



Game changers for meat and masculinity? Male athletes' perspectives on mixed and plant-based diets

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ABSTRACT

The dietary choices of male athletes are increasingly a topic of moral and nutritional debate. Though it has long been a consensus that athletes require animal products to advance their athletic goals, this understanding is now challenged in academic and popular sources based on nutritional evidence and concern about the environmental impacts of animal products. In order to better understand how (semi-)professional male athletes perceive plant-based diets and diets containing animal products, thirteen semi-structured interviews were conducted with male athletes competing nationally and internationally, including mixed and plant-based eaters. Interviews were analysed through reflexive thematic analysis, in line with a critical, qualitative research methodology. Justifications for meat, situated knowledge and masculinity were used as theoretical lenses. Our analysis shows how athletes reproduce nutritional claims about the necessity of protein for athletes, but disagree on the suitability of plant-based sources. This nutritional discourse derives from a broad range of sources, including professional nutritionists, friends, online influencers, and media. Second, when explaining their own food practices, food being 'nice' and 'normal' – common justifications for meat as evidenced in the 4N theory – often supersede necessity. Embedding these views in their everyday lives as athletes shows that food environments and shared eating practices fortify a mixed diet as normal, and plant-based diets as anomalous. It further shows how the view of meat being normal is subject to shifting masculinity norms. Interviewees reject meat eating as normal and masculine for men, while male athletes who show dedication, constraint, and knowledge in a plant-based diet are viewed positively. As role models for diet and masculinity, this has implications for a potential role of athletes in a societal transition towards lower consumption of animal products.

1. Introduction

The year 2018 saw the release of the documentary 'The Game Changers'. This documentary, featuring top athletes, such as boxer Bryant Jennings, proposed that athletes can perform competitively without animal protein and may even gain a competitive advantage from adopting a plant-based diet. Though it has been critiqued by nutritionists for being less than rigorous in selecting and presenting underlying scientific proof, the documentary and ensuing societal and scientific response also highlights important tensions in the field of sports nutrition. Not only does it show how the optimal diet for athletes is an ongoing debate, but also how athletes need to navigate competing

moral beliefs and sources of nutritional information in making dietary choices.

An important context for the documentary is shifting societal debates about meat eating. In the past decades, global meat production and consumption have raised serious concerns about its adverse impacts on the environment and people's health. Alongside others, the EAT-Lancet Commission underlines the necessity of a global consumption shift characterized by an increase in the consumption of plant-based foods and a decrease of animal-sourced foods (Willett et al., 2019). On top of this, the documentary vividly shows how athletes also express masculinity through diet.

Despite such moral and nutritional complexities, we know little

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about how athletes who are not involved in the ‘The Game Changers’ documentary think about food in this increasingly contested field. The aim of this paper is to better understand the perspectives of athletes with different dietary practices, including plant-based diets¹ (PBDs) and mixed diets², on diets and how those perspectives are shaped in everyday life contexts.

It is important to understand the perspectives of athletes on diet for a number of reasons. First, there is a dominant view that athletes require meat for their athletic performance, and therefore cannot shift towards a plant-based diet, even if they may wish to do so for environmental or other reasons (Jenner et al., 2019; Nebl et al., 2019). Athletes themselves have supported this view (Iwasa-Madge & Wegener, 2020). It is important to note that the understanding of meat being necessary is a common justification for meat consumption (Joy, 2010; Piazza et al., 2015).

Second, nutritional information relevant to athletes is contested. Meat is a dense source of proteins, calories, iron, zinc, and B12 vitamins, though dairy products provide vitamin D, dietary calcium, and retinol (Klurfeld, 2015; Pereira et al., 2013). Vegan diets that are not crafted to replace such nutritional needs with plant-based sources may generate a risk of energy, protein and micronutrient (vitamin B12, vitamin D, iron, zinc & calcium) deficiencies (Appleby & Key, 2016; Haider et al., 2018). Despite the view that male athletes have a high need for meat and other animal-based foods, recent evidence has shown that a well-composed plant-based diet supports the nutritional requirements of an athlete (Craddock et al., 2016; Lynch et al., 2018; Meyer & Reguant-Closa, 2017; Roberts et al., 2022).

Lastly, male athletes can play a role in promoting or impeding a societal transition towards more plant-based diets as they are often adopted as role models for healthy lifestyle and diet, but also for masculinity. Well-known male athletes have publicly endorsed and promoted animal-based products since the twentieth century, partaking in the formation of masculinity, health, fitness, vitality, and their interrelation with animal sourced foods (Veri, 2016). Though male athletes have often figured as role models for hegemonic forms of masculinity that rely on meat eating, they could act as potential trendsetters for a wider acceptance of sustainable, plant-based diets (Giuliano et al., 2007; Greenebaum & Dexter, 2018), and for popularizing new forms of masculinity.

This paper addresses the following research question: How do athletes view plant-based and mixed diets, and how are these views shaped in the context of their everyday lives? In order to answer this question, we conducted in-depth, semi-structured interviews with thirteen professional and semi-professional athletes based in the Netherlands and Finland, competing and having competed nationally and internationally in different sports categories, and adhering to either a mixed or plant-based diet. In what follows, we first discuss our three theoretical vantage points, relating to justifications for meat eating, the situated knowledges that people draw on in their eating practices, and meat in relation to the performance of masculinities. We then proceed with specifying the methodology and the methods used for data collection

¹ **Plant-based diet:** There is currently no single, universally agreed consensus about the definition of various diets that consist mainly of food items of plant-based origin (vegetarian, vegan, flexitarian, pescatarian etc.). For clarity, in this study, the term ‘plant-based diet’ refers to vegetarian or vegan diets, or other diet regimes that consist mainly of food items of plant origin, such as fruits, vegetables, nuts, grains, and legumes, but may contain incidental animal products in small quantities. Where relevant, vegetarians (inclusion of some dairy and egg) and vegans (exclusion of all animal products and their derivatives) are pointed out per se.

² **Mixed diet:** In this study, a mixed diet refers to a diet, that consists of foods and products from both, animal and plant origin without deliberate restrictions. This term was chosen to highlight eating animal flesh as a diet, rather than referring to the physiological term omnivore, which refers to an animal that can physically eat plants and other animals.

and analysis. In the combined Results & Discussion section we present our findings and interpret them using the three theoretical lenses distinctly, which we then draw together in the Conclusion section. In doing this, we aim to contribute to an understanding of the potential role of athletes as role models for a healthy and sustainable diet and for forms of masculinity.

2. Food justifications, situated knowledge and masculinity

To understand how athletes perceive mixed and plant-based diets, we first draw on the 4N theory on justifications for meat consumption. Perceptions of meat consumption have been shown to be heavily shaped by ‘carnism’, a term coined by Joy (2010) to denote the ideological belief system underlying the consumption of meat. According to Joy (2010), meat consumption is initially treated as “just the way things are”, with people not reflecting on why they eat meat, and why they eat certain animals and not others. Joy theorized that people do this, because they regard meat consumption as something that is normal, necessary, and natural, or the 3Ns. Meat consumption is something that we have always done and what the people around us expect from us (i.e., meat is normal). It is also healthy and necessary for our survival as a human species (i.e., meat is necessary), and humans are evolved to eat meat, are omnivores, and naturally crave it (i.e., meat is natural). Together these understandings of meat in the human diet form the 3N theory (Joy, 2010). Empirical testing of this theory showed that people indeed predominantly justify meat consumption with it being normal, necessary, and natural (Piazza et al., 2015). The justifying scheme introduced by Joy was further modified by adding a fourth element, *niceness*, to capture the perceived hedonistic pleasure of eating meat (Piazza et al., 2015; Pohlmann, 2021). Interestingly, studies on vegophobia and anti-vegans, respectively, imply that the opposite justifications are used for a vegan diet, meaning such a diet is NOT normal, natural, necessary, and nice, as veganism is ridiculed and portrayed as practically impossible and unpleasant (Cole & Morgan, 2011) and as ‘nutritionally inadequate’ (Gregson et al., 2022, p. 9).

While these four elements together account for a large share of justifications for meat consumption, they do not explain how such justifications fit in broader views on diet and are shaped in everyday life contexts consisting of a multitude of information, practical considerations, and identity concerns. To gain a better understanding of such dynamics, we first turn to literature on the situated nature of food knowledge. As already indicated, for athletes the assumption that meat is necessary is prominent though contested. This means that athletes need to make sense of conflicting information. Though a sender-receiver model, which assumes that information can be offered with unquestioned legitimacy to people who lack the appropriate knowledge, is still influential (Halkier & Jensen, 2011), a range of scholars has shown how consumers make sense of health and sustainability advice in everyday practice and weigh such knowledge with other forms of knowledge. For example, next to formal nutritional advice, people draw on the informal knowledge offered by people in their social network (Lovell, 2016), media such as tv and newspapers (Johnston & Goodman, 2015), and through social media (Baker & Rojek, 2020). This body of research shows that knowing about healthy food is shaped by shared and mediated discourses about healthy eating.

Adding to the problematic link between knowledge and consumption, is the fact that any knowledge about food, whether it comes from a friend or from a dietician, needs to be incorporated into everyday food practices. Often there are obstacles that prevent such practical incorporation. Practices come with their own cognitive and embodied knowledges, practical understandings, and normative orientations (Halkier & Jensen, 2011; Jacobsen & Hansen, 2021). Nutritional advice, even when accepted as valid, is not unproblematically put into action, but needs to be translated into everyday practices where there may be many practical barriers. In addition, people weigh contradicting priorities of multiple practices, such as hospitality and health, as well as

considerations of convenience and time constraint (Halkier, 2020). As food is vital for athletic performance, it is striking that research on the diverse kinds of knowledge athletes draw upon and how they incorporate such knowledge in everyday practice is, to our knowledge, quite absent.

Another issue to take into account when understanding people's dietary choices in the context of their everyday lives, is the fact that food is charged with cultural meanings, including those relating to gender. Both athletics and consumption are activities in which gender identities and norms are performed and are rife with normative expectations about how to act as a male or female. It is important to note that ways of doing gender are both dynamic and multiple (Butler, 1990). They differ over time and place, and, importantly, multiple ways of doing gender co-exist, though they are understood in hierarchical ways within societies. A body of research addressing this multiplicity points out various forms of masculinity, alternative to hegemonic masculinity (Brady & Ventresca, 2014; Greenebaum & Dexter, 2018; Mycek, 2018). For Brady and Ventresca (2014), renaissance masculinity is a theoretical concept proposing how "dominant and non-dominant masculinities simultaneously co-exist and function within a larger field of masculine norms and practices" (p. 302).

Connecting gender theory to the field of consumption, Adams explored a link between meat and masculinity, and analysed how male dominance and systems of oppression in general are reflected in the way humans interact with and consume animals (Adams, 1990). Ever since, numerous studies have highlighted how meat and masculinity are associated (see Rosenfeld, 2018; Ruby, 2012). Accordingly, the act of eating meat can be seen as *doing* masculinity. Such a performance is often portrayed in commercials, for instance in hamburger advertisements (Buerkle, 2009; Rogers, 2008) and is also a way to control a masculine impression on others (Bogueva et al., 2022; Vartanian, 2015).

Studies have shown that men feeling threatened in their masculinity are more inclined to opt for meat than men feeling affirmed in their masculine gender identity; moreover, those who eat masculine foods are seen as more masculine by others (see Vartanian, 2015). In addition, men do not only consume meat in larger portions and more frequently compared to women (Rosenfeld, 2018), but also justify eating meat to a larger extent and in ways that underscores their masculinity (Rothgerber, 2013). In a study where masculinity and the 4Ns theory are connected, Stanley et al. (2023) found that men view meat more as natural, nice, and necessary, and the more men identify as masculine, the more they view meat as normal. Studies conducted with Implicit Association Tests (IATs) have shown that men exhibit stronger implicit associations between meat and the attribute of healthiness and deliciousness than women, and they also explicitly rank meat healthier and tastier than women (Cliceri et al., 2018; Love & Sulikowski, 2018). Thus, also common justifications for meat consumption are gendered.

This meat-masculinity nexus does not mean that men who do not eat meat necessarily perform more feminine identities or dissolve such a gender binary. Mycek (2018) found that in explaining their decision to adopt a vegan diet, men use logic, rationality (and explicitly not emotion), and "expert" research. In addition, the 'hegan' archetype of vegan men who focus on health aspects of their diet (Wright, 2015), still complies with hegemonic masculinity (see Greenebaum & Dexter, 2018). Greenebaum and Dexter (2018) did not recognize this hegan archetype amongst the twenty vegans they interviewed. Alternatively, they found a 'hybrid masculinity' that rejects dominant values of hegemonic masculinity and embraces feminine values of compassion and care for animals. However, the men also emphasize non-conformity and standing up for their beliefs, reinforcing values that fit within the hegemonic masculinity frame. Though all these alternative forms are somehow a rebellious reaction to hegemonic masculinity, they do not challenge a masculine/feminine binary and related gender inequality. Instead, they rather "redo" gender than "undo" it by masculinizing a practice that is perceived feminine (Mycek, 2018).

Professional male athletes embody some of the traits associated with

hegemonic masculinity, including strength and competitiveness, which may influence how they justify mixed diets or PBDs, but also how they are expected to eat. This expectation was exemplified in the case of NFL player Arian Foster who declared his vegan identity on Twitter. Researchers found that Foster was portrayed as a 'rare, one-off disruption of football's dominant masculinity' in the media, in response to his announcement to have become vegan (Brady & Ventresca, 2014). Media outlets relied on healthism and nutritional justifications responding to his tweet, while downplaying ethical or political reasons that possibly motivated this change.

Though there is now a broad field of literature on carnism shaping people's justifications for meat consumption, there is less understanding of the ways in which such justifications, as well as the broader perceptions of mixed and plant-based diets, are shaped in everyday life contexts. We have highlighted the forms of situated knowledge that people draw on in their eating practices, and meat in relation to the performance of masculinities as possible mechanisms behind perceptions. In the remainder of this paper, we use these insights to better understand the perceptions of athletes on mixed and plant-based diets.

3. Methodology and methods

Since the aim of this study was to investigate athletes' perspectives, as well as the backgrounds of such perspectives in their everyday lives, we adopted a critical, qualitative methodology, or what Braun and Clarke call a big Q approach (Braun & Clarke, 2022a). This is a non-positivist approach that emphasizes 'researcher subjectivity as a resource for research' and 'meaning and knowledge as contextually situated, partial and provisional' (Braun & Clarke, 2023, p. 2). The approach is critical for 'interrogating taken-for-granted assumptions and cultural commonplaces' (Braun & Clarke, 2023).

Our methodology was further shaped by Braun and Clarke's approach for reflexive thematic analysis which we explain later in this section. While this is a method for analysis rather than a methodology, it reflects particular theoretically-based assumptions which are methodological in nature (Braun & Clarke, 2022b). For example, the approach is incompatible with a purely inductive approach, as no researcher enters the field without theoretical assumptions. Instead, the approach is located somewhere on a continuum between deductive and inductive research. Theoretical frameworks serve as lenses on the data rather than as a resource for hypotheses to be tested.

As a method for data collection, we employed semi-structured interviews. A decision to rely on interviews was based on our aim as well as on the social distancing guidelines due to the Covid-19 pandemic, and the circumstances of the athletes in which limited time was available and methods such as observation were not permitted. We interviewed thirteen professional and semi-professional athletes. Seven athletes competed on a national level (National Championships or similar), and six on an international level (European Championships, World Championships, Olympic qualifications or similar). Three participants had recently retired from competing but were involved in their sports by coaching or as active recreational athletes. The sample consisted of individuals with multiple European nationalities and places of residence, but most participants were either Dutch or Finnish. Given the cultural differences in perspectives on diet, the research findings are not thought to be transferable to other cultural settings (see Shenton, 2004).

In the recruitment we aimed for a balance between team and solo sports, and between plant-based eaters and mixed eaters. In addition, we aimed to include at least two interviewees per sport. In the end we included seven athletes from two types of team sports (Basketball $n = 2$, Volleyball $n = 5$) and six athletes from three different solo sports (Weightlifting $n = 2$, Crossfit $n = 2$ and Combat Sports $n = 2$). At the time of the interviews, most respondents resided in the Netherlands or Finland and were 22–37 years old. Two athletes described themselves as vegan, two as vegetarian (of which one ex-vegan), and the rest considered themselves as mixed eaters. Due to their public profiles as

professional athletes, more specific demographic details of the participants are withheld to protect their anonymity.

Interviews were conducted in a semi-structured fashion via Microsoft Teams in the period of March–April 2021 by one of the authors. Interviews included blocks of questions to understand 1) current diet and food practices in their everyday life, 2) reasons, beliefs and justifications behind food choices, 3) current knowledge about their diets, and how they acquired that knowledge, 4) the influencers/factors/sources that shape their views and beliefs, 5) the history of their diet, 6) their views in relation to others and lastly, 7) the role of their diet in their sport. Interviewees were asked to not just state their views but give detailed descriptions of their daily dietary and everyday life practices. Furthermore, questions were asked in an open fashion, with as little steering as possible. The interviewer used probes that responded to information already provided by the interviewee to ensure that interviews contained a reflection of the experiences and views of the interviewees.

The order of interview topics was adjusted to the way in which interviewees answered the questions, to allow a more natural conversation. The interviewer emphasized the voluntary nature of participation. Furthermore, it was made clear to interviewees that their answers would not be judged, and they were open to share what they wished. The steps we took in the interviews are in line with common criteria for good qualitative research such as credibility and reliability (Shenton, 2004). Yet, in line with our critical qualitative methodology and reflexive thematic analysis approach, we wish to emphasize that other criteria, such as depth in understanding, were more important considerations (Braun & Clarke, 2023).

The interviews were video recorded and transcribed verbatim, using encrypted codes to protect the anonymity of each participant during the data analysis and writing of the results. The interviews held in Finnish were translated to English transcripts. The interview duration ranged between 30 and 45 min.

A thematic analysis was conducted in line with Braun and Clarke's approach for thematic analysis (Braun & Clarke, 2006), specifically the reflexive thematic analysis as specified in Braun and Clarke (2022a), using the 4N theory, situated knowledge and the performance of masculinity as theoretical lenses. In addition, instead of seeing the researcher's involvement and subjectivity as a source of bias, reflexive thematic analysis assumes it to be an analytical resource, which leads to coding being an 'inescapably subjective and interpretative process' (Braun & Clarke, 2022a, p. 2). All authors have brought personal insights into the analysis. Space does not permit a full discussion of our positionality and we wish to avoid the suggestion that superficially declaring our demographic characteristics will suffice. Yet, one aspect of our position vis-à-vis the topic is worth mentioning and this is a shared concern about the detrimental effects of current meat heavy diets to planetary and human health. To achieve more interpretative depth, steps in the analysis were thoroughly discussed and challenged by all authors (Braun & Clarke, 2022b).

The first phase of analysis consisted of familiarization with the data through transcribing and rereading the transcripts. The second phase consisted of open code generation. Our approach in this phase was inductive, as our aim was to get an overview of the scope of and rich insights in perspectives on diet. This was followed by a third phase of sorting codes into themes and sub-themes. Here our theoretical lenses and our own subjectivity were used to sort and understand the data. Codes were grouped according to the categories of the 4N theory, and then sorted into sub-themes. Sub-themes further included sources of information, practicalities of everyday life, and gender identities. A visual thematic map was generated at this stage of analysis. At this stage we diverged from the 4N categories, as it appeared that one of the Ns (meat is natural) was redundant in our sample. Furthermore, to include all sub-themes, and reflect broader perspectives of athletes on diet, and the background of such perspectives in their everyday lives, the themes were rearranged to cover multiple domains. In phase five, we identified patterns in the views combined with mechanisms behind certain views

in the context of athletes' everyday lives. Phase five involved refining and naming the themes in such a way that they integrated both the views on diet, and a rich understanding of the way in which such views are generated in interaction with different sources of information, practicalities in athletes' everyday lives, and gender identities.

4. Results and discussion

Four main themes were developed that captured both views and mechanisms behind such views. Themes and subthemes can be found in Table 1.

4.1. Diverging views and knowledge sources for necessity

The necessity of certain foods and nutrients was seen to be an important theme in the interviews. Athletes talked about food choices in highly nutritional and instrumentalist terms, suggesting that nutritional information is straightforward and legitimate for this group of consumers. For example, interviewees talked abundantly about nutritional properties of animal- and plant-based products and diets, notions related to physical performance, recovery, and health, in the light of mixed diets and PBDs. Yet, the way in which athletes talked about nutritional information was skewed towards certain topics and suggests a shared discourse about healthy eating. Strikingly, athletes place most emphasis on protein, and less on for example fibre or other micronutrients. Notions about the nutrients and minerals in a mixed diet were often mentioned on a general level but not further specified.

"I always try to get some vegetables for the vitamins and some meat for the proteins and for the other vitamins (...) For the protein is like 2.2 per kilo body weight and meat on every meal" Mixed Eater, Team Athlete 4

Table 1
Themes and subthemes.

Themes	Subthemes
Diverging views and knowledge sources for necessity	Nutritional properties of animal products & PBDs Arguments about physical performance and diet Protein and its bioavailability Arguments about (un)healthiness of mixed diet or PBD Sources of knowledge: (team) nutritionists; (online) role models/famous athletes; girlfriends; documentaries; bodily sensations, appearance or fitness of the body
Pleasure over performance and health	Taste, flavour Loving or liking of animal products Negative tastes related to animal products (e.g., greasy, dirty) Perceived restrictiveness of PBDs obstructs a 'nice' relationship with food
Practicalities of a normal and divergent diet	Custom and habit Perceived lack of skills, time and experience with PBDs Availability and accessibility, food that is (not) provided (e.g., by clubs, coaches, training camps)
Dismissing a meat-masculinity nexus	Perception that meat-masculinity nexus is annoying PBDs have become more normal/less stigmatized for men/male athletes Positive/negative reactions to PBEs are context specific Association of PBDs with determination, discipline, and rationality Acceptance of 'feminine' values (care for animals and environment) for men Male, and not female, athletes as role models

“Lots of vegetables and fruits for everything that is healthy, vitamins, minerals, whatever.” Vegetarian Team Athlete 6

“Eggs are really high in good things and vitamins” Mixed Eater, Solo Athlete 3

For most mixed eaters, meat was perceived to offer essential nutrients for performing in sports. Protein and animal products were highly connected, as if they were synonymous, being in congruence with the common perception of meat equalling protein in standard meals (Schösler et al., 2012). Mixed eaters placed emphasis on animal-based foods as being ‘necessary’ in light of their athletic performance. In substantiating the necessity of meat, mixed eaters reproduced nutritional discourse, using jargon such as the ‘availability’ of protein.

“Why meat for lunch and dinner rather than, I don’t know, any source of other protein, it’s because it’s the most available protein, and the highest quality of protein you can get for your body is from eggs and red meat, things like this” Mixed Eater, Solo Athlete 2

“So to be honest, I think to reach a certain level of training, going only vegan is really hard. Vegetarian is possible, because you still have cheese and it’s mostly because of the protein income and the quality of the protein actually. Because of course the guys are like ‘yeah you can get the same amount of protein from this and that’, of course but I mean it’s not the same availability” Mixed Eater, Solo Athlete 2

In contrast, the PBEs questioned the need for meat to get their proteins, consistent with research on vegan men in general busting “the protein myth” (Greenebaum & Dexter, 2018), and acknowledged a broader range of protein sources besides animal products but remained clearly in the discourse on necessity. Going a step further along this line of necessity, especially vegans considered their diet as leverage to better performance, recovery, and health.

“I don’t need the meat to get my proteins and to get whatever I need for my body” Vegetarian Team Athlete 6

“[the vegan diet] started with a performance-based mindset because I’m an athlete ... and I started eating plant-based because I believed it was healthier for my body and therefore, I would recover – I thought I would recover faster and that I was able to be better at least than others that don’t eat fully plant-based (...) so I’m not going back anymore” Vegan Solo Athlete 1

Necessity in common food discourse is seen as more or less congruent with being healthy, for example in the case of meat being justified with the notion that it is necessary (Joy, 2010; Piazza et al., 2015). However, in the interviews with athletes a distinction was seen as striking between necessity for performance and for health. One vegan participant pondered upon the broader health indications of the interaction of high-level athleticism and one’s diet. He turned vegan to counteract the negative health effects of being a professional super heavyweight class athlete and was convinced that eating plant-based would offset some of the negative impacts of his particular sport.

“I’m lifting in the super heavyweight class and my weight is like 140 kilos, so no matter what you eat, it’s not the healthiest thing. So, then I was thinking that if I could make it at least a little bit healthier, that I could still be 140 kilos but take the health matters better into consideration. And the literature I read was strongly indicating that it [vegan diet] would be healthier to do so” Vegan Solo Athlete 2

“If I stop playing sports (...) I think then meat would be reduced even more, because then I really don’t need it” Mixed Eater, Team Athlete 3

Athletes retrieved nutritional knowledge from a variety of sources. The two athletes quoted above accessed nutritional research on their own. For team athletes, nutritionists linked to their team were dominant

in determining their dietary options. Though some saw such guidance as the primary source of knowledge, others weighed it against other sources of knowledge. Some athletes took on a different diet regime by following an online role model, or a recommendation by someone “fit” in their environment, underlining the relevance of social networks in the legitimacy of dietary information (Lovell, 2016). Strikingly, official national guidelines were not included as a source of information. Girl-friends were also important sources of information about PBDs. Some participants specifically stated their vegan or vegetarian (ex-)girlfriends as their influencers on their views about PBDs. Female partners were also seen as a source of more practical forms of knowledge, such as know-how about recipes. This underlines the notion that nutritional advice cannot be assumed to steer consumption directly, but needs to be incorporated in practice (Halkier, 2020).

“It [PBD] would be easy if the initiative would come from the partner, for example, in a relationship, it would be the other one who would have done it for a long time, so you could just get in and learn like ‘hey this is a nice dish, how did you make it?’. So, learning from another” Mixed Eater, Team Athlete 5

In addition, the Netflix documentary ‘The Game Changers’ and especially the appearance of well-known male athletes who were vegan, was mentioned as convincing evidence of athletic performance being compatible with PBD, affirming the notion that consumers understanding of healthy food is shaped by shared and mediated discourses (Johnston & Goodman, 2015)

“It was good to see people, that are very good in their sport and have a plant-based diet” Mixed Eater, Team Athlete 3

“Later with the documentary [The Game Changers] I started like maybe thinking or seeing like ‘hey, this could be good for the body and your health and your performance’” Vegetarian, Team athlete 1

“I do think that there are some athletes there, I think Novak Djokovic and this guy, Lewis Hamilton, they’re vegan and some basketball players from the NBA. I think it’s just really cool, because they showed for the common people that it’s really possible to perform great on a vegan diet” Vegetarian Team Athlete 7

Just one interviewee stated doubts about the soundness of the nutritional claims made in the documentary, while emphasizing the need to do ‘research’, referring to an individual’s quest for information drawing on self-selected information. However, the prime justification he offers for continuing the consumption of animal-based products is not necessity for health or performance, but rather taste.

“I made a lot of research and when this the big documentary about the Gamechanger came out (...) to be honest, I know some, but for myself, I’m not convinced. I’m not convinced (...) I love meat, I love eggs, I love dairy products (...) It sounds more political than it is for health to be honest.” Mixed eater, Solo Athlete 2

In addition, bodily sensations and appearance and fitness of the body were important sources of information. As athletes they were accustomed to monitoring their body and how it responded. For example, a vegan athlete explains:

“And then I tried it out for a couple weeks, and then after those first couple weeks I immediately noticed that I had more energy, I was less sore from the workouts where usually I was sore up to three to four days, I was not ... I was maximally just having muscle soreness for like 1–2 days so then I was like alright, so I’m not going back anymore.” Vegan Solo Athlete 1

This underlines the importance of embodied or practical knowledge (Jacobsen & Hansen, 2021). Mixed eaters lack a form of embodied knowledge that PBEs have developed in their experience with eating plant-based, such as bodily sensation and energy levels, which makes them reluctant.

All in all, this theme captures a shared focus on the necessity of protein for athletes, though the respective qualities of plant- and animal-based protein, a focus on health versus performance and the legitimacy of sources of knowledge are issues of debate. Though the athletes substantiate their ideas on necessity with nutritional jargon, they access such knowledge from a range of sources, including media, girlfriends, and their own bodies. Despite an instrumentalist perspective being dominant on the field of sports nutrition, this shows the relevance of a more situated understanding of the forms of knowledge athletes draw upon.

4.2. Pleasure over performance and health

Despite a shared and mediated discourse about the necessity of animal products for athletic performance and health, pleasure was another important theme in the interviews. Athletes prioritized tastiness and considered they had a freedom to eat what they preferred as long as good results were achieved.

"I think you should just eat what you love to eat" Mixed Eater, Team Athlete 4

"If you get good results, it doesn't matter how you eat" Mixed Eater, Team Athlete 2

"I can just do what I want and eat when I want, what I want. I have that kind of freedom. I like to eat what I want" Mixed Eater, Team Athlete 5

References to the taste or 'liking' and 'loving' animal products were commonly used by mixed eaters which has been found to be a common justification for meat consumption (Piazza et al., 2015).

"I love meat, I love eggs, I love dairy products" Mixed Eater, Solo Athlete 2

"I just always eat meat because I really like meat. I really like it" Mixed Eater, Team Athlete 2

"And about the meat and the eggs and bacon in the morning, I love the taste. It's super nice, it feels like you are at the restaurant every morning" Mixed Eater, Solo Athlete 2

In this context, conflicting views were also expressed about healthiness and unhealthiness of meat, similar to the dissonance mentioned by Leroy (2019), Piazza et al. (2015) and Rothgerber (2015). Mixed eaters, including the most devoted meat-eaters, referred to meat dishes with adjectives such as unhealthy, greasy, and dirty. This underlines the fact that food was not just a means towards health and performance, but something to derive pleasure from.

"That's a pleasure [eating] I mean I ate a pizza yesterday; you know. And Saturday I'm going to, we are going to order food probably, I don't know, like some dirty food, you know burger or something like this" Mixed Eater, Solo Athlete 2

"Of course, I want my food to be healthy. Sometimes I feel like that a lot of meat dishes are so like, unhealthy and greasy" Mixed Eater, Team Athlete 5

Mixed eaters considered PBDs as very restrictive, which challenged their idea of a 'nice' relationship with food. Remarkably, the participants who perceived PBD as restrictive seemed to follow a strict eating regime themselves, describing their diets with exact grams and eating times and limited variety in their diet. This controversy might imply congruency with the common perception of veganism being a form of sacrifice and ascetic practice, which is more extreme than restrictions on other diets (Cole, 2008).

"I see it [veganism] as a restriction rather than as a healthier way of living" Mixed Eater, Solo Athlete 2

"I feel like if I would completely switch to a vegetarian or vegan diet, it would make life more difficult" Mixed Eater, Solo Athlete 1

(About veganism) "I respect that. Very admirable, not easy to do" Vegetarian Team Athlete 6

This theme captures that, despite all talk of the necessity of animal proteins, maximizing health or performance was not a priority for mixed eaters. They felt their performance was not jeopardised by their diet, and mostly, they just enjoyed their food in a mixed diet.

4.3. Practicalities of a normal and diverging diet

Next to nutritional discourse about necessity of certain foods for health, performance and taste preferences, the accounts of athletes also pointed towards custom and practicalities relating to food practice. This theme largely captures the justification category of meat being normal, but further underlines the notion that food environments shape the understanding of what is considered normal food (Van Rongen et al., 2020). In addition, dietary choices are embedded in everyday practices surrounding food (Halkier, 2020). For example:

"We have a nice culture of eating, so yeah it's a lot cultural (...) eating meat, cheese, all those things we do" Mixed Eater, Solo Athlete 2

A significant obstacle in transitioning to PBDs was the perceived need to relearn and grow accustomed to a new diet and related practical skills, which was considered a "hassle", difficult, extra work, effort, and time. Learning new cooking skills and recipes was seen as a hurdle, as cooking meaty dishes was considered straightforward and nearly a "second nature", suggesting practical understanding or know-how.

"I do know that it [plant-based eating] would cost me more time. I would, like, have to invest more time in preparing my food in looking for what kind of food I can eat and what I can't eat. So, it would cost more time" Mixed Eater, Team Athlete 4

"I would like to eat less meat, but it's just, in my mind it's just such a hassle to figure it out. Just how to sort the things I need just to get enough energy and stuff. I just have no clue." Mixed Eater, Team Athlete 2

One mixed eater pondered that vegan athletes must have plenty of time during the day to prepare their meals, and that for an ordinary nine-to-five worker it can be challenging.

"It's just a lot of work and the thing is, a lot of those athletes that promote the vegan lifestyle (...) they have plenty of time in the day to cook, plenty of maybe knowledge about what to take as supplements or to supplement themselves or to eat it, but for the general population that has a nine to five job, it's really difficult to be healthy following one of those super restrictive diets" Mixed eater, Solo Athlete 2

However, the PBEs did report similar training, coaching, and competing schedules as the mixed eaters, and stated that their diets did not require any more effort, discipline or time to execute than a mixed diet.

"It doesn't take any longer to cook than it would take on a mixed diet" Vegan Solo Athlete 1

"In terms of time, which is very functional, I don't want to spend too much time thinking or preparing my food" Vegetarian Team Athlete 2

A striking paradox was the dedication that some athletes were willing to put into their meat dishes but on the other hand, stated that cooking plant-based would be too much effort and work. These views and word choices were congruent with the findings of Cole (2008) about how not eating meat is considered as something restrictive and a

demanding act of sacrifice. This corresponds with the finding that convenience in athletes' everyday lives was intertwined with tastiness. Meat dishes were seen to be tasty with less cooking time and effort than plant-based meals. Some athletes even referred to perceived extra time and effort as a factor that could decrease the palatability and tastiness of plant-based meals. One participant contemplated that the thought of missing out on protein and nutrients on a PBD would reduce the palatability of meals. He also expressed that leaving out the source of animal protein would make the meal seem to be missing a part. This aligns with the common view among mixed eaters of how a meal is not considered as a 'proper meal' without the meat component (Schösler et al., 2012). Again, the same athletes who seemed the most eager to take time to cook and search for different meat recipes were also the same athletes who viewed the time and effort of plant-based cooking as an obstacle.

"I mean, I've eaten some tofu that was super nice. But it's quite some job to make it look and taste good, as when you just take a good piece of beef you can just *shows flipping in the pan* and you have it" Mixed Eater, Solo Athlete 2

Mixed eaters who had previous experience with PBDs, for instance via their partners, were more likely to consider PBE as normal and less restrictive than the ones without experience with PBDs. They were also more open to reducing their consumption of animal products. This is consistent with the findings of Malek et al. (2019) that previous experience is likely to influence current and future intention and behaviour.

Life as an athlete entailed specific social food practices. An important factor shaping dietary practice was the control cast upon the team athletes by their club or organization. Solo athletes were free to decide over their diets, but for team athletes, guidelines were partly dictated by coaches, team doctors, or nutritionists. Importantly, they often received animal-based supplements (e.g., whey protein) and meals from their club or training center. Team athletes seemed to have little or no say over the provided foods and simply ate what was offered during travelling, games, and training camps. In their opinion, differentiating from what was provided would have brought more difficulty, costs, and inconvenience. This led to situations where dietary changes were more difficult for mixed eaters and PBEs had to occasionally eat meat.

"I don't eat meat when I'm in control over it. For example, if we are on the road with the team and we have an away game and food is provided for us and it contains meat, I'll eat it" Vegetarian Team Athlete 1

"I do eat meat throughout the day, depending on what's served. So yeah I play basketball, and our lunches usually come on behalf of the club, so I eat what is offered there" Mixed Eater, Team Athlete 5

Differences in guidelines and acceptability between teams and locations were also mentioned, where in some places more dietary freedom was allowed than in others. One vegetarian commented that he was not allowed to go vegan or vegetarian in the national team because it was not accepted by the team nutritionist, even when he would have wanted it.

"With the national team (...) you had these nutritionists, and they wouldn't allow you to be vegan - You had to eat meat" Vegetarian Team Athlete 2

Besides dietary control and food provision by the sports club, food choices were also limited by other social relations. Younger participants told that being vegan, and thus diverging from what was normal in their social environment, would cause extra effort and difficulty for their parents, and therefore, they felt uncomfortable with a dietary change. One vegetarian stated this as one of the main reasons why he would not be able to eliminate animal products completely. Yet, his parents shifted to eating plant-based to ease cooking for their son.

[Giving up all animal products] "... it's kind of tough, because like my mom cooks and I would need to change it up entirely. And I

would feel bad about it because then people need to change their entire structure for me" Vegetarian Team Athlete 1

Access to plant-based food in sporting facilities was also a factor in their dietary choices. Some athletes expressed distrust in the quality and tastiness of plant-based dishes served to athletes, mainly based on observations of such meals. One vegan athlete noted that vegan food served at training camps can be "quite terrible" due to lack of knowledge and skills among the catering staff.

"I took part in the vegan challenge a few times, but it didn't stick for a longer period of time because it was just difficult regarding basketball, since it was not always necessarily available at lunch. So it would have done my everyday life so much harder and would have brought extra costs if everything should be done by myself" Mixed Eater, Team Athlete 5

"There are definitely places where they're not familiar with it [vegan food], and the food can be quite terrible (...) I understand that there might not be that kind of knowledge and skills everywhere about things yet" Vegan Solo Athlete 2

As widely evidenced, eating is embedded in everyday life practices (Halkier, 2020). As this theme shows, life as an athlete comes with specific practices and everyday conditions for eating that not only communicate but also steer towards 'normal' ways of eating. This normal way of eating is still a mixed diet. The specific practicalities of food and eating for athletes limits their choices through structural aspects such as food availability, who provisions food and in some cases of team athletes, outright control over their diet. All interviewees refer to catering services in sports accommodations. Yet, there are striking differences between solo athletes, who see food practices as part of their individual professionalism, and team athletes for whom food practices are embedded in interactions with the team, and limited by the team staff.

4.4. Dismissing a meat-masculinity nexus

A last theme that was constructed through the analysis was masculinity or the notion of meat being a common, expected food for men. This theme underlines that the notion of meat being normal is gendered. Yet, just one respondent supported the meat-masculinity nexus as something positive, though others found notions of men being meat-eaters annoying.

"... But that's [the notion that real man eat meat] a freaking stigma we have to solve, because it's really annoying to me. However, you know, obviously like the manly architecture it is often correlated with like, you know, fit body, but also just eating burgers, for some ways it's manly" Vegetarian Team Athlete 2

"It's unfortunate that how it's ingrained that men are these barbecuing dudes who gorge on pork and that's somehow like a 'real guy thing'. So I don't really see that that would somehow disappear that quickly" Mixed Eater, Team Athlete 5

This negative view is also expressed in ridicule of the hegemonic male type, suggesting a drop in status of this form of masculinity.

"Of course, it's still like 'real tough guy stuff' that you're gorging a steak and like, 'you ate 20 sausages' and whatnot, but maybe it's a little more normalized that you can also do things in a different way" Vegan Solo Athlete 2

Corresponding with this negative view of the particular performance of masculinity that is implied in the meat-masculinity nexus, many interviewees felt that plant-based eating had become more normal in recent years, also among male athletes. One informant stated that a few years ago, becoming vegan would have led to ridicule, but not anymore. This suggests that meat eating as a way of 'doing masculinity' may be in

decline, and a form of masculinity that relies on meat is dropping in status. Ridicule is an important informal sanction for not conforming to hegemonic masculinity (Abedinifard, 2016).

“How veganism and vegetarians are like accepted in society, I think this is also because when I was younger, it was like this whole joke about like becoming vegan and it was stupid. And I think over the years this has also really changed because like it’s become more acceptable in society. And people I know have become vegan and vegetarian, so I think this has also really opened up my mind to like okay, it’s maybe not so ridiculous or so stupid to become vegan. And it sounds funny, but I think this is really a big part of why I would consider it now and not for example, three years ago or something” Mixed Eater, Team Athlete 3

A mixed eater athlete used the wording of PBD being a “thing for the hippies” in the past but thought that nowadays the world is moving towards more awareness regarding the broader impact of our diets. Some participants considered that the general attitudes are generally “going in the right direction”, towards more lenient and positive.

“I do believe that we are moving in the direction that awareness is increasing in everyone and that eating plant-based food is no longer considered as just a thing for the hippies, and that also athletes can succeed with it” Mixed Eater, Team Athlete 5

Yet athletes also referred to the feedback they received from their environment when diverging from the meat-based masculinity norms as well as their strategies to deal with that. For instance, one vegan team athlete managed the strain by using humour and referring to his identity as the experimental eater of the team. Instead, the vegan solo athletes expressed less social strain from their direct environment. One vegan was surrounded by other vegan solo athletes, and the other stated that he only received positive feedback and curiosity.

However, not all social circles have shown the same shift. One team athlete caused outrage in his team after going vegan, and his impact on the team’s performance was questioned. Going vegan was considered a possible downgrade and menace for the team. This could relate to the notion that meat is necessary for performance but could also be seen to reflect the work of MacInnis and Hodson (2017) about the ‘threat’ that plant-based eaters pose to meat-eaters.

“So then I told my team; Hey guys, I’m gonna go vegan, and they were like why are you doing this? What the f***? You’re like, you’re an athlete, you wanna like downgrade the team or something? They were taking it very badly, I guess” (Ex-vegan) Vegetarian Team Athlete 2

Despite such reports, athletes on PBDs were in fact mostly considered in positive terms. Such praise was also gendered, as traits associated with men such as determination, discipline and rationality were highlighted, with vegans also getting more of such credit than vegetarians.

“It is really great that people dare to do it like that and give so much effort because of their food and eat plant-based” Mixed Eater, Team Athlete 5

“I think it [vegan diet] requires like discipline and determination and also knowing what like recipes to make and stuff” Vegetarian Team Athlete 1

The way in which such admiration for vegans is expressed might indicate not just more acceptance of PBDs among men, but also a shift in the kinds of masculinity being seen as admirable. Focusing on determination and knowledge is in line with a ‘hegan’ form of masculinity as described by Wright (2015), in which men justified their vegan diet with reference to health rather than animal rights or environmental concerns and the research of Mycek (2018) in which PBDs were discussed in rational, scientific terms.

In contrast to such reasons for looking positively at athletes on PBDs,

in fact the PBEs in our sample offered justifications based on animal ethics. Strikingly, all started with a PBD from a performance-based mindset, but later shifted to a motive of questioning the right of humans to eat animals. Such a shift is common amongst people initially adhering to a vegetarian or vegan diet for health reasons (Hoffman et al., 2013).

“Now the main reason is (...) why I don’t eat animal-based foods anymore is just that I don’t believe I have the right to taking animals life just for a snack” Vegan Solo Athlete 2

Our findings correspond with Greenebaum and Dexter (2018) who found that vegan men were not health oriented but showed a ‘hybrid masculinity’ that embraces feminine values of compassion and care for animals. In fact, moral concerns about meat eating were common among all respondents. All participants showed awareness of sustainability and animal welfare issues regarding meat to some extent. This finding might also call in question whether such views still reflect ‘feminine values’. As stated, ways of doing gender are dynamic.

In line with this finding, nobody appealed to the naturalness of eating meat, biological hierarchy, or superiority of human species over animals. The redundancy of the ‘naturalness’ theme was a surprising finding, as Piazza et al. (2015) speculated that the justification of naturalness would be the most persistent and difficult to overcome. Moral beliefs about a need to transition away from meat are not just found among PBEs. One mixed eater referred to the eventual necessity of dietary change for environmental, rather than physiological reasons. He counterargued the superiority of humans over animals or nature, which is still a key variable explaining support for animal consumption (Dhont & Hodson, 2014; Leite et al., 2019).

“I know that we have to as a species, we have to eliminate meat from our diets eventually, and I would want to work with that (...) not for the reason for me benefiting from it like physically” Mixed Eater, Team Athlete 2

Another line of enquiry relating to masculinity is who is taken as role model. Athletes certainly looked at other male athletes for inspiration and influence of athletic friends was common in adopting various diet experiments. For example, one participant adopted a PBD together with a friend, and later followed this friend in starting to eat animal products again. Strikingly, the motivation was not just athletic performance but a sense that it would offer sexual benefits, reflecting the common theme of meat being linked to virility.

“The last two years I ate vegan, but I actually came back on that, I think ... Since two months or something, I’m trying out to add in a little bit of animal protein because I started this whole thing with a friend, and he added some animal protein back; some eggs, and some fish and he actually started to see better performance in, like, energy and also in the bedroom” Vegetarian, Team Athlete 2

Interestingly, female athletes were frequently pointed out as front-runners regarding PBDs. Though this was complimentary to women, it also emphasized PBD as a feminine way of eating. Some acknowledged the growing popularity and visibility of female vegans and vegetarians in the sports scene and social media. Terminology in the quote below, suggesting it is ‘girls’ who are into a ‘hype’, underlines that it is not seen as high status. Yet, also the ‘real Alpha males’ are not necessarily seen in positive terms.

“For example, on Instagram there are so many like fitness girls who are vegan, I think most of them are vegan or at least vegetarian. And like for girls it’s more of a hype now, but with men it’s still not. There are some vegan athletes, and they’re still ... I think if you have like “the real Alpha males” and the tough guys, they kind of look down on these guys, like they’re a little bit crazy, but I think this is maybe going to change in the next few years” Mixed Eater, Team Athlete 5

Relating to this, a vegan participant pointed out a degree of lagging

in men, and that a profound change is likely to take more time than among women. It is striking that this respondent sees women being openly plant-based, while men who seek to gain a competitive advantage through PBD will opt to remain closeted, thus controlling a hegemonic masculine impression.

“I think and believe that if especially in the field of women’s sports there are more and more people going plant-based, and the old dudes at the gym will notice, that ‘wait, they’re doing pretty well there, doing sports and stuff’, the more aware individuals start to think about it. That ‘maybe I should try it secretly for a month and not tell anyone’, and then maybe continue that. So yes, I see this going in the right direction” Vegan Solo Athlete 2

Yet, the PBEs communicated about their diet openly and acknowledged their own influence on their peers and direct social surroundings, but also via social media, increasing awareness especially among men. One vegan participant had witnessed a change among recreational sportsmen, who approached him to talk about their experiments with PBD, suggesting that men may adopt vegan male athletes as role models.

” There are surprisingly many middle-aged men with a bit of beer belly, who come to me and whisper ‘Hey, I’ve tasted some black beans too’” Vegan Solo Athlete 2

He considered himself a role model not only for a PBD, but also implicitly for a healthier form of masculinity.

This theme shows how masculinity intersects with ideas about meat being ‘normal’. Yet, it is striking to see how interviewees rejected a meat eating male archetype, though they expressed admiration for the effort and discipline they assumed were required for a PBD. Meat eating may be normal, especially for men, but it is not aspirational to eat meat without restraint. In addition, a concern for animal welfare and environmental risks associated with animal products was shared, and highlighted by the PBEs as their prime motivation for not eating animal products.

5. General discussion and conclusion

This paper aimed to better understand the perspectives of athletes with different dietary practices, on PBDs and mixed diets in the context of their everyday lives. Interviews reproduce common carnist justifications for the consumption of meat and other animal products (Joy, 2010; Piazza et al., 2015), most notably animal products being necessary, nice and normal. Surprisingly, naturalness as a justification seemed obsolete among our sample. Understanding such justifications in the context of athletes’ everyday lives provided a more diverse picture of the dynamics behind their perspectives.

Necessity of certain nutrients was seen as striking in the interviews. Both mixed diets and PBDs were discussed as possible leverage for optimum performance and health. Though the reproduction of nutritional discourse suggests a scientific approach to food, on closer look we concluded this to be a simplification. Athletes cover just some aspects of sports nutrition and draw on a broad range of sources for knowledge about diet. They took cues from people they followed on social media, fit looking friends, girlfriends and The Game Changers documentary to substantiate their ideas on nutrition, underlining the social and mediated nature of food knowledge (Johnston & Goodman, 2015; Lovell, 2016). Despite this prolific nutritionist discourse, athletes on mixed diets highlight taste and freedom as priorities, fitting the justification ‘nice’. According to them, diet should not jeopardise health and performance but is not seen as lever for optimal health or performance.

The notion that a mixed diet is normal was mostly discussed in relation with practicalities of eating, food environments and shared eating practices in their lives as athletes. Sporting facilities were found not to cater well for PBEs, which made it difficult to diverge from a mixed eating norm. Furthermore, mixed eaters highlighted practical objections to a PBD as being inconvenient, restricting, and time-

consuming. PBEs did not find their diets more laborious or demanding than mixed diets. The interviews resonated with practice theoretical work on food (e.g. Halkier, 2020; Warde, 2016), highlighting that food needs to fit into everyday lives.

Next to practical aspects of eating a normal or divergent diet, normality of meat was also linked to cultural meanings of masculinity. Though interviewees underline a meat-masculinity nexus, and thus the notion that it is normal for men to eat meat, all but one responded negatively to this notion and looked negatively at the archetypical meat eating male. Instead, male athletes who show dedication, constraint, and knowledge in a plant-based diet are viewed positively. PBEs stated to be motivated by moral concerns about animal welfare and environmental concerns. Such views were in fact common in the sample, and no respondent thought consumption of animal products was something immutable or naturally ‘given’.

This suggests that athletes challenge the meat masculinity nexus, not just for instrumentalist reasons relating to performance or health, such as the ‘hegan’ archetype (Wright, 2015), but for ethical reasons relating to sustainability and animal welfare as well. Greenebaum and Dexter (2018) saw this as a hybrid masculinity, incorporating feminine values, and thus disrupting narrower forms of hegemonic masculinity. Our study does not give any conclusive insights into a trend, yet it suggests such views may be becoming part of a hegemonic masculinity. About a decade ago, popular media assumed that Arian Foster had become vegan based on health and nutritional arguments. As he personified a hegemonic form of masculinity, this was the only way to reconcile his masculinity with his diet (Brady & Ventresca, 2014). Ten years on, the field of athletes, masculinity and animal products seems to have shifted, given both the negative views of male athletes on ‘meat gorging dudes’, the absence of an idea that meat eating is natural, and the view that ideally the consumption of animal products should decrease.

Like any research, this study has limitations. Reflexive thematic analysis aims to identify patterns across data, which requires a certain amount of data, even if no guidelines can be given about ideal sample sizes. Furthermore, it is important to consider how a dataset has been composed. Given the variation within the sample and between diets and sports categories, we have most probably missed some of the variety in viewpoints and everyday life dynamics of athletes as they were not included in the dataset. There were considerable challenges in recruiting professional athletes due to their busy schedule and barriers constructed to prevent them from being overrun by requests from fans and press. In addition, self-selection bias is common in nutrition, meaning that recruitment often attracts volunteers who are by default more interested and engaged in dietary matters than the ones who were not willing to contribute (Young et al., 2020). In this study, vegans and vegetarians were more eager to participate than the mixed eaters who were initially reached. The snowballing method in recruitment may have also resulted in selective participation since members of the same teams and clubs were more likely to take part.

The research was reflexive and ‘owning’ your perspective as a researcher and how it may shape the analysis is integral to reflexive thematic analysis (Braun & Clarke, 2023). Similarly, we support the notion that interviewees’ subjectivity is instrumental for a good interview (Lowes & Prowse, 2001). Yet, it does require some discussion of the interviewer for this study to assess how the interviewee may have helped to shape the accounts of the athletes she interviewed. The interviews were all conducted by one of the authors and several facets of her identity have likely played a part in the interviews. The fact that she is trained in nutrition science may have resulted in the emphasis on nutritional discourse, and the specific statements about technical aspects such as the bioavailability of protein. In addition, as a young female, the male interviewees may have been more eager to be dismissive of a hegemonic form of masculinity. Furthermore, she eats a plant-based diet, which may have impacted interviewees in their opinions on such a diet.

Despite such considerations, the research extends the literature in

several ways. First, it adds to an understanding of how perspectives on diet, including justifications for meat, are embedded in everyday life. For example, meat being normal was not just a personal conviction, but was embedded in the conditions that shaped athletes' food practices, including food supplied at sporting facilities. Furthermore, the research contributes to an understanding of a shift in the meat-masculinity nexus. The research suggests that meat is no longer unquestionably part of hegemonic masculinity, and sustainability and animal welfare arguments to decrease meat consumption are common in this group, even if mixed eaters admire the PBEs mostly for their rational, individual oriented approach to food.

Understanding the views, opinions and beliefs of male athletes as well as the dynamics behind all this, is important for a number of reasons. Male athletes are important role models for eating. Our research, within a context of changing nutritional paradigms and attention for vegan athletes in mainstream and social media, suggests that the meat-masculinity nexus is in decline or at least under debate. The fact that successful athletes openly question the need for meat, but also talk in negative terms about 'men who gorge on pork' suggest adopting a plant-based diet is becoming less risky for masculinity status and might even become a way of performing masculinity.

Considering our specific data set, further research is necessary that includes a broader range of athletes, as their conditions were shown to differ. Specifically, it would be useful to gain a better understanding of the way in which sports nutrition is embedded in the athletic context of diverse athletes, including team and solo and with varied dietary practices. Our research showed a range of experiences, from food being controlled by nutritionists, to sports facilities not necessarily providing the kinds of food that athletes require. Limited understanding of how food practices are constructed in everyday contexts for athletes makes sports nutrition knowledge less effective. Further research is also needed into shifting masculinities and especially hierarchies constructed in relation to the meat-masculinity nexus.

In conclusion, though nutritional discourse and justifications are important dimensions of male athletes' perspectives on diet, their perspectives are shaped by a multitude of other sources, practicalities in their everyday lives, and moral beliefs. Their views regarding PBDs range from curious, to admiration and in some cases to becoming enthusiastic endorsers. Though health and performance considerations are relevant to such views, there is also broad support for environmental and animal welfare concerns, and no one expressed a thought that eating meat was something natural or immutable. Positive and curious views regarding PBDs stand in contrast with negative opinions about typical meat-eating males. Together these findings indicate shifts in hegemonic masculinity and the meat-masculinity nexus.

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Author contributions

First author: Conceptualization, Methodology, Formal analysis, Writing – Original Draft, Writing – Review & Editing, Second author: Conceptualization, Methodology, Formal analysis, Investigation, Writing – Original Draft, Third author: Conceptualization, Methodology, Formal analysis, Writing – Review & Editing.

Ethical statement

The study was conducted in compliance with the Declaration of Helsinki. The participants were informed about the purpose and general topics of the study before filling in an informed consent form. The interviews were processed anonymously and with confidentiality,

avoiding using unnecessary personal details. In order to comply with Appetite's regulations to get ethical clearance from an independent ethics committee in case the research involves human participants, as stated in the Guide for Authors, we requested ethical approval of the study from the Social Sciences Ethics Committee of Wageningen University & Research, which was given.

Declaration of competing interest

None.

Data availability

Data will be made available on request.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.appet.2023.106585>.

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