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FITNESS DOPING & GYM CULTURE

Gym culture is today a multi-million dollar global industry → Research shows that health arenas can be linked with doping → The demographic 'profile' of people who dope has been expanded → The expansion and popularisation of fitness culture has contributed to unclear boundaries between doping in subcultural environments and doping as a more culturally accepted phenomenon

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SUMMARY

From having been a subcultural, masculine-coded phenomenon in the 1970s, gym culture today has broadened, developing into a global, inclusive, multi-million dollar industry in which different forms of exercise are gathered under the general term of fitness. Despite this cultural transformation and the powerful idealisation of healthy lifestyles that characterises the fitness concept today, research shows, paradoxically, that these health arenas can be linked with doping. This report provides an overview of the state of research on fitness doping and how the routes to doping have been studied. One of its conclusions is that knowledge is limited, particularly regarding doping by women. The expansion and popularisation of fitness culture has led to unclear boundaries between doping in subcultural and often masculine-coded environments and doping as a more widespread and culturally accepted phenomenon in gym and fitness culture. The demographic 'profile' of people who dope has been expanded and the report ends with the question of how developments in prevention can tackle these changes.

1. Introduction

From having been an underground culture – a phenomenon that emerged in the 1970s in sweaty, masculine, enclosed environments – gym culture today has broadened and developed into a global multi-million dollar industry. The types of exercise offered by modern gym and fitness facilities have come to be seen as a potential solution to all manner of public health problems (Andreasson & Johansson 2014). At the same time, the trend has resulted in increasing focus on the body and what it looks like. We are living in the age of the body as Larsson and Fagrell (2010) term it and the exterior of the body has to a certain extent become a marker for how happy or successful a person is or may be assumed to be (McKenzie 2013). Despite the cultural transformation of the gym concept and the idealisation of a healthy lifestyle, research shows that these health arenas can be systematically linked to doping (Christiansen 2018). Naturally, people will have a variety of reasons for choosing to use products classified as doping substances as part of gym training. The choice may be made due to a desire to achieve specific physical goals or may involve various identity-related elements based on sex, sexuality and lifestyle. Choosing to use doping substances may also be about a desire to fit in with a community, or, of course, a response to feeling like an outsider.

This report summarises the research currently available in the social sciences on doping in gym and fitness culture, while also demonstrating knowledge gaps in this field.

2. Terminology

Discussing doping in general and in a research context unavoidably means becoming involved in a morally charged discourse in one way or another. For example, doping has often acted as a kind of counter to the ideal of health, “fair play” and rectitude that today’s sporting movement and state/civil society public health organisations often consider that they represent (Beamish & Ritchie 2007). Discussing doping at all thus means finding ourselves in a social and cultural landscape in which terminology choices are hugely significant. When we talk about “doping” in this text, we are mainly referring to substances and practices that are banned under Swedish law, such as (ab)use, possession and/or sale of prohibited substances such as anabolic-androgenic steroids (below “steroids”) and growth hormones (Act prohibiting certain doping substances 1991:1969; Lindholm 2013). Any discussion of doping can naturally also be linked to WADA (the World Anti-Doping Agency), the international organisation tasked with safeguarding the health of sportspeople and working for clean sport. Because the training carried out at gyms and fitness centres can

mainly be placed outside the world of sport run by the Swedish Sports Confederation, however, the influence of WADA (and of national subsidiary organisations) can be seen as limited in terms of anti-doping efforts. At the same time, this boundary is anything but clear cut. Some gym chains, such as Friskis & Svettis, and some student gyms such as IKSU in Umeå, are run as sports clubs and fall within the Swedish Sports Confederation’s remit.

The division between doping inside and outside the world of sport is nothing new either. As a phenomenon and a field of research, doping has often been discussed either as a sporting problem or a public health/societal problem. In the latter case, doping has mainly, but not exclusively, been linked with strength training and gym and fitness culture. To emphasise the contextual difference, researchers have sometimes used prefixes such as “recreational”, “exercise”, “vanity” and “fitness” when writing about doping in the context of gyms and fitness (Petrocelli et al. 2008; Christiansen 2009; Thualagant 2012). In this text we have chosen to use the term fitness doping, mainly to emphasise and remind the reader of the cultural context on which we are focusing (Andreasson 2015).

Terminologically speaking, researchers discuss doping in terms of use and abuse. In recent years several, mainly qualitative, studies have used the term “use”, which is considered to be more in line with the empirical statements exemplified (Christiansen 2018). The term “abuse” has also been seen to be more morally charged and associated with other drugs (Christiansen et al. 2017; see also WHO 2015). Whatever the terminology chosen by researchers, the general view seems to be that doping can lead to serious physical and mental health problems, such as increased irritability, depression, cardiovascular disease, liver damage, acne and hair loss (ACMD 2010; Pope et al. 2014; Rasmussen et al. 2018). Women run the risk of developing a deep voice, enlargement of the clitoris, disrupted menstruation and reduction in fertility and for men enlarged breasts (gynecomastia), smaller testicles and impotence are possible side effects (Evans-Brown et al 2012; Rasmussen et al. 2016). Researchers have also found that the risks associated with doping are often dose related and clearly linked to the user’s medical knowledge of and experience of different substances (Monaghan 2001; Parkinson & Evans 2006; Rasmussen et al. 2016).

3. Historical perspectives

One way of understanding contemporary perspectives on fitness doping is to place the phenomenon in a broader historical context. Schematically, the history of doping and gym culture can be divided into different phases. The first phase can be said to run from the early twentieth century to the 1960s. In many ways this phase spans the whole of

society and is interwoven with the history of modernity. This was the time in which ideas of doping were linked to the development of new types of technologies, biomedical progress and assumptions about the modern human (Dimeo 2007; Holt, Iouletta & Sönksen 2009). Performance enhancing substances were discussed, both in the context of research and at government level, based on the premise of seeking to investigate their usefulness, e.g. in work, sport and in times of war (Hoberman 1992; 2005; Dimeo 2007; Waddington & Smith 2009). In the 1950s steroids were used by Soviet and American weight-lifters and American bodybuilders (Dimeo 2007, see also Yesalis & Bahrke 2007; Connolly 2015; Gleaves & Llewellyn 2018). In parallel with early and quite unthinking use of different performance enhancing substances, reports were also produced about damage, health problems and even deaths. An emerging anti-doping movement gained strength in the USA from the 1950s onwards (Wagner 2011; Gleaves & Llewellyn 2013). Waddington and Smith (2009) state that it was not until the introduction of tougher anti-doping rules in sport that the understanding of doping as a problem in sport, as well as a public health issue for society (linked to gyms and fitness), became seriously established (Klein 1993; Mottram 2006; Kartakoullis et al. 2008; Christiansen 2018). In this respect, doping in sport and fitness doping share a common history.

3.1 Steroids as preparation for competitions

What is clear, however, is that bodybuilders on the US West Coast were not subjected to the same control as athletes in organised sport, because bodybuilding was not seen as a sport. In the 1970s, when the iconic Gold's Gym on Venice Beach was attracting users including Arnold Schwarzenegger, steroids and other substances were part of the preparation for various competitions (Gaines & Butler 1974; McKenzie 2013). This can be said to be the dawn of a second phase in the history of doping. In his autobiography, Schwarzenegger has talked about the fact that the use of steroids went without saying in this period (Schwarzenegger & Petre 2012). In the 1970s and 1980s bodybuilding was not particularly widespread, particularly not in Europe or the Nordic countries. As a form of exercise, bodybuilding was largely seen as a subcultural phenomenon and thus also partly a haven for different types of doping substances (Andreasson & Johansson 2014; Liokaftos 2017). Unlike in (elite) sport, there was thus a kind of delay in bodybuilding in particular which enabled doctors and bodybuilders to develop and experiment with different substances.

3.2 Bodybuilding linked with drugs

However, all this changed in the third phase, at the end of the 1980s and early 1990s, when strength training and bodybuilding gradually began to be associated with drugs, narcissism and ill-health. Bodybuilding gained a bad reputation and increasing numbers of reports and

biographies were published describing the harmful effects of steroids, unhealthy lifestyles and unfeasible physical ideals (Dimeo 2007). Sam Fussell's book – *Muscle: Confessions of an Unlikely Bodybuilder* – was published in 1991, for example, becoming something of a watershed in the debate on doping in bodybuilding and gym/fitness culture (see also Klein 1993; Joyner 2014). In it Fussell describes his route into bodybuilding and how his body and his self-image gradually changed. Steroids are described as a natural part of this development and initiation process. Gradually, Fussell realises that he has become a self-centred, unpleasant person and attempts to distance himself from the culture and the steroids. Leaving bodybuilding is described as a painful process though, in which Fussell not only loses his friends but an entire lifestyle.

3.3 A new fitness culture

In the fourth phase, which was launched in the late 1990s and took shape in the early 2000s, bodybuilding took more of a back seat as fitness culture emerged (Andreasson & Johansson 2014). A kind of “clean-up” of gym culture was seen and to attract higher numbers of ordinary fitness gym users, the bodybuilding fixation on body image and muscles was toned down, as it was associated with doping and ill-health. Women were welcomed and were gradually included in what had previously been a masculine-coded gym culture. This cultural transformation is also clearly visible in the link to health, which from the 2000s onwards was frequently employed by representatives of various sports centres and gym chains (Sassatelli 2010). In Sweden we see the term ‘gym’ giving way to new terms such as ‘health studio’, ‘fitness centre’ and similar. Some facilities also worked actively to exclude bodybuilders from their clientele. In his study on anti-doping efforts in Denmark, Mogensen (2011) shows, for example, how a series of postcards of bodybuilders was used as a deterrent. The cards depicted bodybuilders stereotypically, as the antithesis of the state's campaign to promote health, a balanced body and a good life. Although gym/fitness culture has undergone what could be termed a purification or civilisation process, it has not, however, fully succeeded in freeing itself from associations with doping and an extreme physical ideal. In some contexts, there has therefore been talk of a diversification of the gym landscape, in which the classic ‘hardcore’ gym with bodybuilders and an emphasis on heavy free weights, has partly, but not entirely, been transformed into a commercial hub for different forms of exercise and healthy bodies (Sassatelli 2010). Researchers have also debated the effect this cultural transformation process has had on the doping demography of gym culture. While some have analysed bodybuilding and doping in terms of marginalisation (Monaghan 2001; 2012; Klein 2007), others have focused on how “ordinary” exercise and training enthusiasts have increasingly come to be involved in lifestyles in which doping is seen as a

reasonable component in attaining goals and ambitions (Christiansen 2018).

What we are seeing, as we approach the 2020s, is possibly the dawn of a fifth phase. Systems for controlling doping are being problematised to an ever greater extent and discussions are developing around more holistic perspectives (Hanstad & Waddington 2009; Waddington & Smith 2009). There are also voices questioning bans and stigmatisation of certain substances. López (2012), who has studied elite sport and the anti-doping work carried out within WADA, claims, for example, that there is a lack of evidence of harmful side-effects from growth hormones, stating that previous alarming reports on health risks have been popularised and gradually naturalised by the media (see also Christiansen 2018). Gleaves (2010) also speculates on a potential future of doping substances that more or less lack side-effects. The market for potential users has diversified, as has the range of substances available (Fincoeur 2014; Van Hout & Kean 2015; Coomber et al. 2015). This trend is partly driven by the opportunities opened up by different online communities in terms of users' intentions to learn about doping and obtain the substances they desire (see e.g. Andreasson & Johansson 2016) and the transformation of new methods and doping distribution models (van de Ven & Mulrooney 2017).

4. Research perspectives and prevalence

Much as the ways in which doping has been understood have varied historically, the perspectives adopted by researchers have varied too. As a research field, studies of fitness doping were largely initiated in the early 1990s. Initially, the production of knowledge tended almost exclusively to focus on individual and psychosocial perspectives (Lucidi et al. 2008). Epidemiological and structural-functionalist angles dominated. With the help of regression analysis, for example, researchers identified being male, use of other drugs and strength training as possible predictors (DuRant et al. 1995; Kryger Pedersen & Benjaminsen 2002; Zelli et al. 2010). Qualitative meta-analyses were also carried out in which improved appearance, bigger muscles and improved sporting prowess were highlighted as the key to and “triggers” for doping (Public Health Agency of Sweden 2010, Sagoe et al. 2015). In terms of the routes away from doping (“exit processes”) the knowledge available is limited, but what does exist has mainly been based on various attitude surveys and how an understanding of people's attitude to doping can be used to develop preventive work. Nilsson et al. (2005) carried out a cross-sectional survey in a Swedish upper secondary school, for example. They draw the conclusion that the attitude of users and non-users to doping differs (in terms of understanding of masculinity, muscles and drug use) and they propose using these

differences as a starting point in creating different intervention programmes (cf. European Commission 2014; Kimegård & McVeigh 2014; Bates & McVeigh 2016; Bates et al. 2017).

While structural-functionalist perspectives on doping have been relatively common in a research context, this type of study has increasingly faced criticism (Christiansen et al. 2017). It is true that such perspectives can help to produce a greater understanding of why people choose to take performance enhancing drugs and warn people of the consequences of doing so, but there is also a risk that the typologies will be interpreted literally, resulting in a one-dimensional understanding of relatively complex problematics (Monaghan 2001). Typologies can lead to assumptions that the people who engage in doping are doing so for one reason and that they lack the capacity to make rational decisions, in other words they are doing something that “normal” people would never do. Since the 2000s, powerful arguments in favour of the need for a broader understanding have also emerged and become established in the field of research. Thualagant (2012) states, for example, that there is a need to deconstruct our understanding of fitness doping. She advocates studies more inspired by sociology and perspectives in which doping is seen in relation to different assumptions about gender and societal processes of medicalisation (see also Andreasson, 2015; Fincoeur et al. 2015). In line with this, Christiansen et al. (2017) have also asserted that descriptions in the media, as well as research, have tended to reproduce a simplified and sensationalised image of fitness doping. In their view, a nuanced understanding of those who engage in doping is a necessary prerequisite for effective, educational anti-doping efforts and they therefore offer a theoretical typology made up of four different types of user: the Expert type, the Wellbeing type, the YOLO (you only live once) type and the Athlete type.

When it comes to the Expert type, doping is understood as part of an applied science project and use is often based on a fascination with the effects of the substance on human physiology and the knowledge about and control of the body that the individual can develop. The Wellbeing type is less results-oriented, takes certain risks, but is mainly involved in order to look good and feel good. The YOLO type embraces risk and excitement and is constantly seeking new experiences. The Athlete type mainly uses doping in order to be able to compete and perform in bodybuilding or body fitness contests. Although there is broad variation both within and between these types, they can nevertheless be used as tools to identify some of the great variety that can be found in terms of fitness doping. At the same time, here too there is a certain risk of typologies being overused, contributing towards a simplified understanding of motivation and routes into doping. This becomes clear when we examine concepts such as identity and subjectivity, which here tend to be seen as static and isolated phenomena, rather than being relational and linked to social encounters and cultural contexts (Andreasson & Johansson 2014).

The ambition to contribute a diversified angle on fitness doping is also expressed in various qualitative studies. Monaghan (2001), for example, has studied the psychological and social dimensions of doping in bodybuilding (see also Sagoe et al. 2014; Kimegård 2015). Liokaftos (2018) is interested in the emergence of drug-free, “natural bodybuilding” from a cultural-sociological perspective – as a distinct physical culture within the established, doping-influenced culture of “normal” bodybuilding. In different ways, these studies have thus helped to widen far too simplified understandings of bodybuilding as a homogenous and subcultural phenomenon in relation to a broader fitness culture in general, and to fitness doping in particular.

In relation to the global spread and expansion of fitness culture, doping has been found in studies carried out in different parts of the world, e.g. in Europe, North America, Brazil, the United Arab Emirates and Iran. The research is not unanimous regarding prevalence and accessibility (see for example Bergsgård et al. 1996; Kryger Pedersen, 2010; Brennan et al. 2017). In a study conducted in Cyprus, for example, researchers found that steroids were used by 11.6 percent of visitors at 22 different gyms (Kartakoullis et al., 2008), while in Sweden these figures appear to be lower, lying at about 4–5 percent (Hoff 2013; see also Leifman et al. 2011; Public Health Agency of Sweden 2011; CAN 2017). Studies have often emphasised the importance of the cultural context in fitness doping and in a study carried out at 18 different gyms in the UAE, Al-Falasi et al. (2008) found that as much as 59 percent of gym users thought the risks of using steroids were outweighed by the opportunities/effects the substances offered. At the same time, there are studies pointing to a reduction in fitness doping. An annual youth survey sent out in the USA shows, for example, that in 2017 the use of steroids had fallen to 1.2 percent, from having been almost three times as high in the early 2000s (Johnston et al. 2018; see also Sagoe et al. 2014).

5. Doping and gender

Arguments have often been made that the sociocultural environment – in other words the type of mentality and the socialisation processes expressed in gym and fitness culture – is key to understanding fitness doping. At an early stage, research, and public debate, came to be about male bodybuilders, their risk behaviour and their desire to experiment with different substances to build muscle and masculinity (Gaines & Butler 1974; Klein 1993). Different cultural-sociological studies describe a subculture, to an extent within wider fitness culture, in which bodybuilding men (and some women) use doping to create extraordinary bodies (Monaghan 2001; Mogensen 2011; Locks & Richardson 2012; Liokaftos 2017). In general, research has claimed that one of the foremost reasons for doping can be linked to men’s desire to build muscles, perform and construct masculinity. In relation to this, researchers have

understood fitness doping as a kind of over-conformity and a central element of a dominant ‘hegemonic masculinity’ (Connell 1995). Fitness doping has also been seen as an expression of an outdated, insecure hyper-masculinity, in which a big exterior can compensate for inner inferiority (Klein 1993; Lentillon-Kaestner & Ohl 2011). Recently, the perspective on doping and gender has been broadened. In an ethnographic study of Swedish men who use doping substances, for example, Andreasson (2015) shows both how users reinforce traditional gender configurations and how they sometimes question traditional gender norms and heteronormative assumptions (see also Thualagant 2012). This study also problematises the way muscular masculinity can be understood in relation to other masculine positions, including addressing thoughts on fatherhood, family life and the responsibility to provide through paid labour.

When it comes to women and fitness doping, the interest of researchers has mainly focused on female bodybuilders (McGrath & Chananie-Hill 2009). As a phenomenon, female bodybuilding was introduced in the late 1970s, and in the 1980s and 1990s well-defined, muscular female bodies were able to win a certain amount of recognition in gym culture and in public debate. As female bodybuilding became established, questions about doping also started to be raised (Klein 1993; Roussel et al. 2010). Women were gradually invited into the male-dominated subculture surrounding bodybuilding and to a certain extent adopted the prevailing drug culture (Liokaftos 2018). This type of gender transgression rarely passes unnoticed (Richardson 2008). McGrath & Chananie-Hill (2009) explain:

Despite increased empowerment, the prominent theme of female bodybuilders’ experience is one of contradiction, often leading to attempts to “balance” popular notions of femininity and masculinity. Critical feminists, postmodernists, and sport sociologists describe how female bodybuilders balance contradictory demands of muscular development versus expectations of normative femininity. These include regulating muscular size to avoid being labeled as “too big,” “mannish,” or lesbian (...) using body technologies such as breast enlargements, plastic surgeries, and feminizing hairstyles, outfits, and accessories to counteract “masculinizing” effects of steroid use or loss of breast tissue. (p. 237)

Research shows that the gender dimension is central in understanding fitness doping (Andreasson & Johansson 2014) and that we currently have limited knowledge regarding women’s experiences (Evans-Brown & McVeigh 2009; Van Hout & Hearne 2016). Studies have also shown that while men have had access to subcultural environments in which they have been able to come into contact with and discuss doping for decades (Smith & Stewart 2012; Monaghan 2012), women have generally lacked this type of supportive social community (Griffet 2000; Van Hout & Hearne 2016). Bunsell (2013) discusses this in terms of a veil of secrecy and taboo, through which women played down

their use and were forced to rely on others (read men) to guide them. Due to the historical alliance between muscles and masculinity, women have also been more inclined to use substances considered to be less masculine, such as growth hormones, ephedrine and clenbuterol (Jespersen 2012). Although increasing muscle is also important, studies have shown that women's motivation for doping is more about reducing weight and gaining more youthful skin, improving sleep and healing injury (Baker et al. 2006). These patterns can also naturally be understood in relation to the potential side effects of different substances and how these relate to our understanding of gender.

6. Prevention

In the late 1980s, when doping was presented as a growing health issue, politicians were urged to take action. The result was the Swedish Act preventing certain doping substances (1991:1969). In the wake of stronger legislation, various preventive measures were also designed. These include relatively extensive work from the police and the introduction of compulsory education on the harmful effects of doping in schools (Swedish National Agency for Education 2011). One organisation that specifically works on prevention in a gym and fitness context is PRODIS (Prevention av Dopning i Sverige), which has developed an intervention programme entitled 100% Ren Hårdträning (100% Pure Hard Training).

100% Ren Hårdträning seeks to reduce the use of and access to anabolic-androgenic steroids (AAS) and other doping substances by people training at gyms. It does this by gyms developing long-term work to prevent doping in partnership with actors concerned in the area, mainly between the gym industry, the police, the Swedish Sports Confederation, district sports federations, the county administrative board, the municipality and the county council. (PRODIS, 2018)

The intention of the intervention programme is to support different gyms in working to develop their own anti-doping plans and policies. Training, diplomacy and working together to exchange information aim to create a set of values surrounding doping not only geared towards the people who use the substances in question, but to everyone who finds themselves in a gym context. PRODIS also states that in a follow-up survey of users of gyms that worked with the 100% Ren Hårdträning method in 2010–2014, the proportion of men who stated that they had used anabolic-androgenic steroids (AAS) at any time in their life had halved from 4 percent to 1.7 percent (Rehman Wigstad, 2015). However, it is difficult to determine whether it is PRODIS' work that has contributed to these changes or whether they could be attributed to other reasons (see also Bates et al. 2017).

7. Conclusions and knowledge gaps

The historical and cultural transformation of gym and fitness culture is central to our understanding of today's fitness doping challenges. Like fitness culture itself, doping demography is fluid. Together with a greater focus on the body and its constitution (among both women and men) and the ease of access to different types of substance, not least online, fitness doping has come to be seen as a growing public health issue in many Western countries (Van Hout & Hearne 2016; Christiansen, 2018). For many people, taking shortcuts, 'to be all you can be' can be a tempting option in an individualised culture of performance, where the body and its constitution are placed front and centre. After having crossed/surmounted what can be described as various obstacles, such as breaking the law, the person who uses doping substances gradually becomes invested in subcultural values and environments, while also becoming part of a more overarching health movement that is idealised in society. The routes to doping are complex and can be understood at different levels.

Firstly, we have the question of identity and gender, highlighted in a research context as being highly relevant to routes into doping. Muscular masculinity is one of the factors emphasised as a given catalyst for doping. There are plenty of studies regarding this and analyses also show that a muscular angle has been formative in developing different prevention campaigns targeting (potential) users. On the other hand, other masculine positions have not been studied to any major extent. In terms of women's use, the knowledge available is even more limited. In relation to the transformation and popularisation of gym culture, research that analyses different "doping triggers" on the basis of a nuanced doping demography (in terms of physical ideal, different types of exercise, age, sex, etc.) is largely lacking. This type of knowledge ought to be central to developing new prevention strategies geared towards both gym users in general and users of doping substances in particular.

Secondly, it is important here to emphasise the national and cultural context. Using doping substances is banned by Swedish law, and involvement brings with it a real risk of legal and social sanction. Individuals' negotiations surrounding their choice to use or not use doping during training thus become a question of subcultural allegiance and the creation of an identity that challenges the norms and values of society. In a research context, fitness doping has often been discussed precisely in terms of subculture, crime, deviant behaviour, and been set in sharp contrast to the public health efforts of the state. The construction of fitness doping as a social problem has also been incorporated into the Swedish school curriculum, which has practically

created a linear relationship between the Act prohibiting certain doping substances, which was developed in the early 1990s – and imposed harsher penalties for doping – and the anti-doping work carried out by the education system (Swedish National Agency for Education 2011). As touched on in this text, however, a dualistic position in which doping is linked to belonging to a subculture and contrasted with what is deemed to be the position of majority society can be problematic (cf. Christiansen 2018).

Finally, seeking knowledge on possible shortcuts to desired results (for example by doping) can also be understood as part of the development and globalisation of gym culture. Kryger Pedersen (2010), for example, frames this trend within the medicalisation of modern society, characterised by a rationality that says ‘drugs provide rapid and simple solutions to different physical problems so it is logical to make use of them’. This medicalisation process has also provided potent tools and measurement instruments to control and monitor the health of the body in detail. Implicitly built into the process is the gradual shift of the

individual’s perspective on doping, from being associated with moral and perhaps romanticised ideals of ‘fair play’ in sport (Dimeo & Hunt 2012; Dimeo & Møller 2018), to a scientific and medical discourse in which the body, through monitoring in minute detail, the right diet, a tough exercise regime and (illegal) substances, is seen as something that can be changed and improved (Andreasson & Johansson 2014; Christiansen 2018). Instead of understanding the routes to and from doping in terms of either/or, this shift in perspective means that doping is increasingly being analysed in terms of social and cultural processes.

Furthermore, the importance of the cultural contexts and the negotiations that take place in the intersection between subcultural allegiances and the idea of living what is considered to be a normal life, are an area for further research. In terms of anti-doping, this ultimately culminates in the question of how the development of preventive measures in the future can take account of changing doping demographics and what form these measures will take – control or dialogue or a combination of the two.