you have an interval, we've learned that we should get it right after the interval, in addition to right after training and then you should have a larger meal, perhaps after you have showered.*

We see this idea that one should eat right after training as demonstrating an overarching enhancement logic that in this example shapes athletes framing of supplements and food. We argue that it stresses athletes to consume calories and energy within a short time limit, making some alternatives more attractive and convenient. John is clear:

*After training, it goes faster and it is also easier, and what is it called, digested, it is digested faster because it is only powder you do not have to digest all the food. So, the recovery starts faster.*

Scrinis (2008) describes such taken-for-granted ideas as ‘nutritional certainties’ that people are taught in their specific context. It is our interpretation that this strive to eat something swiftly after training is such a ‘nutritional certainty’ and taken for granted in this context. This seems to be part of the rationalisation of supplements as an acceptable replacement for food. However, in our analysis this reinforces the enhancement frame, as food is viewed in instrumental terms.

Another expression of the performance logic in the athletes’ narratives are the recurring explanations that there is sometimes a need for something *extra*, an extra dinner, extra food and extra energy. As seen in Benjamin’s quote, a protein shake can be that extra if you want to gain weight:

*No there aren’t that many people who use it [shake] like regularly actually. It’s more if someone, for example, needs to gain weight or something. Then it’s an easy way if they don’t get enough, then it’s an easy way to get a little extra.*

In line with Benjamin, Lucas explains a situation where a protein shake can be an extra meal:

*In a shake like that you have 1000 calories, it’s an extra meal it’s an extra dinner and it helps a lot if you think that you or if you want to gain weight so it’s nothing like*

*that, it's not performance-enhancing and it's not like proteins. It's just that it helps you get extra food or extra nutrition.*

Although Lucas emphasises that the shake is not performance-enhancing, it is our interpretation that the weight gain is seen as functional trait, rather than aesthetic, and therefore illustrate the enhancement frame. Also, as Lucas's quotes refer to the nutrition components: protein, carbohydrates or calories, there is a instrumental view, that in our interpretation emphasises food as a tool for performance.

When athletes frame supplements in line with the performance enhancement frame, they do not seem to perceive the supplements as a 'magic' ingredient that will automatically make them better athletes but as tools that can make you stronger, gain weight, or provide more energy. Previous research shows that athletes are willing to consider several means and methods to enhance their performances (Kristensen et al., 2022), and what they eat and drink is no exception.

### ***Framing supplements as food***

As most athletes have moved away from home, several athletes point out that they in their everyday life have many new duties in addition to training and practising their sport, including grocery shopping, planning meals, and making food. Many athletes describe the effort of creating routines in order to handle the time pressure. Also, the few athletes still living at home express appreciation for having parents who make lunch packages, and for the possibility of coming home to a catered dinner.

The living circumstances influence the athletes' framing of supplements. Lucas explains how living alone creates challenges when it comes to eating enough food during the hectic days.

*I live alone, I could, somehow it was difficult to get enough food [...] it's not something like that, that it is performance-enhancing, but it's like something that can help me get enough nutrition or food.*

Although the vast majority of the athletes express that they have adequate knowledge about food and nutrition, several, together with Lucas, communicate that the time left after training sessions and school is insufficient to prepare healthy and 'proper' meals. John explains how supplement can be a quick solution when short on time.

*Hmm after, for example, after training, it's much faster and easier to get a shake than to have a full meal, for example.*

Most of the athletes share the idea that supplements can never replace food and that they ideally would eat 'proper' food if the circumstances were different. As Jack describes it, a shake can be an alternative to a meal:

*You replace the meal with a shake every now and then if you have missed something and you may be going to an extra work out that you didn't know about, then you may replace it.*

Henry shares the same view and argues that powder can never replace food:

*I don't know how many people use protein powder or not, but there are some who do, if you don't get the extra nutrition you need. But you can't replace food with protein powder, you must still have some food in your body.*

The concept of supplements being more appropriate in certain situations is multifaceted. One facet, as highlighted in the previous frame, involves athletes advocating for something extra, like extra energy or calories. Another facet comes into view here, where supplements become the meal itself. From our perspective, supplements are constructed and framed into

convenient food options. Therefore, although athletes maintain that supplements can never fully replace regular meals, circumstances such as living alone or experiencing a lack of meal ideas transform supplements into a viable alternative. This transformation is similar to the one described in the previous frame, and refers to what Goffman calls "keying" (Goffman, 1974: 43-45). The current "activity", nutritional supplements and hypothetical consume, is unchanged, but the framing of the supplements has now "keyed" from supplements to food.

With their views on food and eating, athletes also refer to their educational systems. They report that in their first year, they get thorough teaching and lectures on nutrition, and they are continually encouraged to eat 'proper' and 'normal' food. These views seem to be internalised and communicated, as illustrated by quotes from Julian and Ella:

*He [coach] has said directly that protein powder and creatine and stuff like that are just nonsense and that you get the same nutrients in real food.*

*I don't think you should use something that isn't really necessary, like or that you can get through food, then I think it's unnecessary.*

Julian's quote also illustrates that athletes' views and framing of supplements are done in interaction with significant others. The strong school focus on nutrition and eating routines can be one explanation of why athletes integrate supplements in the food frame. Although the teaching in healthy nutrition often advises against supplements, it seems that athletes consider alternatives to food to meet eating habit expectations related to when and what to eat.

Moreover, being focused on what you eat, and how much and when, is an obvious part of athletes' performance projects. Scrinis (2008) argues that this view of food is widespread in the nutritionism era. He calls it the *nutritional gaze* characterised by seeing food as composed of nutrients, overriding other ways of experiencing food, such as smells

and flavours. Ella's quotes show how nutritional components are central in both supplements and food:

*You also use different bars. I actually usually make bars myself because I think they're so expensive [...] I think taking a bar is the same as eating is like eating a piece of a slice of bread, so there's not really much in it I think. So that's why I rather make bars so that I get enough carbohydrates and proteins.*

Considering the context and the athletes' ambitions, this focus on details is not surprising. However, it is interesting that this gaze has consequences for athletes' meaning-making, as they generalise and view both supplements and food in light of their components.

Another interesting aspect is that athletes organise and frame quite similar products in different ways. In terms of nutritional content, protein bars, protein shakes, sports drinks and energy drinks have certain similarities. However, in our interpretation, athletes frame them differently. Emma's quote demonstrates that athletes draw a distinction between bars and shakes and gel:

*No one has a protein shake or something like a gel, no one has anything like that. It could be energy bars maybe and things like that but nothing other than that.*

Ella says:

*I never see anyone drinking energy drinks in our class and its mostly protein bars. It is like, what is nutritional supplement in a way, it is nothing more than that, either that or energy bars.*

Protein shakes are repeatedly mentioned as products associated with doubt and resistance and considered unnecessary and potentially dangerous as they can be contaminated with banned substances. Protein bars on the other side, seems to have a more embraced status, and are in



many occasions framed as food. This illustrates the social process of meaning construction, as similar supplements content-wise are interpreted and framed differently.

This frame add a nuance to the greyzone knowledge, as it provides insights into athlete framing of supplements as food. Contributing other explanations to why athletes may consider nutritional supplements. However, the athletes also perceive food and eating in other ways as when making food together and sharing recipes and a meal. Even though they live in a high achievement 'bubble', food can represent other values such as family traditions and social belonging.

### ***General Discussion***

Our aim with this paper is to explore how athletes makes sense of supplements within the specific context of being aspiring youth athletes at an elite sport school in Norway. In this general discussion, we highlight two noteworthy contributions from the analysis. Firstly, the performance enhancement frame emerges as the broader overarching logic in the elite sport context. Although this is not surprising, previous research has sparsely addressed how this has consequences for athletes' meaning-making regarding food and supplements. Secondly, even if athletes distinguish between the frames, the frames overlap and can also cause tensions and contradictions when it comes to the meaning ascribed to supplements and the beliefs about their effects. In the following, each point will be elaborated and discussed.

We argue that the performance-enhancement frame reflects a broader overarching logic. Our impression is that this logic disseminates into more or less all routines of these athletes, leaving little to coincidence. Supplements and food are tangled up in notions about how to be a serious athlete and do things right. Ventresca and Brady (2015) point to food as part of the same system of knowledge that construct the enhancement mindset. They suggest that athletes' social construction of food can be understood as a continuum with food on the permitted end and banned performance-enhancing substances on the prohibited end. This

helps to understand the idea of grey zones and why there are ‘blurry boundaries around the meanings ascribed to particular substances’ (Ventresca and Brady, 2015: 413). As seen above in the example with acceptable energy bars and non-acceptable shakes, the meaning ascribed to supplements does not necessarily reflect precise knowledge of their contents and effects. However, with the social construction of supplements as being in the blurry area of a permitted-prohibited substance continuum, this can make sense.

The performance logic has previously been explored and discussed concerning disordered eating in the context of elite sport. Although being labelled differently, the ‘discourse of excellence’ (Williams, 2012) and the ‘performance narrative’ (Papathomas and Lavalley, 2014) all describe similar forces in the sport context. This line of research and the current study have demonstrated that certain taken-for-granted ideas about food, the body, and performance provide a useful context for understanding athletes’ actions regarding food and eating.

Although we are not exploring disordered eating in this article, it seems obvious that athletes’ meaning-making of food and supplements can potentially be burdensome. Hughes and Coakley (1991) describe dieting and eating disorders as confirming the sport ethic as positive deviance. Their argument is widely used and describes, too, how over-confirming to the sport ethic can lead to extreme and health-threatening diets, and to doping use.

The second point to be addressed here is related to the fact that although athletes distinguish between the food and performance framings of supplements, they also overlap and sometimes collide causing tensions. From the frame analysis perspective, frame transformation processes can take place, described as "keying" (Goffman, 1974), which we have demonstrated in the findings. These processes involve the transformation of meaning but often little change in the activity itself. There can explain why the frames are used interchangeably and a lot of times overlaps. Athletes explicitly state that certain things are

food, and certain things are supplements. However, the example used above with the framing of different protein products where bars are considered acceptable and shakes as unnecessary and potentially risky, illustrate the fine lines between both products and meaning about them. Bars are integrated into the 'normal diet' and the food frame, shakes are not. This illustrates that supplements belong to a blurred area in which distinctions are negotiated and socially constructed. Athletes argue that some supplements are part of an athlete's diet and that a supplement can be an option when there is no time or willpower to make a complete meal. It is clear from the interviews that the athletes have integrated the many recommendations about the plate model (the distribution of different food types), 'proper' and 'ordinary' food, but find it challenging to comply with the advice because of time shortage.

It seems that in the sense-making of supplements, there is a short walk from the food frame to the performance frame, and there are several examples of athletes including both frames in their reasoning. This illustrates Goffman's (1974) general point that when humans construct meaning, frames might overlap. The nutrition focus is found in both frames. Supplements are talked about in relation to the nutritional components, and as being convenient meal. This links to Scrinis' idea of the ideology of nutritionism. This can explain why the overarching nutrition idea is present in both frames. Coveney (2011) suggests that nutritionism represent an epistemological level, as he argues that nutritionism is "organising principles which allow us to know what we know, and who we are, and to validate those beliefs within particular moral frameworks" (p. 14). Coveney's view of nutritionism is very much in line with Goffman's frames as it disposes certain meanings and therefore a certain version of reality (Satheesh and Benford, 2020).

From an interactionist perspective, framing something a certain way can be used as a goal to 'save one's face' (Goffman, 2005: 9). Goffman describes this as the process where you try to give the impression to others that you are in line with socially acceptable framings.

In our case, it is plausible to think that athletes frame supplements as food rather than performance enhancement because they want to be perceived as fair athletes. Considering the intense focus on anti-doping and being a clean athlete, the athletes will likely interact with each other and the interviewer to sustain that image. Goffman describes these acts as the *expressive order* or a set of meanings sustained in an interaction (Goffman, 2005: 9). We are not suggesting that the athletes deliberately use the food frame to disguise their actual views of practice, or to lie. Still, the framing of supplements as food should be understood as a collective explanation and a social ritual to ensure that the *right* impression has been given.

Based on our frame analysis, it appears that there are two distinct impressions of what it means to be a ‘right’ athlete that athletes are constantly negotiating and express through impression management. On the one hand, there’s the aspect of being a dedicated athlete who incorporates the performance-oriented logic into their dietary habits. On the other hand, there is the notion of being a fair athlete, aligning with the commonly accepted views of supplements. Our research indicates that athletes continually navigate these frames, striving to convey the appropriate image.

Simultaneously, while athletes negotiate the perception of the ‘right’ athlete, they also discuss their relationships with food and eating in broader terms. They share experiences like cooking dinner together, exchanging recipes, and enjoying greasy foods or preparing a cake while watching a game on TV. This illustrates that food and eating serve as a connection to regular, everyday life outside of sports and to non-competitive social gatherings and enjoyment. If these stories are meant to convey a different impression, it could suggest that athletes want to be seen as ‘ordinary’ youths who do as they please and do not always conform to the expectations placed on athletes.

### **Limitations and practical implications**

For this study and in the analysis, we scrutinised the interview transcripts, as fieldwork during the coronavirus pandemic was an inaccessible method in the face of athletes highly dependent on a healthy body. We acknowledge that being able to observe athletes in their context and seeing communication between the athletes and other significant others would add valuable insight to this study. However, with the theoretical frame, we argue that interviews also give access to athletes meaning-making (Tavory, 2020).

Considering the interviews being conducted at one timeslot in these athletes' lives, we cannot say anything about how these frames are developed and to what extent they change over time. However, there are good reasons to believe that the enhancement logic will not fade for athletes going into elite sport, as the competition gets harder and the reward gets higher. This performance logic is likely to enforce the performance self/identity while also making the athletes vulnerable if they get injured, or in other ways are hindered in practising their sport.

There could be good reasons for the elite sport school leadership to cultivate alternatives to the enhancement frame, for instance, a food frame emphasising non-competitive social gathering and enjoyment. Research has demonstrated that holding several identities or roles can be protective against risk-taking and vulnerability for young athletes (Schnell et al., 2014). By following the lead of athletes' stories, exploring their meaning-making of supplements in relation to food and exploring meanings still not considered, we argue that the qualitative approach shows its particular advantage (Aspers and Corte, 2019).

### **Acknowledgements**

Norwegian Olympic and Paralympic Committee and Confederation of Sports, Anti-Doping Norway, and Child and Youth Sport Research Centre have funded this work. The authors report that there are no competing interests to declare.

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## **Paper 4**



# Performing performance: Young aspiring athletes' presentation of athletic identity

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**Keywords: youth athletes, athletic identity, elite sport, interactionist perspective, performance, Goffman.**

## Abstract

Youths are in the middle of figuring out “who am I”, and youth athletes are figuring out their athletic identity in interaction with their friends, teammates, coaches, and so on. This study is exploring athletes' presentations of athletic identity based on 24 interviews with ambitious young athletes attending upper secondary sport schools. Anchored in Goffman's theory of the self and the presentation of the self, and Markus and Nurius' concept of possible selves, this study view identity construction as rooted in interaction. Utilising this theoretical perspective alongside thematic analysis resulted in six discernible themes. First, three themes, namely *No shortcuts when training*, *Sleep & Rest*, and *Food & Nutrition*, constitute integral facets of the athletes' self-presentation as committed and diligent individuals. However, these interviews also bring to light variations in the athletes' attitudes and approaches towards these expectations and concepts. The last three themes, *I must be unique*, *Choices & Sacrifices 24/7*, and *It must be fun*, touch on less-explored aspects of athletes' lives. Despite this, they prove relevant as they are linked to distinct ideals and demands in the athletic context. While the findings suggest certain dominant and desirable approaches to managing the athlete role, they also highlight variations in identities, emphasising flexibility in handling the athlete role.

## Introduction

Young individuals are actively involved in exploring their identities, which is tied to the question of “who am I”. They delve into the personal realm of self-discovery while seeking a sense of belonging. Youth athletes are figuring out their athletic identity and do so in interaction with their friends, teammates, coaches, and so on.

In this interactional identity construction, the presentation of identity is essential. The presented identity should ideally align with the role it is assuming and demonstrate belonging

to the respective group. For young athletes, it is crucial to present and demonstrate to oneself and to others that they are among “the chosen ones” who have the potential to be best in the future. Although the athletes have goals for the present day, many goals are long-term, meaning that several choices are made to bear fruit sometime in the future. These choices revolve around handling training, eating and resting, and are explicitly linked to the objective of enhancing performance.

This paper explores aspiring youth athletes’ presentations of their athletic identity based on interviews with 24 youth athletes from private elite upper secondary sport schools (PEUSS) representing various sports. Taking an interactionist perspective, we posit that athletes are inclined to share narratives aligning with the broadly accepted ideal athletic identity. These ideals are fundamentally connected to training, eating and resting as these are vital aspects of an athlete’s life. However, as revealed in our interviews an athletic identity extends beyond training, recovery and food, and includes resolving tasks such as handling the social relationships. The young athletes invest a significant body of “work” in the formation of identity and how they come to present and demonstrate it. Additionally, we contend that the interview context may unveil insights into their experiences in adapting to this identity. Therefore, we ask the following question: How do the young athletes perceive and present an athletic identity? Moreover, what challenges and tensions are associated with manoeuvring the athletic identity?

**Previous research: athlete identity formation and presentation in sport**

Athletes’ identity formation and presentation have been explored from various perspectives. Edison et al.’s (1) review summarises quantitative research on youth athletes from a tradition that perceives athletic identity as “the degree of personal connection to sport” (p. 1), which is measured with the Athletic Identity Measurement Scale (AIMS) (2). The review synthesised previous research on how the degree of athletic identity correlates with various variables and revealed amongst other, that athletes with a high degree of athletic identity encounter greater difficulties in navigating a career transition.

Brewer and Petitpas (3) have reviewed previous qualitative and quantitative literature addressing “identity foreclosure”. Foreclosure is a state of strongly committing to a role and not engaging in alternative roles and identities, which is found to often be the case for youth athletes as they use a lot of time and energy engaging in their sports. Brewer and Petitpas review reveal conflicting results related to having a unidimensional identity. For example, a strong athlete identity is both positively and negatively associated with burnout.

Ronkainen, Kavoura (4) reviewed qualitative research on athletic identity positioned in narrative and discursive approaches, conveying a theoretical perspective of athletic identity as “constituted within cultural narratives and discourses available to the individual” (p. 135). Of the 23 articles reviewed, 18 were narrative-based, and most of them address how cultural values and life scripts shape athletes’ identities. The narrative studies show that, although the narrow athletic identity and narrative may have harmful consequences, many athletes also feel authentic ownership of its meanings and values. Moreover, narrative studies indicate that athletic identities undergo changes in meaning throughout career spans, challenging static conceptualisations of identity. Five of the 23 studies took a discursive approach, based in either discursive psychology or Foucauldian discourse analysis. Despite variations in how the discursive perspectives define identity and discourse, and what research questions they explore, they agree on the role of language and power dynamics in the identity construction.

The sport context is most often dominated by narratives and discourses favouring performance. Based on this the authors suggest that the pool of identities available for athletes’ is too narrow, and inhibits athletes’ identity construction as multidimensional humans, not just athletes.

Our article aligns with the theoretical assumptions in the latter review. Although we are not conducting a narrative or discursive analysis, we follow the understanding of identity and athletic identity as a cultural and social product. This is in accordance with Jenkins (5) and Goffman (6, 7) who contend that identity is socially constructed in interaction with others. This implies that an athlete’s identity is not solely connected to the sport but, more importantly, to the individuals with whom athletes interact.

In the following we will concentrate on studies that share these theoretical perspectives. Even if not all studies explore youth athletes, they demonstrate how athletic identity is an ongoing negotiation with significant others in a particular context.

The work of Carless and Douglas (8-10) propose that the sport context is “a culture awash with public stories relating to (preferred) identities, (expected) behaviours, and (assumed) developmental trajectories” (9), and that specific identities and behaviours become culturally dominant as they are told and retold in the sport context. The dominant narrative is the so-called *performance narrative* (8, 9): where “performance-related concerns come to infuse all areas of life while other areas are diminished or relegated” (9). Further, they view identity as

a process where athletes' perform or "present themselves" in the role that is commonly expected and fits with the script of the performance narrative (9).

Carless and Douglas' (9) based their analysis on narrative analyses of interviews with 21 elite and professional athletes. They revealed three ways of relating to the performance narrative. The first is "live the part of the athlete", characterised by talking about their routines and life in ways that confirm the performance narrative, sacrificing relationships in the hunt for success. The second way of relating is "resist the part of the athlete", characterised by taking on a multidimensional identity, where the resistance may take the form as telling about actions that express opposition towards the performance narrative, for example, prioritising relationships outside the sport. The third and last identity is "play the part of the athlete" characterised by a story that shows diversity in the routines depending on the context they are in, and who is observing. This describes an athlete holding a multidimensional identity but diminish it when the situation calls for performance identity.

A study with a similar aim is William's (11) exploration of (sub-) elite sports athletes reasoning of their dietary choices. William argues that the experience of being an athlete manifests through dietary decisions, as performance principles enter several domains of athletes' lives. The discourse of excellence "... to a large extent, defines who can legitimately claim an authentic athletic identity" (p. 33). Interestingly, his findings indicate that the discourse on excellence can guide athletes in divergent directions. On one hand, it may lead to problematic relationships with food, while on the other, it may result in resistance to such troubled eating behaviour.

All these studies are relevant inspiration for the current study. However, we aim to capture a broader understanding of athletes' identity, not exclusively focusing on the performance, exercise, and food presentations. We aspire to characterise the shared ideals and the nuances in presentations of athletic identity.

### **Youth athletes' presentations of self: an interactionist perspective**

Identity is one of the most explored constructs in social science (12). In the field of developmental psychology, identity is perceived as a developmental task during the adolescent years. It involves the process of determining one's self and understanding what holds significance in one's life, ultimately contributing to a sense of coherence. Psychologist Erik Erikson, a pioneer in this field developed a theory of stages that all humans move through.

In the stage of adolescence, handling their sense of identity vs. identity confusion is the priority task, where youths are “primarily concerned with what they appear to be in the eyes of others as compared to what they feel they are...” (13). Psychological approaches to identity emphasise the idea of personal identity as the qualities and traits that define a person as unique. However, Erikson also emphasised the psychosocial part of identity development, and the importance of the community in which individuals live (14).

Sociologically inspired research on identity goes beyond adolescence and registers questions about identity and concerns with positioning oneself in relation to others also in studies of adults. Our study draws on the sociological tradition in understanding identity as cocreated in interaction with other people and dependent on the context (5). According to Jenkins (2014), all identities are social by definition: “Identifying ourselves or others is a matter of meaning, and meaning always involves interaction: agreement and disagreement, convention and innovation, communication and negotiation” (p. 4). Jenkins’ (5) quote highlights the social interactional part of the meaning-making of identity and the importance of: “We work at presenting ourselves so that others will work out who we are along the lines that we wish them to” (p. 6).

In order to capture the young athletes’ athletic identity presentation, Goffman’s (7) perspectives of self is a fruitful foundation, as it is in Jenkins book *Social Identity* (5). Three conceptualisations from Goffman are especially relevant in our analysis: life as a scene, the self, and impression management as an aspect in identity construction.

Goffman (7) portrays life as a scene where we all perform. He splits the scene into two stages: frontstage and backstage. The frontstage is characterised by people presenting themselves with some kind of awareness about how they are seen by those who see the performance, while the guard is lowered backstage and the performance takes on a less intensive staging. In everyday situations, people engage in constant impression management, aiming to successfully align with particular identities. Impression management strategies are important parts of identity construction. In Goffman’s view the self is the result of “the masks” people bring to the performances; we “are” the masks created in interaction. Jenkins (5) describes this as the interface between self-image and public image.

Overall, self-presentations and impression management takes place in what Goffman call the interaction order, which he defines as shared rules and expectations that individuals in the



same context use to coordinate their daily sense-making and social relations. This order is created in micro-sociological interactions and arises in spite of authorities and not because of them. The order makes conventions possible, like rules in a game (6). Goffman's (7) work is the foundation for the understanding of the self in our study, or, in our terminology, for the understanding of identity.

In addition to the presentation of the self, Goffman (7) provides perspectives on how individuals coordinate team presentations. He uses the team concept to illustrate the work of a group of individuals who cooperate in a performance, attempting to achieve goals for the group's sake. Goffman explores the group dynamic and the relationship between performance and audience. In our study, we interpret the pronoun *we* in the interview as an expression of a team performance. Since the athletes shift between using I and we in their stories, we find it relevant to explore identities on several levels.

According to Goffman (7), individuals tend to conceal or underplay the activities, facts and motives that are incompatible with the idealised self-version when they present their routines. They perform roles to influence the impressions they make on others. We, therefore, assume that athletes are likely to present routines and goals associated with athletic identity ideals that are considered meaningful in their context.

Goffman's work has been criticised for representing a narrow Anglo-American view on the self and lacking the perspective to explore how individuals manoeuvre different alternative identities and are multidimensional (5). Markus and Nurius' (15) theoretical contribution to possible selves is a thorough response to this criticism and has proven advantageous to understand how the self and identities in the present are shaped by future possible selves (16).

Markus and Nurius describe possible selves as a type of self-knowledge that "pertains to how individuals think about their potential and about their future" (p. 954). Although these selves involve looking into the future, they are connected to the current selves which they term the *working* self-concept. Possible selves encompass positive aspirations, such as dreams and hopes, as well as negative aspects, such as fears.

In Markus and Nurius contribution, the selves are described as personal and social, often influenced by past social comparisons, as exemplified in the following quote:

An individual is free to create any variety of possible selves, yet the pool of possible selves derives from the categories made salient by the individual's particular

sociocultural and historical context and from the models, images, and symbols provided by the media and by the individual's immediate social experiences. (15)

This means the selves may predominantly reflect the sociocultural forces present in the context. In our current study, the young athletes are part of a high-achievement context, and the athletic identities presented can provide insights into the categories and reference points for what identities become validated.

Founding our study in the interactionist perspective, we suggest that presentations of the self provides insight into the idealised identity version in the specific context (7), which is the point of reference when people are presenting themselves. As in other "front stage" situations, we argue that the interview is a situation in which athletes will work towards expressing how they view athletic identity, in accordance with the norms existing in their context for how an athlete should be presented. Athletes' presentation of themselves is seen as an expression of the desired (*ideal*) athlete. Moreover, the idea of possible selves enables analytical sensitivity to nuances in athletes' presentations of their athletic identity.

## Method

In this section, we will describe some of the athletes' shared characteristics, the context they live in, the interview research process, recruitment, interviewing, and analysis.

### Population and context

Twenty-four athletes aged 17 to 19 from three different PEUSS in Norway participated in this study. The athletes practiced various sports: ice hockey, handball, biathlon, motocross, track and field, swimming, cross country, and football. The majority of the athletes had moved from their childhood homes to attend a specific school to develop in their sport. Many of the athletes expressed high ambitions and sacrifices in order to establish an everyday life that revolved around sport. The sport occupied most of their time, and they usually spent time with the same people in school, in sport and in their spare time. Athletes were concurrently balancing their involvement in sports careers and completing upper secondary school education. This was evident through multiple statements indicating a scarcity of time for activities beyond school and sports.

### Interview and analysis

The first author had direct contact with the athletes, and interviews were planned in line with what was most convenient for the athletes. In most cases, the interviews were carried out at the school. All the names used in this article are pseudonyms.

The interview guide contained questions such as: “what do you think it takes to be the best in your sport?”, “what do you think people at the top of your sport have done to get there?”, and “are there any supplements that are visible in your sport?”. The aim was to enable accounts that could facilitate an analysis of the athletes’ norms and ideals.

During and after the interviews, the impression was that the athletes’ presentations of an idealised athletic identity have various nuances, with many connections to performance. To further elaborate on the athletes’ identity, the following questions guided the analysis: How do the young athletes perceive and present an athletic identity? Moreover, what challenges and tensions are associated with manoeuvring the athletic identity?

In addition to being grounded in the interactionist perspective, our analysis utilised Braun and Clarke’s (17) thematic analysis with its systematisation and phases for examination of interview material. More specifically, all 24 interviews were read and inspected for quotes concerning athletes’ view of the ideal athletic identity as well as all the quotes relating to athletes’ reasoning and ideas related to being able to perform well. All quotes were collected before coding. In the coding process quotes were labelled in meaningful ways yet staying close to the empirical material and athletes’ own words. The coding process resulted in 101 codes. Afterwards, all codes were grouped into meaningful themes that capture and construct what athletes present as a valuable and ideal athletic identity. Six themes were constructed based on 101 codes; No shortcuts when training; Sleep & Rest; Food & Nutrition; I must be unique; Choices & Sacrifices 24/7; and It must be fun.

### Ethical considerations

The project has been approved by the Norwegian Centre for Research Data (NSD), and all athletes signed the informed consent before the interviews. To ensure athletes’ confidentiality and anonymity, we use pseudonyms that only reveal the participant’s gender. The interviews were conducted in Norwegian, and we have translated with caution when reporting the citations. If needed, we have edited the quotations carefully to ensure the meaning is retained (18).

## Findings

This article aims to unfold various aspects that come into play in athletes striving for performance and explore how they come across in their presentations of athletic identity. The three first themes, *No shortcuts when training*, *Sleep & Rest* and *Food & Nutrition*, are, as expected, essential parts of their sporting lives and being dutiful athletes. However, the interviews also reveal variations in how the athletes relate to these expectations and ideas.

The last three themes, *I must be unique*, *Choices & Sacrifices 24/7*, and *It must be fun*, illustrate topics in athletes' lives that are less explored. However, these themes come across as highly relevant for the athletes and appear to be associated to certain ideals and demands in athletes' context.

When we present each theme, we describe some shared characteristics illustrated with selected quotes as well as trying to shed light on nuances and tensions in athletes' presentations.

### No shortcuts when training

Training and especially a serious attitude at training are presented as key parts of an athletic identity. In the context of PEUSS, the vast focus on training and keeping fit is apparent. Although relatively young, the athletes express having large amounts of self-discipline and willpower when needed. They also express that they experience plenty of joy and mastery in their training sessions through the weeks, months, and years. In addition to coming to training well prepared, the athletes emphasise aspects such as showing up with the right attitude, being focused, putting in the work, focusing on their weakest abilities, and so on. Athletes' presentations describe the intention to go into a hard training session with a strong will to push through. In other words, it is not enough to show up expecting to be trained, serious athletes are training themselves. Olivia's says:

*You must have the right attitude towards training, you have to work for things, like you don't show up for training to be trained, but to train.*

Jack expresses the importance of sticking to the plan and going to training sessions even though you may be tired:

*Sometimes you feel shit when it's a normal training, and think maybe you should skip the training session and you're really tired. But there are also in those hardships, when you have bad days that if you manage to readjust your head and sort of think "just get through it, then*

*I'm done". It's in the hardships that you really get better. Being able to perform at a high level all the time, that's what makes a good player a really good player.*

For several reasons, assessing and deciding whether to exercise or rest can be difficult. The physical load evaluation is complex, and social aspects can also come into play. Being part of the social group can make it difficult to be absent when everyone else shows up. Also, there is the worry that the ones at training will get a head start. Athletes describe getting help and assistance from several individuals when it comes to planning the days and weeks to balance the physical load.

When showing up for training sessions, the athletes have clear expectations to themselves.

Erik provides his views as follows:

*Come to training, in a way, turn on a switch and be 100% present and be focused. I believe that it makes you better, and that you constantly want to improve on everything and have that desire. That's what I try to remind myself of every time I go out the door and ready for a new training session.*

In sum, training is presented as a main ingredient to performance. However, it involves much more than going to training and getting instructions. There are no strong contradictions or conflicting views here. The athletes come across as widely agreeing on how one should attend the training. In line with Carless and Douglas (9) narrative analysis, there is little resistance and alternative ways of interpreting and handling the training aspect of the athletic identity.

### Sleep & Rest

The importance of sleep and rest is highlighted as intentional recovery between training sessions but may also involve skipping a training session. Resting can also mean an optimal afternoon is spent power napping between school lectures and training sessions. The athletes have clear preferences regarding the amount of sleep they would like to get. However, also share concern of putting the phone away, so it does not "steal" sleep hours. The athletes often express that resting is more important than training, or at least just as valuable. The value of training is 'cashed out' in relation to the restitution. That is illustrated by Christina:

*I want to be involved in as much as possible all the time and then it becomes very much like that, yes, that it becomes very quantity over quality. So lately I've had strong focus on sleeping, preferably nine hours if possible, otherwise I don't function.*

The same holds for Alexander, that explain how the extra hour of sleep is important:

*Say that you go to bed at 10 o'clock instead of 11 o'clock so that you kind of get the extra hour that way. It's at least important now. I know for sure that not everyone thinks like that, but I at least think like that.*

The significance of sleeping is highlighted by several athletes. Benjamin explains how the lack of sleep has repercussions for other areas in their sporting life:

*It depends on sleep and food and exercise, so you know that you have to sleep, or the quality of exercise will be bad. It will also only worsen during the week if you don't sleep well.*

Sleep and rest are also emphasised as a priority concerning long-term goals, as youth athletes plan for peak performances in the distant future. Ella's quote emphasises that to reach the long-term goals, one must see the big picture:

*Recovery that's really the most important thing. It's not right now we should be good in a way. We shouldn't be afraid to take the extra day of rest because in the big picture it doesn't matter if you trained that day. Because it's all in total, not that day in a way that makes you good.*

Sleeping and resting are perceived as tools to improve performance as they influence other areas, such as energy at training. There is a consensus among the athletes that rest plays an essential part, and there are few nuances in athletes' presentations of how to handle it. As with the first theme, this theme corresponds with the narrative of living the part of the athlete (9), even if young athletes do not always feel they can meet these expectations.

### Food & Nutrition

Unsurprisingly, the young athletes are concerned and thoughtful about food and eating. They are regularly learning about nutrition at school, and they are encouraged to handle food in a good and healthy way. The athletes are rather disciplined in their relationship to food and eating and describe an everyday life that consists of certain number of meals, which have some desired components and are consumed as quickly as possible after training. At first glance, it seems that the athletes display a strict and sensible food and eating regime.

However, we also found expressions where the athletes presented ideas with nuances and different ways of relating to food and eating than what is typically associated with the athletic identity.

Several times, the athletes emphasised that they ate “unhealthy” meals or that they could enjoy candy. Sometimes, they described eating unhealthy food as a way of compensating for the high level of activity, justifying it with getting enough energy. Ella’s quote illustrates that candy is no problem but that the healthy food comes first:

*Most people are like that, they eat a lot of sweets but eat healthy first. And that’s in a way how we’re trained to, that somehow, if we eat proper food first then we can eat sweets.*

Whether it is healthy or unhealthy, the bottom line seems to be getting enough food that balance their activity level. However, the task is not always easy; the athletes must remember and plan to bring enough food to school and training. At the same time, they need time to make the food. Ella’s quote illustrates the challenge:

*First of all, you have to manage to bring enough food. Some days it can just be like that oh shit today I have too little with me because I had another training session which made me more hungry.*

What also came across as important was the timing of eating, with the immediate consumption of food after training perceived as the most desirable. Jack describes why this is important, and that you cannot replace the lost meal at a later point:

*Of course, there is diet and so on, but there is a reason you have to have it, you have to eat properly and also you must not skip meals and think that you can make up for it later because the body needs it when it needs it.*

In sum, food planning, prepping, and organising seem to bring some challenges to many of the athletes. Many live on their own, a new situation that forces them to handle more spheres in life. This is not necessarily associated with only eating healthy food, but generally making enough “proper” food, and not resorting to quick fixes. The athletes are well informed about what their plate should look like, with the “right” combination and distribution of “carbs”, greens and proteins. Whether they are able to realise this ideal does not seem to be determined by their knowledge but by time and other resources.

There are more nuances in the food theme than with the previous themes. There is no single way of presenting food in line with athletic identity, but several possible and accepted interpretations of how it should be handled. The diversity in alternatives comes across in athletes’ presentations of the various types of meals and nutrition options. At the same time,

there is a certain consensus on questions like when one should eat, giving the impression that there are some dominant ideas in their context.

When it comes to food and eating, sometimes the athletes are “living the athlete identity”, and sometimes they resist it in the words of Carless and Douglas (9). From Goffman’s perspective, this may reflect a presentation in line with an idealised athletic identity. At the same time, the nuances in handling food and eating the right way may illustrate several the possible selves, in accordance with Markus and Nurius (15). This indicates flexibility and also the involvement of reflexivity in the negotiation and presentation of athlete identity.

### I must be unique

Athletes’ accounts demonstrate a quest for uniqueness, emphasising willingness and the importance of standing out in the group. This quest can take many forms. It can be in the form of being better prepared for training, showing up earlier for training, being better at handling food, and training more or smarter than others.

One tendency when it comes to being unique is the idea that one should accumulate and escalate what others do. To distinguish oneself in the relatively homogeneous group, the athletes express the necessity to incorporate something or exhibit a trait that others do not possess. In the interviews, they often present what extra they should do to be better than others. Quotes from Alexander and Robert are illustrations:

*It’s about being focused on the small details that no one else does and that you are, in a way, a little independent compared to the others. The others may exercise exactly the same, but then you do the extra little things that need to be done. It may not necessarily be that you exercise the most and go hardest in the sessions, but that you train the smartest.*

*Push hard yes, also, I tend to often stay like 10 minutes to a quarter after the session to practice some individual things and such. I feel that has helped a lot. And is sort of, what should I say, a bit like make or break on who want to continue and not.*

In addition to the presentations of individual exceptionality, there are several examples where the athletes express a collective uniqueness. So, in addition to being an individual with a desire to stand out and putting in the extra effort, there is also an ongoing group identity presentation. When the athletes use *we*, they usually refer to the sporting community in which they practice, and the way it is used bears some similarities to the ideas of individual



uniqueness. Many times, it involves presenting one's own sport as somewhat more favourable compared to others.

One example of a collective expression of uniqueness is illustrated by Helena when she describes some differences in seriousness:

*I think we are quite similar in the class because we are put together [my sport], [sport] and [sport]. So, it's pretty much the same type of sport, but across the sports like that if you compare [my sport] then versus hockey or handball, I would say that we are perhaps a bit more serious. Or it requires more from us than it perhaps does from them to achieve the same then, but it is interesting to see how the other sports also solve it.*

Another example is found in Luca's quote:

*I think we have, [my sport], has sort of always been the sport that has trained the most. We kind of have, we have a fitness room in the [arena], we have [track]. We kind of have everything, so it's much easier to put in more training.*

Luca does not explicitly compare to another sport but still expresses that his sport possesses some desirable characteristics. Alexander's quote includes a comparison and an emphasis that in his sport, there is more focus on functionality rather than aesthetics:

*There is no [appearance] pressure in [my sport]. More so in other sports such as football and such, where I think they care more about things like that. In a way, we want to have the best possible function in the sport. We don't want to look the best, but go a little slower. We want to be the best possible version of ourselves.*

In sum, this theme illustrates two parallel processes that revolve around presenting the sport group's uniqueness and simultaneously standing out as an unique individual (19). This quest for uniqueness seems to be a way of giving meaning to their everyday life that is strongly influenced by being an ambitious athlete. Presenting themselves as unique becomes particularly important as they surround themselves with other athletes being just as ambitious. The desire to stand out and be someone who "goes the extra mile" is probably also a more or less deliberate attempt of self-conviction, and for holding on the belief that "I will be the best athlete in the future".

The quest for athlete and group uniqueness raises some challenges, especially if the pinnacle of distinctiveness is the mutually exclusive position of being the best athlete and group.

Moreover, this quest represents more than being superior to others in competition. Some of the procedures described are visible to coaches and other influential people, and others are not. The less visible presentation seems to play a role in athletes communication to oneself that “I am in line with what is considered an athletic identity”. From Goffman’s (7) perspective, the athletes are staging on their frontstage where an audience can validate the presented identity, and, on the backstage, acting in line with how they will like to perceive themselves as a real athlete.

#### Choices & Sacrifices 24/7

Through this theme, we intend to capture the array of choices athletes confront in order to be perceived by both themselves and others as dedicated and serious athletes. We perceive the athletes as consciously engaging with various aspects of these choices. Several of the athletes use the term “24/7 athlete” about themselves, so it is no surprise that several choices are linked to mindful decision-making. This is especially true for the choices related to training, restitution and food, as made clear in our first three themes. However, the 24/7 concept seems to intrude close to every choice.

Robert explains:

*When it comes to being what they call a 24-hour athlete, it’s like that you eat enough, and you eat correctly. Of course, you’re allowed to enjoy yourself, but that you get what you need, right. And that you train with quality, at least if you have a vision of progressing.*

Robert’s quote illustrates a familiar tendency in several of the athletes’ accounts: There is not a single thing that alone is conclusive for good performance. The athletes point out that several choices must be made right to be successful. Emma’s quote illustrates how the prioritising can look like:

*There are a lot of things that you prioritise, so maybe some things you choose to leave out and that you have to go home early if you are with friends and go home to go to bed early to get enough sleep and that you that you eat enough and that you recover enough and there is a lot that you have to be a bit egoistic about some things.*

Emma emphasises that making choices also means that certain things must be opted out to reach long-term sporting goals. Alexander’s quote illustrates that athletes are aware that they miss out on certain things that other youths their age are doing:

*Yes, I can't go to parties like so many others my age do. And go to bed earlier, yes, get up a little earlier and go out for training and some days there are two training sessions a day. So, you sacrifice time for training, that could be spent on many other things.*

When it comes to living like a 24/7 athlete, the athletes describe the context as helping them with making choices. Lucas explains how going out of the sport context raises dilemmas:

*If you think about parties and stuff like that, it's not that much. It was or it's tricky when I get home [parents' house and meet old friends] that's when it's a lot like that.*

Two other tendencies related to choices are the belief that *every* choice has consequences for their sport performances, and that everyday choices of today must be viewed from the distant long-term perspective. Victoria says:

*I of course train in the summer too, but in a way not everything I do depends on [sport]. Because it can also get a bit tiring every choice you make is a consequence in a way for [sport]. Like now, we can't go to bed late, one day is ok of course, but yes, you have to be serious.*

The long-term perspective is especially relevant for youth athletes, as some of their main goals are most likely several years away. Elisabeth's quote shows how the choices made today should mirror the goals in the future:

*It's about making the right choices, like that, I remember that one of the coaches said that if there are two things you are unsure of what to do, then you have to imagine in a way which of the things leads you closer to your goal, and it has helped quite a bit actually.*

Visualising one's goals for sport can be beneficial, serving as a helpful guide when faced with challenging choices. However, handling the long-term perspective as a strict rule can create challenges for youth athletes, as they can be willing to sacrifice a lot without being able to fully assess consequences.

Interestingly, there are quotes that represent a resistance, too, and a way of doing athletic identity with other life aspects that are important to you. Charlotte describes the PEUSS context as not being extreme:

*I don't want to say it's extreme here, I feel it's an environment for development, but also that [sport] is not everything. You can also focus on school or do something fun, like it's not just [sport] that is the most important thing in life.*

In sum we argue that this theme highlights an aspect which runs like a red thread through the young athletes' everyday life. Small and big choices seem to be an integrated part of being an athlete. Serious athletic identity is characterised by making choices in line with long-term goals and the recommendation to think and behave like the 24/7 athlete. An important nuance is that the athletes do not necessarily name or interpret these actions as sacrifices. We also perceive that athletes strongly feel ownership over their choices, and they do not seem to view their lives as being heavily disciplined by other people, such as coaches and other school staff.

Additionally, they report to experience much fun in their athlete life. As pointed out by Carless and Douglas (9), doing athlete identity work enables various possible selves. However, as demonstrated by the quotes, and although there is no 'one size fits all' solution, there is little doubt the young athletes are highly conscious about making good choices.

It must be fun

*Sport must be fun* is a recurrent topic in the athletes' stories about what it takes to be good. Across gender and sport types, all athletes accentuate that there must be a certain degree of fun, motivation, or joy in their involvement. This desire for fun is not limited to the joy of performing well but relates to the pure joy of the unfolding of the sport itself. Fun is described in autotelic ways: as a value in and for itself. The athletes emphasise that you must continue to have fun and enjoy the sport to be able to endure a sporting career. Having fun along the way seems to be a very important goal, as the sport takes up a lot of their time.

Victoria explains why fun is important when exerting much time on sport:

*I actually think that most athletes are quite strange because it is quite strange to spend so much of their time on one thing and they sacrifice an incredible amount so I think you have to sacrifice a lot but as I said previous, I think it's very important to have fun in order to sort of preserve that spark with what you do.*

They describe the fun of doing sport as more valuable than other forms of distractions, such as having fun at a party. Lucas explains:

*But the thing is that it's somehow not tempting [to go to party] because if I do it then I kind of know the consequences of what it destroys for [sport] and I'd rather have more fun with developing myself and become a better [sport] player than to have fun at a party like that. For me it's about prioritising what you think is fun, is it partying or is it playing [sport].*

Also, fun is highlighted as a desired factor when describing their role models in sport. Tomas describes how one of the best athletes in his sport from Norway has retained the playfulness and joy in his practice of elite sport:

*I think he has worked, he hasn't given up, he has worked very hard. But at the same time, he has said himself that he has had a lot of fun the whole time. He is a very playful type, you can see it on [the pitch]. And he has that kind of skill and playfulness with him all the time.*

It is worthwhile noting that athletes' descriptions of the importance of having fun and feeling joy in sport are often accompanied by references to what appears as the contrary: seriousness. Expressions such as "do not give up", "hang in there" and "grit your teeth", occur several times with the message that sport must be fun.

Elisabeth says:

*At least don't give up and have fun, I feel that many people quit because it gets a bit too serious, too boring and I think it's important to persevere for a long time because that's what it takes to work for a long time and work well.*

Emma agrees:

*I think it is very important to enjoy sports and that you manage to keep up motivation and you think it's fun. Because I think that once it's not fun, it just becomes so tiring to keep doing, it's like, you have training sessions morning and evening every day and you have to have something to keep you going, if not then I don't think you will be able to last long.*

In sum, our overall impression is that the athletes experience much fun and enjoy life as youth athletes. However, when they combine the need for fun to persevere in the sport and the high training load, this is a way of justifying and giving meaning to their distinct lifestyle. The reference is not to the "superficial" fun at a party, but to the process of playing as a meaningful and even existential activity; to an activity that tells them something about who they *are*. They do not only present positive possible selves (15) who hope for a fun future in the sport, but also their current self that encounters fun in their everyday life.

## Discussion

This study shows that the athletic identity goes beyond training, resting and nutrition and that the athletic identity consists of several characteristics presented as desirable for an ambitious athlete. At the same time, our findings demonstrate some contrasting aspects of athletes'

identity processes. On the one hand, the athletes' presentations of athletic identity support the idea of some dominant discourses and narratives. This is especially true concerning questions related to training and restitution. There is a strong consensus about the seriousness related to training and that one comes to training with the "right" attitude and presence. This wide agreement aligns with the narrative of living the part of the athlete as suggested by Carless and Douglas (2013). Also, it may indicate a narrow pool of possible selves (15).

On the other hand, some of the themes demonstrate that there are several ways to handle athletic identity. For example, regarding *Food & Nutrition*, the athletes present several options and alternatives. This is consistent with Jenkins' (5) description of individuals as singular and plural at the same time. This diversity, demonstrated in several themes in the findings, makes the case for alternative, legitimated ways of defining athletic identity.

In other words, the current article demonstrates that the athletic identity consists of various desirable characteristics including several layers, and some tensions and even paradoxes as with the seemingly contrasting themes of *Choices and sacrifices 24/7* and *It must be fun*. An idealised athletic identity seems to guide the young athletes, but the idealised version (Goffman, 1959) is not adopted totally and without questioning. Goffman's dramaturgical theory with descriptions of roles and the presentations of self can overlook the nuances that a role and identity hold and may, therefore, risk oversimplifying certain identities. We align with Jenkins (5) and his interpretation of the individual character as a social product. This understanding is especially relevant for the youth athlete role. Hence, the combination of Goffman's presentation of the self with Markus and Nurius's possible selves (1986) has served as a fruitful approach to explore athletic identity (16).

Further in this discussion, we will discuss why the athletic identity comes across as multifaceted and forces the athletes to manoeuvre tensions involving living up to the ideals and expectations, and handle dilemmas between ideals and expectations. First, tensions related to the three first themes are discussed, including balancing the act between training and rest, and handling food in the "right" way - being serious but not getting obsessed. Second, possible dilemmas are considered related to the social aspects that come into play in themes four, five, and six.

The difficulties of balancing training and rest is recognisable in several of athletes' accounts. They themselves do not necessarily reflect on this as a balancing act, but they are aware of keeping the training load at an acceptable level. Rest is discussed and highlighted as an

important tool when their goal is in the far future. They can skip a training session with the argument that they are not supposed to be the best now, but in the future. The core of the challenge seems to be the ability to internalise a long-term perspective.

When it comes to food and nutrition, there are similar concerns. Many athletes present what their educators have taught them, they eat according to the “plate model”, fish a certain number of days a week, not too many energy drinks, and so on. On the other side, athletes also describe a relationship to food that includes enjoying sweets, eating unhealthy food, and ensuring that the relationship to foods stays “normal”. A lot of times the most important thing for the athletes is to get enough food, whether “it’s a burger or it’s salad and chicken”, to use Erik’s own words.

The athletes report to experience significant support in the social milieu with the other athletes. They find it soothing that they feel understood by the other athletes, different than friends “outside” are capable of, as illustrated in the statement that it is difficult to live up to the 24/7 athlete concept when they are in their home place with old friends. They describe the other athletes as being as serious as themselves and they all have little spare time. They express that the other athletes understand, support and push each other in a good way. At the same time, highlighted in the *I must be unique* theme, the athletes describe the need to stand out in the group. As shown in the findings, it can take form of coming to training earlier, staying longer, being smarter with food, or sleeping and resting more than others. The need for distinctiveness is debated in the literature, some suggesting that cultures that hold values related to being unique construct distinctive identities, while others suggesting that the quest for being unique is a basic human need (20). Interestingly, this study also reveals the quest for group distinctiveness. The athletes not only want to stand out of the group, they also present being part of a sport that stands out from other sports. This is in line with Goffman’s (7) descriptions of presentations of self and team performances, which emphasise the identity process as both getting the self and the group identity confirmed.

This social game gets even more complicated as athletes also compete against each other, sometimes in competitions, but also inside a team, for the same spot. Several times in the interviews, athletes emphasised that their close friends were also their competitors. This applies to athletes in team sports as well, as the athletes specify that there is competition for the spots on the teams in the games. The social tension also comes to light when athletes describe that sometimes their personal goals collide with team goals. For example, athletes

say that they want the team to win, but they still want to get the chance to play and develop, although that may not be the best choice to reach success for the team.

These presentations are pending between what Markus and Nurius term “the working self-concept” and “the possible selves”. In the young athletes’ presentations of the current self, the possible selves seem to be the reference point many times, especially when they describe what one should do in relation to the three self-evident aspects, training, rest, and nutrition. Following Markus and Nurius’ (15) reasoning, the possible selves hold positive and negative future prospects. In future research, it would be valuable to investigate the extent to which various athletes, as well as athlete groups, are motivated by the possible negative self, such as an injured or losing athlete, versus the possible positive self, such as a high-achieving and healthy athlete.

Theme six, *It must be fun* is the theme that most directly relates to the possible future athlete self. The theme actualises the possible dilemmas between having fun and persevering when dedicated to the sport. We argue this is a fine line, as athletes often bridge them together in their explaining of what they believe is important to excel in their sport. This can be seen as contradiction, or it can be seen as two features that coincide in athletic identity. The fun described by the young athletes seems to carry significant meaning. The athletes describe the need for fun as a need for playfulness and passion. This resonates with classic theories of play as in Johan Huizinga’s *Homo Ludens* (21). Play is rule-defined autotelic activity requiring players to engage fully and completely and with an all-encompassing attitude of “non-serious seriousness”. The young athletes’ references to fun and play are probably both expressions of socialisation into a particular sporting rhetoric *and* of their own experiences of significant meaning in their sport practice.

Considering the fifth theme, *Choices & Sacrifices 24/7*, athletes knowingly choose a different road than youths their age. They sacrifice exploration of various youth-related phenomena, such as parties, travelling and higher education. Their identity work is probably not just about meeting the expectations and ideals communicated in their sporting context but also meaningful, individual exploration of who they are and can become.

#### Concluding comments

The goal for this article is to contribute to the study of the youth sport field by presenting athletes’ perspectives on athletic identity. Combining theoretical tools from Goffman and Markus and Nurius enabled us to describe and discuss several details and aspects of athletes’



identity work. This knowledge follows a line of research which has focused on presentations of the self as more than *one* identity (16, 22).

As in other research based on interviews, a methodological and epistemological question is whether the athletes' actions align with their narratives. We have no reason to doubt that the athletes' presentations were different from what they "actually" thought or how they conducted themselves. Moreover, the discussions of ideal and future identities was less concerned with concrete actions here and now as they opened the opportunity for the athletes to reflect upon their roles, also relating to their backstage. The athletes did not only share their ideals when it came to handling everyday life, but also what they perceived as challenging and what they needed to mobilise to come as close as possible to the ideal athletic identity. These insights are of theoretical interest but also of practical significance to PEUSS coaches and staff. If athletes' ideals are unrealistic in relation to their present condition or predilections, it will most likely create a dissonance that can be hard to handle (23).

The athletes in our study seem to demonstrate group membership by stating their group distinctiveness: *We* (the sport group) share some unique qualities. Interestingly, it is also essential for them to show their personal distinctiveness. Therefore, two processes pushing limits of various kinds are possibly going on simultaneously. Professionals working with athletes should be aware of these processes as navigating potential tensions over extended periods of time can be challenging. Indeed, some aspects of young athletes' identity may be problematic and awaken concern and also provide reasons for further research.

We argue that the six constructed themes offer valuable insights into the process of youth athletes' construction of an athletic identity, demonstrating that it encompasses more than mere decisions about training, resting, and eating.

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## **Appendix 2**

### **Approval letter from Norwegian Centre for Research Data (SIKT)**





# Meldeskjema

**Referansenummer**

556618

**Hvilke personopplysninger skal du behandle?**

- Navn
- Nettidentifikator
- Stemme på lydopptak
- Bakgrunnsopplysninger, som i kombinasjon vil kunne identifisere en person

**Beskriv bakgrunnsopplysningene**

I intervjuet vil jeg starte med å spørre utøverne om deres idrettshistorie/karriere så langt, og på den måten vil de fortelle meg om sin bakgrunn.

**Prosjektinformasjon****Tittel**

Unge idrettsutøvere og prestasjonsfremmende midler

**Sammendrag**

Formålet med prosjektet er å undersøke ambisiøse idrettsutøveres forståelse og kunnskap om prestasjonsfremmende midler. Det er ikke egen bruk av hverken forbudte eller tillatte prestasjonsfremmende midler vi vil utforske. Vi ønsker å forstå hvordan utøvere tenker om ulike midler, hvordan temaet kommuniseres, hvor de finner informasjon og oppfatninger om eventuelle gråsoner. Det er særlig sosiale og kulturelle normer og verdier knyttet til prestasjonsfremmende midler vi er interessert i.

**Begrunn behovet for å behandle personopplysningene**

Personopplysninger i form av deres stemmer på opptak gjøres for å kunne transkribere, og dermed sikre riktig sitering. I intervjuene vil utøvere fortelle personopplysninger i forbindelse med å snakke om sin erfaring i idrett. Disse vil avidentifiseres og utelukkes i transkripsjonen.

**Prosjektbeskrivelse**

[PHD Research plan Anette Skilbred utenAppendix.pdf](#)

**Ekstern finansiering**

- Andre

**Annen finansieringskilde**

Norges Idrettsforbund og olympiske og paralympiske komité, Antidoping Norge og Forskningscenter for barne- og ungdomsidrett.

**Type prosjekt**

Forsknings-/dr.gradsprosjekt

**Behandlingsansvar****Behandlingsansvarlig institusjon**

Norges idrettshøgskole / Forskningscenter for barne- og ungdomsidrett

**Prosjektansvarlig**

Anette Skilbred, anettesk@nih.no, tlf: +4723262444

**Er behandlingsansvaret delt med flere institusjoner?**

Nei

**Utvalg 1****Beskriv utvalget**

Ambisiøse idrettsutøvere som saster på idretten

**Beskriv hvordan du finner frem til eller kontakter utvalget**

Rekruttering skjer i eget nettverk for å etablere kontakt før utgivelse av informasjonsskriv/samtykkeskriv.

**Aldersgruppe**  
15 - 30**Hvilke personopplysninger vil bli behandlet om utvalg (f)? 1**

- Navn
- Nettidentifikator
- Stemme på lydopptak
- Bakgrunnsopplysninger, som i kombinasjon vil kunne identifisere en person

**Hvordan innhentes opplysningene om utvalg 1?****Personlig intervju****Vedlegg**[Personlige intervjuer.docx](#)**Lovlig grunnlag for å behandle alminnelige personopplysninger**

Samtykke (Personvernforordningen art. 6 nr. 1 bokstav a)

**Informasjon til utvalg 1****Mottar utvalget informasjon om behandlingen av personopplysningene?**

Ja

**Hvordan mottar utvalget informasjon om behandlingen?**

Skriftlig (papir eller elektronisk)

**Informasjonsskriv**[Samtykkeskriv.doc](#)**Utvalg 2****Beskriv utvalget**

Ambisiøse idrettsutøvere som saster på idretten

**Beskriv hvordan du finner frem til eller kontakter utvalget**

Rekruttering skjer i eget nettverk for å etablere kontakt for utgivelse av informasjonsskriv/samtykkeskriv.

**Aldersgruppe**

15 - 30

**Hvilke personopplysninger vil bli behandlet om utvalg (f)? 2**

- Navn

**Hvordan innhentes opplysningene om utvalg 2?****Gruppeintervju****Vedlegg**[Gruppe intervju.docx](#)**Lovlig grunnlag for å behandle alminnelige personopplysninger**

Samtykke (Personvernforordningen art. 6 nr. 1 bokstav a)

**Informasjon til utvalg 2****Mottar utvalget informasjon om behandlingen av personopplysningene?**

Ja

**Hvordan mottar utvalget informasjon om behandlingen?**

Skriftlig (papir eller elektronisk)

**Informasjonsskriv**[Samtykkeskriv.doc](#)**Tredjepersoner****Innhenter prosjektet informasjon om tredjepersoner?**

Nei

## Dokumentasjon

### Hvordan dokumenteres samtykkene?

- Elektronisk (e-post, e-skjema, digital signatur)
- Manuelt (papir)

### Hvordan kan samtykket trekkes tilbake?

Send e-post til adressene på samtykkeskrivet om at du trekker ditt samtykke.

### Hvordan kan de registrerte få innsyn, rettet eller slettet personopplysninger om seg selv?

Som det fremkommer av samtykkeskrivet: • innsyn i hvilke opplysninger vi behandler om deg, og å få utlevert en kopi av opplysningene • å få rettet opplysninger om deg som er feil eller misvisende • å få slettet personopplysninger om deg • å sende klage til Datatilsynet om behandlingen av dine personopplysninger

### Totalt antall registrerte i prosjektet

1-99

## Tillatelser

### Vil noen av de følgende godkjenninger eller tillatelser innhentes?

Ikke utfyllt

## Sikkerhetstiltak

### Vil personopplysningene lagres atskilt fra øvrige data?

Ja

### Hvilke tekniske og fysiske tiltak sikrer personopplysningene?

- Fortløpende anonymisering

### Hvor blir personopplysningene behandlet?

- Maskinvare

### Hvem har tilgang til personopplysningene?

- Prosjektansvarlig

### Overføres personopplysninger til et tredjeland?

Nei

## Avslutning

### Prosjektperiode

24.05.2021 - 01.03.2024

### Hva skjer med dataene ved prosjektslutt?

Persondata lagres midlertidig 30.11.2028

### Hva er formålet med lagringen av persondata?

Arkivering for deling av data og gjenbruk

### Hvor oppbevares personopplysningene?

Internt ved behandlingsansvarlig institusjon

### Vil enkeltpersoner kunne gjenkjennes i publisasjon?

Nei

## Tilleggsopplysninger

Utvalg 1 og 2 skiller seg ikke fra hverandre i menneskelige faktorer, men det skiller de to metodene jeg vil bruke, personlige- og gruppeintervjuer





**Appendix 3**  
**Informed consent form**



## **Vil du delta i forskningsprosjektet**

### ***Unge idrettsutøvere og prestasjonsfremmende midler***

Kan du tenke deg å delta i et forskningsprosjekt om unge idrettsutøveres erfaring med forskjellige former for prestasjonsfremmende midler i idretten? I dette skrivet gir vi deg informasjon om målene for prosjektet og hva deltakelse vil innebære for deg.

#### **Formål**

Formålet med prosjektet er å undersøke ambisiøse idrettsutøveres forståelse av og kunnskap om prestasjonsfremmende midler. Det er *ikke* egen bruk av hverken forbudte eller tillatte prestasjonsfremmende midler vi vil spørre deg om. Vi ønsker å forstå hvordan utøvere tenker om ulike midler, hvordan temaet kommuniseres, hvor de finner informasjon og oppfatninger om eventuelle gråsoner.

Intervjuene er en del av doktorgradsprosjektet til stipendiat Anette Skilbred, der Sigmund Loland og Åse Strandbu er veiledere. Vi tre danner prosjektgruppen og det er Anette som vil gjennomføre intervjuene.

Norges idrettshøgskole er ansvarlig for prosjektet, som støttes av Norges Idrettsforbund og olympiske og paralympiske komité, Antidoping Norge og Forskningscenter for barne- og ungdomsidrett.

#### **Hvorfor får du spørsmål om å delta?**

Vi henvender oss i dette prosjektet til unge utøvere som satser på idrett og gir idretten høy prioritet i hverdagen. Vi vil henvende oss til 25-30 utøvere.

Du får denne forespørselen fordi din trener har godkjent at vi henvender oss til deg. Det er likevel viktig å understreke at det er *ditt* valg om du ønsker å delta.

#### **Hva innebærer det for deg å delta?**

Hvis du velger å delta i prosjektet innebærer det et intervju på ca. 60 minutter. Intervjuet inneholder blant annet spørsmål om egen idrettskarriere, forventinger om prestasjon, kunnskap og forståelser knyttet til prestasjonsfremmende midler og opplevelsen av antidopingarbeidet.

Det vil gjøres lydopptak for å sikre riktig sitering og for at Anette skal kunne konsentrere seg om samtalen. Filene vil lagres i sikker database og vil ikke være identifiserbare for andre personer enn Anette som gjennomfører intervjuene.

#### **Frivillig deltakelse**

Det er frivillig å delta i prosjektet. Hvis du velger å delta, kan du når som helst trekke samtykket tilbake uten å oppgi noen grunn. Vi tar kontakt med deg i løpet av de neste to ukene for å høre om det er mulig å få til et intervju. Gjenåpningsplanen og øvrige smitteverntiltak vil bli tatt hensyn til. Hvis du ikke ønsker at vi ringer, vennligst svar på denne e-posten og gi oss beskjed om det.

#### **Ditt personvern – hvordan vi oppbevarer og bruker dine opplysninger**

Vi vil kun bruke opplysningene om deg til formålene vi har fortalt om i dette skrivet. Vi behandler opplysningene konfidensielt og i samsvar med personvernregelverket.

Det er kun prosjektgruppen som vil ha tilgang til filene (opptak og transkriberte intervjuer). Opplysninger som kan være identifiserbare, som navn, geografiske steder og særlige personlige

kjennetegn, vil utelukkes. Transkriberte intervjuer vil med andre ord være anonymisert, og hvem som er intervjuet vil derfor ikke kunne identifiseres for andre enn Anette som gjennomførte intervjuet.

Navnet ditt vil erstattes med en kode som lagres på egen navneliste adskilt fra øvrige data.

#### **Hva skjer med opplysningene dine når vi avslutter forskningsprosjektet?**

Opplysningene slettes fem år etter at prosjektet avsluttes/avhandlingen er godkjent, noe som etter planen er november 2023. Norges idrettshøgskole er forpliktet til å lagre data fem år etter avsluttet prosjekt, for kontroll og etterprøvbarehet.

Data og opplysninger vil hele tiden være anonymisert og lagret i sikker database.

#### **Dine rettigheter**

Du har rett til:

- innsyn i hvilke opplysninger vi behandler om deg, og å få utlevert en kopi av opplysningene
- å få rettet opplysninger om deg som er feil eller misvisende
- å få slettet personopplysninger om deg
- å sende klage til Datatilsynet om behandlingen av dine personopplysninger

#### **Hva gir oss rett til å behandle personopplysninger om deg?**

Vi behandler opplysninger om deg basert på ditt samtykke.

På oppdrag fra *Norges idrettshøgskole* har NSD – Norsk senter for forskningsdata AS - vurdert at behandlingen av personopplysninger i dette prosjektet er i samsvar med personvernregelverket.

Har du noen spørsmål om prosjektet og/eller deltakelse ta gjerne kontakt med oss.

Med vennlig hilsen

Anette Skilbred  
Doktorgradsstipendiat,  
Institutt for idrett og samfunnsvitenskap, Norges idrettshøgskole  
Telefon:  
E-post: [anettesk@nih.no](mailto:anettesk@nih.no)

Sigmund Loland  
Professor og veileder,  
Institutt for idrett og samfunnsvitenskap, Norges idrettshøgskole  
Telefon:  
E-post: [sigmundl@nih.no](mailto:sigmundl@nih.no)

Ønsker dere kontakt med andre enn prosjektgruppen kan dere ta kontakt med:

- Vårt personvernombud *Rolf Haavik (Habberstad)*

Hvis du har spørsmål knyttet til NSD sin vurdering av prosjektet, kan du ta kontakt med:

- NSD – Norsk senter for forskningsdata AS på epost ([personverntjenester@nsd.no](mailto:personverntjenester@nsd.no)) eller på telefon: 55 58 21 17.

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## Samtykkeerklæring

Jeg har mottatt og forstått informasjon om prosjektet unge idrettsutøvere og prestasjonsfremmende midler og har fått anledning til å stille spørsmål. Jeg samtykker til:

- å delta i intervju
- at intervjuopptak lagres frem til prosjektslutt og anonymisert transkripsjon av intervjuet lagres etter prosjektslutt for kontroll og etterprøvbarhet

Jeg samtykker til at mine opplysninger behandles i henhold til beskrivelsene i dette infoskrivet.

-----  
(Signert av prosjektdeltaker, dato)



## **Appendix 4**

### **Original interview guide in Norwegian and English translation**





### *Individuelle intervjuer*

<b>Overordnede spørsmål</b>	<b>Temaer</b>	<b>Intervjuspørsmål</b>
	<i>Oppvarming</i>	<p><i>Jeg tenkte vi kunne starte med at du forteller om ditt idrettsliv fra du begynte med idrett, frem til i dag?</i></p> <p><i>Hvordan begynte du med idrett?</i></p> <p><i>Hvordan kom du inn i idretten du driver i dag?</i></p>
<i>Hvordan vurderer utøvere egne mål og muligheter i idretten?</i>	<i>Prestasjon og ambisjoner</i>	<i>Hvilke mål har du i idretten?</i>
		<i>Hva gjør du for å bli best?</i>
		<i>Hva skal til for å bli best i din idrett?</i>
<i>Hvilke erfaringer har utøvere med ulike former for prestasjonsfremmende midler?</i>	<i>Kjennskap og tilstedeværelse</i>	<i>Hva tenker du på når jeg sier prestasjonsfremmende midler/tilskudd?</i>
		<i>Hvilke tilskudd/midler kjenner du til gjennom idretten og andre utøvere?</i>
		<i>Hvordan vurderes eventuelle behov for å bruke for eksempel kosttilskudd eller proteintilskudd?</i>
<i>Hvor og hvordan får utøvere tak i informasjon og kunnskap?</i>	<i>Kunnskap og informasjon</i>	<i>Hvor får dere kunnskap om ulike tilskudd?</i>
		<i>Hvilken kunnskap stoler du/dere mest på?</i>
		<p><i>Snakker du med lagvenner om du lurer på noe om kosttilskudd? Har noen spurt deg om informasjon?</i></p> <p><i>Eller bruker dere andre kilder for informasjon?</i></p>

<p><i>Hvordan dannes normer og verdier som ligger til grunn for utøveres syn på prestasjonsfremmende midler?</i></p>	<p><i>Normer og verdier i idrettsmiljøet</i></p>	<p><i>Snakker dere mye om slike tilskudd i ditt miljø?</i></p>
		<p><i>Kan du huske spesielle situasjoner der det har blitt snakket mer om? Hvordan da?</i></p>
		<p><i>Er det mange som er opptatt av kosthold? På hvilken måte?</i></p>
		<p><i>Hva vil du beskrive som et typisk forhold til mat, næring og tilskudd i ditt idrettsmiljø?</i></p>
		<p><i>Hvordan er oppfatningene om: tran, vitaminer, proteintilskudd og kosttilskudd i miljøet ditt?</i></p>
		<p><i>Kan du beskrive noen situasjoner som du tenker kan være utfordrende for utøvere når det gjelder bruk av slike, som kan skape dilemmaer, for eksempel behov for rask restitusjon (smertestillende)?</i></p>
<p><i>Hvordan påvirkes utøvere av antidopingarbeid?</i></p>	<p><i>Erfaring med antidopingarbeidet</i></p>	<p><i>Kjenner du til arbeidet til antidopingarbeidet? Har du tatt noen kurs?</i></p>
		<p><i>Kan du huske noen situasjoner der noen har vært i tvil om de kan eller vil bruke et tilskudd?  Hva var det som var utfordrende?</i></p>
		<p><i>Snakker dere eller vet du om andre som snakker om doping i ditt miljø eller i andre miljøer?  Hvordan vil du beskrive kommunikasjonen om dopingrelaterte emner mellom utøvere i ditt miljø?</i></p>
	<p><i>Avrundning</i></p>	<p><i>Er det noe mer du mener jeg bør vite noe om? Er det noen spørsmål som jeg ikke har stilt og som du mener det er viktig at jeg stiller i neste intervju?</i></p>

### *Individual interviews*

<b>Overarching questions</b>	<b>Topics</b>	<b>Interview questions</b>
	<i>Warmup</i>	<p><i>I thought we could start with you telling us about your sports life from the time you started playing sports until today?</i></p> <p><i>How did you get into sports?</i></p> <p><i>How did you get into the sport you play today?</i></p>
<i>How do athletes assess their own goals and opportunities in sports?</i>	<i>Achievement and ambitions</i>	<p><i>What goals do you have for yourself in sports?</i></p> <p><i>What do you do in order to be the best?</i></p> <p><i>What does it take to be the best at your sport?</i></p>
<i>What experiences do athletes have with various forms of performance-enhancing supplements?</i>	<i>Familiarity and presence</i>	<p><i>What do you think of when I say performance-enhancing substances?</i></p> <p><i>Which supplements do you have knowledge of through the sport and other athletes?</i></p> <p><i>How is the need to use, for example, nutritional supplements or protein supplements, assessed?</i></p>
<i>Where and how do athletes obtain information and knowledge?</i>	<i>Knowledge and information</i>	<p><i>Where do you receive information about different supplements?</i></p> <p><i>What knowledge do you trust the most?</i></p> <p><i>Do you talk to teammates if you have any questions about supplements? Has anyone asked you for information?</i></p> <p><i>Or do you use other sources for information?</i></p>

<i>How are norms and values formed that underlie athletes' views on performance-enhancing supplements?</i>	<i>Norms and values in the sports environment</i>	<i>Do you talk a lot about such supplements in your environment?</i>
		<i>Can you remember particular situations where it has been talked more about than in other situations? If so – how?</i>
		<i>Are there many athletes who are preoccupied with their diet? In what way?</i>
		<i>What would you describe as a typical relationship with food, nutrition and supplements in your sports environment?</i>
		<i>How are the perceptions about: cod liver oil, vitamins, protein supplements and nutritional supplements in your environment?</i>
		<i>Can you describe some situations that you think might be challenging for athletes when it comes to using them, which can create dilemmas, such as the need for quick recovery?</i>
<i>How are athletes affected by anti-doping work?</i>	<i>Experience with anti-doping work</i>	<i>Are you familiar with the anti-doping work? Have you taken any courses?</i>
		<i>Can you remember any situations where someone has had doubts about whether they can or will use a supplement?</i>
		<i>What was it that was challenging?</i>
		<i>Do you speak of or know of others who talk about doping in your environment or in other environments?</i>
		<i>How would you describe the communication on doping-related topics between athletes in your environment?</i>
	<i>Wrapping up</i>	<i>Is there anything else you think I should know about? Are there any questions that I have not asked and that you think it is important that I ask in the next interview?</i>





