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The perfect storm: a meta-ethnography of the motivations, behaviours, and experiences of competitive bodybuilders

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ABSTRACT

Studies investigating competitive bodybuilding have primarily done so from a pathologizing perspective, and have often considered aspects of the competitive bodybuilding lifestyle in isolation, therefore overlooking the broader motivations underlying individuals' engagement in the sport. The current study addressed these limitations by using a meta-ethnographic approach to review the existing competitive bodybuilding literature as a collective. Synthesis of 20 published studies relating to competitive bodybuilders' motivations, behaviours, and experiences resulted in the construction of five third-order constructs: a journey of self-discovery and improvement, gaining a new identity, enacting control, conditional and unconditional social support, and decisional balance. Encapsulated as a 'perfect storm', the results offer novel conceptual understanding of how the interplay of personality traits, life experiences, and situational factors drive competitors to begin and maintain their participation in competitive bodybuilding, the social support they experience, and the role of control in competitors' motivations, harm management, and justificatory processes. From an applied perspective, the study has implications in terms of both support provision and harm management.

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Introduction

Within the field of sport and exercise psychology, there has been growing interest in exercise motivation, competition, and risky and unhealthy behaviour such as addictions and disorders (e.g. Chan et al., 2020; Juwono et al., 2022). One area in which such topics have been explored is within the context of bodybuilding. Bodybuilding is the process of engaging in progressive resistance training in pursuit of visibly increased muscular size and definition (Hackett, 2022), and has two main levels of participation, namely recreational

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bodybuilding and competitive bodybuilding (Strong, 2003). The number of competitive bodybuilders worldwide is now estimated to be within the hundreds of thousands (Steele et al., 2020). In line with its increasing popularity (Fitschen & Wilson, 2019), competitive bodybuilding as a sport has received growing attention in the academic literature.

The pathological underpinnings of both recreational and competitive bodybuilding have been a particularly salient topic of discussion amongst researchers. For example, studies have indicated that childhood bullying and victimisation (Wolke & Sapouna, 2008) and thwarted psychological needs (Selvi & Bozo, 2020) may play a role in the development of low self-esteem, muscle dysmorphia, obsessive compulsive symptoms, and rigid behavioural patterns amongst recreational bodybuilders. Although these studies included only male bodybuilders, the vast majority of research amongst competitive bodybuilders specifically has pointed towards the possible psychopathology of both male and female competitors (see Steele et al., 2019 for a review), with studies considering earlier life experiences such as psychiatric diagnoses and history of abuse as potential factors underlying competitive bodybuilding (Steele et al., 2020).

Contrastingly, researchers adopting a non-pathologizing perspective have found competitive bodybuilders' motivations to include development of their self-identity, emulation, self-esteem, and social motives such as peer encouragement (e.g. Campbell et al., 2021; Parish et al., 2010; Roussel & Griffet, 2000). Researchers have also highlighted the value and meaning that competitors attach to their behaviours (e.g. testing themselves and uncovering their inner strengths), as well as the associated positive psychological outcomes (e.g. Aspridis et al., 2014; Bjørnstad et al., 2014; Karavaglidis & Cogan, 2018).

A parallel body of literature has focused on the pathological and risky behaviours adopted by most competitive bodybuilders, such as their eating behaviours. Eating disorders (ED) are clinical disorders characterized by pathological disturbance of attitudes and behaviours around food, and early studies have shown that competitive bodybuilders are at increased risk of ED symptomatology, and exhibit eating-related behaviours similar to those with ED diagnoses (Goldfield, 2009; Goldfield et al., 1998). Competitive bodybuilders have also been found to report higher rates of binge eating and bulimia nervosa than their recreational counterparts (Goldfield et al., 2006). More recently, studies have additionally highlighted competitors' disordered eating behaviours (i.e. abnormal eating behaviours used to achieve a lower than usual body weight), such as preoccupation with nutritional intake and engagement in pathogenic weight control strategies (Alwan et al., 2022; Money-Taylor et al., 2022).

In a similar vein, researchers have also reported on the potential pathology underlying competitive bodybuilders' exercise engagement, with research collectively indicating a higher prevalence of exercise and bodybuilding dependence amongst competitive bodybuilders (Steele et al., 2019). For example, Hurst et al. (2000) found that experienced bodybuilders exhibit more exercise dependence than inexperienced bodybuilders. Smith and Hale (2005) later concluded that bodybuilding dependence symptomatology was higher amongst competitive bodybuilders than recreational bodybuilders, and competitive bodybuilders have also reported significantly higher levels of both exercise and bodybuilding dependence than fitness lifters (Hale et al., 2013).

A final pathological behaviour noted amongst competitive bodybuilders is their use of image and performance enhancing drugs/substances (IPED), which include anabolic-

androgenic steroids, exogenous hormones, fat burners, diuretics and supplements (Hackett, 2022; Steele et al., 2019). The prevalence of anabolic-androgenic steroid use amongst competitive bodybuilders in particular is high (i.e. approximately 75%), though issues of nondisclosure mean this is likely an underestimate (Steele et al., 2019). Studies have emphasised the detrimental physical and physiological implications of IPED use (e.g. organ deterioration, reduced metabolic health; McCullough et al., 2021), and researchers have also alluded to the psychological and social consequences of IPED use, reporting increased risk-taking, unsafe and anti-social behaviours, psychopathic traits, and altered cognitive functioning amongst users (e.g. McVeigh & Bates, 2022; Nelson et al., 2022).

Whilst this body of research has collectively provided insight as to the risky nature of competitive bodybuilders' behaviours, it is worth noting that not all studies align with a solely pathological or non-pathological perspective (e.g. Chaba et al., 2019; Macho et al., 2021; Suffolk, 2014). For example, researchers have recently begun to consider the plausible functional aspects of these practices (Steele et al., 2019). Probert et al. (2007) found that much like other athletes, competitors' practices and eating behaviours fluctuate in line with the competitive cycle, and this is reiterated in studies detailing the eating behaviours and nutritional strategies that competitors implement in order to manipulate their physiques in line with their competitive goals (e.g. Lenzi et al., 2021; Mitchell et al., 2017a). In addition, studies have shown that bodybuilding dependence is positively associated with increased quality of life (Tod & Edwards, 2015), whilst exercise addiction may express an escape from hardship, or reflect high commitment to training in pursuit of a goal (Szabo, 2018; Szabo et al., 2015). This supports the idea that their behaviours may not reflect inherently pathological symptoms, but instead serve an ulterior purpose. Furthermore, because the practices associated with competitive bodybuilding have primarily been explored in isolation, the ways in which these facets may interact to shape competitors' individual experiences and outcomes have been overlooked. Considering this, researchers and practitioners would benefit from viewing the seemingly pathological symptoms of competitive bodybuilding in light of different personal factors and goals to gain a more comprehensive understanding of competitors' behaviours, which would enable clearer distinction between pathological behaviours and behaviours deemed as 'normal' amongst this group. This has implications for their wellbeing and support, for example, as healthcare professionals could utilise this knowledge to inform future practice and interactions with competitors to develop community-specific harm management measures (Ainsworth et al., 2022b; van de Ven et al., 2022).

Therefore, the purpose of this meta-ethnography was to examine the pre-existing qualitative literature surrounding this topic as a collective entity in order to offer new conceptual understandings of how competitors' motivations and behaviours may sculpt their experiences and promote their maintained participation in the sport. The following research questions were addressed: (a) What motivates competitive bodybuilders to engage in the behaviours associated with being a competitive bodybuilder?; (b) How do competitive bodybuilders justify the behaviours associated with being a competitive bodybuilder?; and (c) How do competitive bodybuilders manage the impact of the behaviours associated with being a competitive bodybuilder?

Methodology

Methodological overview

The meta-ethnographic approach was underpinned by the lead author's interpretivist philosophical positioning, and was considered the most appropriate methodological approach to address the exploratory nature of the research questions and derive an integrative representation of competitive bodybuilders' lived experiences. In contrast to alternative review methods which aggregate existing research findings (e.g. systematic review; Grant & Booth, 2009), meta-ethnography involves further interpretation of the conceptual (i.e. themes) and primary (i.e. participant quotes) data of the parent studies (Noblit & Hare, 1988; Soundy & Heneghan, 2022) to generate findings that may remain concealed within one study alone, but that may be represented by the body of literature collectively (Dixon-Woods et al., 2006). This results in the construction of higher order interpretations to offer new conceptual understandings of individuals' experiences of a phenomenon (Malpass et al., 2009; Sattar et al., 2021), which inform a theory, framework, or model that can be used to visualise inter-relationships between the themes and interpretations (Doyle, 2003; France et al., 2019a, 2019b). Noblit and Hare's (1988) seven phases of meta-ethnography; getting started, deciding what is relevant, reading the studies, determining how studies are related, translating the studies, synthesizing the translations and expressing the synthesis, are encompassed in the subheadings below.

Getting started and deciding what is relevant (i.e. systematic searching)

The meta-ethnography process began with a systematic literature search. Based upon electronic databases utilised within recent sport and exercise psychology reviews (Middleton et al., 2020; Mitchell et al., 2017b; Williams et al., 2021), PsycINFO, PubMed, SCOPUS, SPORTDiscus, and Web of Science Core Collection were searched. Three search strings were generated using the CHIP tool (Shaw, 2010), and were informed by the terminology found within published articles with similar research parameters, such as their methods (i.e. qualitative/synthesis; Middleton et al., 2020; Williams et al., 2021) or samples of interest (i.e. bodybuilders; Mitchell et al., 2017b). The full search strategy can be seen in Table S1 in the supplementary file. For inclusivity purposes, no date restrictions were imposed, and search results were refined by 'article', 'journal article' or 'academic journal'. The search was conducted in February 2022 and updated in February 2023.

Inclusion criteria

The inclusion criteria were based upon Cooke et al.'s (2012) SPIDER principles relating to the Study sample, Phenomenon of Interest, Design, Evaluation and Research type. Therefore, studies were included if they (a) were peer-reviewed predominantly qualitative journal articles, (b) contained insightful discussion relating to the motivations, behaviours, and experiences of competitive bodybuilders, and (c) contained data from competitive bodybuilders. In studies containing future competitive bodybuilders, data were only included if they had been in training for their debut competition within the past 12 weeks, and in mixed samples, competitive bodybuilders' data were only included where it was clearly distinguishable from other participants (e.g. where names/descriptive

labels had been used). Studies were excluded if (a) competitive bodybuilders' data was not clearly distinguishable, (b) the topics discussed were relevant but the data did not contribute meaningfully to the meta-ethnography (for example, two studies were excluded because the qualitative data were categorised and primarily presented as percentages within a table and/or a brief descriptive paragraph; e.g. Baghurst et al., 2014; Parish et al., 2010), and (c) they were not written in English.

For maximum literature retrieval, database searches were supplemented with hand searching on Google Scholar and ResearchGate, reference searching of related published reviews (Mitchell et al., 2017b; Spendlove et al., 2015; Steele et al., 2019), reference and citation searching of the included articles, and consultation with key authors in the field ($n = 4$). The search outcome is presented in Figure S1 in the supplementary file.

Study characteristics

Twenty studies were eligible for inclusion. Amongst these studies, research topics included competitive bodybuilders' experiences, motivations, deviant behaviours, social encounters, IPED use, and gender identity. Some studies included an all-female sample ($n = 8$) and some all-male ($n = 5$). There were also mixed gender sample studies ($n = 5$), and two studies did not explicitly state the participants' gender, though the authors' language and participants' pseudonyms inferred that they were all male. Data collection methods were similarly varied, however the dominant method of data collection was semi-structured interviews ($n = 13$).

Quality appraisal

Studies were not excluded based on quality appraisals. Instead, Garside's (2014) criteria of (a) trustworthiness, (b) theoretical considerations and (c) practical considerations were used to appraise data quality, with emphasis placed on 'practical considerations' to gauge each paper's contribution to the current study (e.g. Atkins et al., 2008; Malpass et al., 2009; Noblit & Hare, 1988). Specifically, this criteria was chosen to account for the different methodologies amongst the included studies (Garside et al., 2014), and the different research aims of the current meta-ethnography and the included studies (e.g. Ruggiano & Perry, 2019; Toye et al., 2013). Key conclusions arising from the individual appraisals are presented in Table S2 in the supplementary file.

Determining how studies are related

Analysis began with repeated reading of the studies, during which a study characteristics table (see Table S2 in the supplementary file) was produced to extract key characteristics (e.g. study aims, design, sample, and findings). Due to the heterogeneity of the study aims and topics, the studies were split into two clusters (i.e. those focusing on the use of IPED, and those focusing on other relevant topics, as well as IPED use in some cases; Malpass et al., 2009). To facilitate translations and make sense of the heterogeneous concepts present within the studies, first order constructs (i.e. participant quotes) and second order constructs (i.e. primary author analysis) were manually recoded, working from the perspective of the current research questions (Doyle, 2003; Toye et al., 2014). Codes were then condensed into themes, and first and second order constructs relating to

each new theme were copied into individual data extraction tables for each study to preserve meaning and context (Scott & Grant, 2018). Themes from each cluster were listed and areas of congruence were identified to refine them (Noblit & Hare, 1988).

Translations

Translations for each cluster were carried out separately with studies organised chronologically, since they covered a lengthy timespan and there were no evidently seminal papers to begin translations with (Atkins et al., 2008). Themes from papers one and two were summarised, then compared and contrasted, followed by themes from paper three, and so on. The primary authors' terminology was integrated throughout, and the study characteristics table was referred to frequently to preserve contextual detail (Doyle, 2003; Scott & Grant, 2018). The lead author kept an open mind for emerging categories (Atkins et al., 2008), promoting a natural transition between translation and synthesis phases.

Synthesis

The synthesis consisted of two sub-phases; reciprocal synthesis followed by a line of argument synthesis (e.g. Sattar et al., 2021). Reciprocal syntheses for each cluster were selected over refutational syntheses due to the evident ways in which the studies were similar and could be 'added' together (Atkins et al., 2008), though differing perspectives were still considered to account for alternative interpretations amongst the data (France et al., 2019b). Third order constructs and a subsequent line of argument were then generated through ongoing comparison, interpretation and linking of the translations in both clusters collectively (France et al., 2019a; Sattar et al., 2021). These then informed the development of a framework broadly encompassing competitive bodybuilders' motivations, behaviours, and experiences.

Quality criteria

In line with the philosophical positioning of this research, a relativist approach should be drawn upon to judge its quality (Sparkes & Smith, 2009). As meta-ethnography involves secondary interpretation of primary data, qualitative secondary data analysis criteria offer a starting point for judging the current study. Particularly, the rigour of the current study (Ruggiano & Perry, 2019) should be considered, as well as its transparency and trustworthiness, as these facets are important indicators of quality in meta-ethnography (Atkins et al., 2008; France et al., 2014, 2016). *Methodological rigour* was demonstrated through the selection of specific analysis protocols aligning with the research aims and positioning. Rigour was also ensured through peer debriefing amongst the multidisciplinary research team and the maintenance of reflexive audit trails (Ruggiano & Perry, 2019). These audit trails are further markers of *trustworthiness*, in addition to the lead author's prolonged engagement with the data. Finally, since *transparency* of reporting is a prerequisite to judging the trustworthiness of a meta-ethnography, the conduct and reporting of this meta-ethnography were underpinned by the eMERGe reporting guidelines, which offer recommendations for good practice and reporting in meta-ethnography studies (see Table S3 in the supplementary file; France et al., 2014, 2019b).

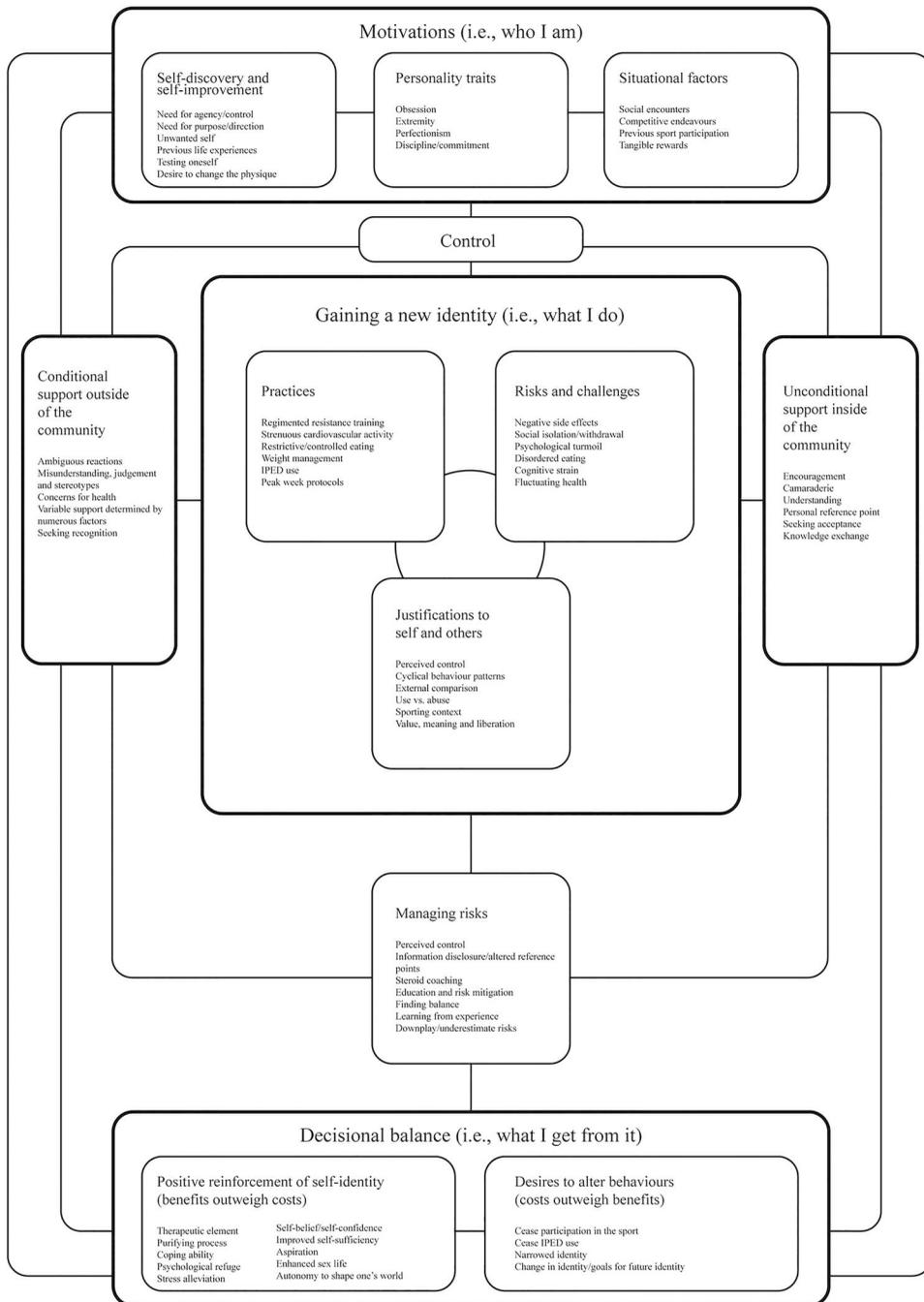


Figure 1. A framework of the motivations, behaviours, and experiences of competitive bodybuilders.

Results

Five third-order constructs were interpretively synthesised and later considered collectively to construct a line of argument framework (see Figure 1). This framework broadly depicts the

motivations, behaviours, and experiences of competitive bodybuilders, which can be seen to represent three layers of a competitor's identity: 'who I am', 'what I do', and 'what I get from it'. An extended line of argument offering a narrative description of these three layers of the framework can be referred to in the line of argument synthesis in the supplementary file. Note that this is one interpretation of the data considering aspects of all included studies, and is not intended to represent the experiences of all competitive bodybuilders.

A journey of self-discovery and improvement

Represented within the 'who I am' component of the line of argument framework, studies indicated that engagement in competitive bodybuilding was a means of discovering or improving oneself; the need for which often stemmed from earlier life experiences such as insecure family relationships (Sparkes et al., 2005), post-traumatic stress disorder (Campbell et al., 2021), childhood teasing and rejection (e.g. Mischke, 2022; Sparkes et al., 2005), desires to alter the physique (e.g. Mischke, 2022; Suffolk, 2015; Wesely, 2001) and negative feelings towards oneself (e.g. Campbell et al., 2021; Mischke, 2022; Sparkes et al., 2005). Whilst exploring competitors' in-depth life histories was beyond the scope of the studies (with the exception of Mischke, 2022; and Sparkes et al., 2005), it seems that these prior experiences resulted in the pursuit of competitive endeavours enabling individuals to continuously test themselves in physical and psychological ways: 'It tests your personality, it tests everything. Your lifestyle, your attitude, everything is tested. So because of that, in a short amount of time you certainly understand who you are' (Probert & Leberman, 2009, p. 368).

In Macho et al.'s (2021) study of male IPED users, competitors made sense of their motivations and experiences of IPED use in a similar manner, believing that IPED enabled them to eliminate their unwanted selves, regain control, and find their life's purpose. Enhanced perceptions of control were further highlighted in Mischke's (2022) study of female competitors, for whom behaviours such as learning how to lift, eat, and alter the physique produced feelings of control and mastery over the body. Therefore, studies highlighted how competitive bodybuilding behaviours, including IPED use, provided competitors with a sense of direction and purpose, indicating a previous lack thereof: 'for one, it got me out of trouble ... pretty much that was my focus and direction when I was doing it' (Wesely, 2001, p. 171).

Whilst the majority of studies indicated the desire to continually test and improve oneself as a motive, motivations also stemmed from a variety of situational factors including previous sport participation (e.g. Campbell et al., 2021; Suffolk, 2015; Wesely, 2001), social encounters (e.g. encouragement from other bodybuilders, inquisitive remarks about competitive involvement; Campbell et al., 2021; Chananie-Hill et al., 2012; Mischke, 2022) and competitive motives (e.g. Ainsworth et al., 2022a; Chaba et al., 2019; Grogan et al., 2006). Personality traits such as perfectionism (Bjørnstad et al., 2014), and obsessive tendencies, were also deemed as pre-requisites for success in the sport: 'you can't have a laid back personality ... there is definitely an obsessive behaviour there ... a prevalence towards that sort of person' (Probert & Leberman, 2009, p. 365). Thus, a combination of previous life experiences, situational factors and pre-disposed personality traits may configure 'the perfect storm', driving individuals to engage in competitive bodybuilding: '(Competing) is only the reason to get started, you understand that

something is going on deeper in your soul' (Karavaglidis & Cogan, 2018, p. 174). However, whether the motives reported in the studies relate to competitors' intentions to engage in resistance training, bodybuilding or competitive bodybuilding remains unclear.

Gaining a new identity

As the line of argument framework progresses to depict 'what I do', studies also indicated that competitors adopted a new identity through competitive bodybuilding: 'you don't have to be yourself. You be that person that you want to be' (Campbell et al., 2021, p. 21). Competitive bodybuilding practices subsequently became all-consuming and a key life focus, creating a lifestyle imbalance:

Even when you've got a family, you have to put yourself before your family ... when I was competing last, I became so obsessed, so selfish ... I couldn't give a shit about my little boy, all that I cared about was my next shot, my food. (Andrews et al., 2005, p. 886)

Competitors overconformed to the competitive bodybuilder identity through the use of IPED (Monaghan, 2002), as well as by engaging in other health-compromising behaviours which exacerbated the lifestyle imbalance. These behaviours (e.g. restrictive eating, strenuous training, peaking protocols) resulted in a number of risks and challenges, examples of which include disordered eating (e.g. food focus, obsessive weight management; Chaba et al., 2019; Chananie-Hill et al., 2012; Probert et al., 2007), psychological implications and cognitive strain (e.g. lack of concentration, loss of emotional control; Aspridis et al., 2014; Campbell et al., 2021; Probert & Leberman, 2009), and social withdrawal (e.g. relationship breakdown, avoiding social events; Aspridis et al., 2014; Karavaglidis & Cogan, 2018; Probert et al., 2007). To adhere to a competitor's lifestyle in spite of the negative consequences therefore requires specific attributes, which are further features of their identity: 'you need that drive, you need that discipline and dedication, which are all good things for bodybuilding' (Probert & Leberman, 2009, p. 365). Competitors believed that the competition-ready physique was a medium through which they could exhibit these positive attributes: 'The body is who I am, the body cannot lie' (Bjørnstad et al., 2014, p. 1180). Competitors felt that these positive attributes, which were linked to their physical identities, were possessed by only the select group of individuals who compete in bodybuilding, and therefore distinguished their behaviours and abilities from those who do not compete, further indicating a sense of collective group identity within the competitive bodybuilding inner circle.

For females in particular, this positioning of themselves and their identities as 'different' or 'other' also served a protective function as competitors used this to justify their appearances and behaviours in social contexts, enabling them to mitigate and cope with social risks, such as stigma and judgement received due to their deviation from societal norms (e.g. Grogan et al., 2004; Karavaglidis & Cogan, 2018). Through experience and time, competitors learned to further manage physical, psychological, and social risks, such as by implementing techniques to establish better lifestyle balance and health outcomes (Aspridis et al., 2014; Campbell et al., 2021; Chaba et al., 2019). The importance of acquiring a better lifestyle balance was alluded to within Sparkes et al.'s (2005) study, in which one competitor described the identity crisis experienced during their involuntary and premature competitive bodybuilding career

termination: 'It [bodybuilding] was my whole identity because it has to be your life. It was my whole life, I can't say any more on it than that. It was everything' (p. 15). Here, the competitor's personal struggle to replace the athletic identity they lost during their career termination can be seen as a signifier of the need for competitors to balance their competitive lifestyle with a lifestyle aside from competing, in order to mitigate the potential negative psychological impacts experienced when leaving the sport.

Enacting control

Encompassing the 'what I do' element of the framework, this construct represents how competitors meticulously controlled their diet, training, IPED use, and day-to-day practices. Control over IPED-using behaviours was demonstrated through knowledge acquisition, in which competitors researched their IPED of choice, and sought knowledge from more informed others or steroid coaches within their social circles in an attempt to learn about the positive and negative impacts (e.g. Ainsworth et al., 2022a; Grogan et al., 2006; Kotzé et al., 2020). Competitors also enacted control over their cycles by engaging in moderate, cyclical dosing and administration (e.g. Bjørnstad et al., 2014; Monaghan, 2002):

The health risks of doing it year-round are not worth like, you know, don't match up with my goals ... [Coming off] is what I need to do in order to reach my goals ... as far as balancing health and goals. (Ainsworth et al., 2022a, p. 9)

By enacting control, competitors were attempting to manage and mitigate the negative impacts of their IPED use. For example, one female made compound choices which mitigated virilisation (e.g. Ainsworth et al., 2022a), and males frequently opted for IPED administration methods that they believed damaged the organs the least (i.e. injectable IPED; Chaba et al., 2019). Adverse health outcomes were further mitigated as competitors also refrained from other health compromising behaviours such as drinking alcohol (e.g. Monaghan, 2002), and engaged in regular health checks and self-monitoring (e.g. Bjørnstad et al., 2014; Probert et al., 2007). Nevertheless, competitors acknowledged the impacts of their behaviours, whilst simultaneously downplaying and underestimating them (Grogan et al., 2006; Kotzé et al., 2020) by saying things such as: 'no one's ever died from taking steroids' (Grogan et al., 2006, p. 850).

Eating and peaking behaviours were also controlled in cyclical phases, with dietary control intensifying to a detrimental extent in the pre-competition phase. In stark contrast, a loss of control was experienced post-competition when both male and female competitors typically exhibited bingeing behaviours. However, this fine line between control and loss of control surrounding eating behaviours was particularly poignant for female competitors, as they were believed to find the post-show transition more challenging than males, and it was explained how competitive bodybuilding could assist some females in controlling pre-existing eating disorders, but exacerbate eating disorder symptomatology in others (Probert et al., 2007; Probert & Leberman, 2009).

Control was also at play in competitors' justificatory processes. Behaviours were justified through the control competitors imposed: 'everything's OK in moderation' (Monaghan, 2002, p. 703), and were justified in relation to the demands of the sport: 'I do things because I have to do them' (Chaba et al., 2019, p. 661). Competitors' practices were

'necessary' (Probert et al., 2007, p. 280) and 'a tool to reach their goals' (Monaghan, 2002, p. 699). For example, IPED were regarded as mandatory to be competitive at a high level (e.g. Ainsworth et al., 2022a; Grogan et al., 2006; Macho et al., 2021), and peaking protocols were viewed as: 'no different from other sports when you are trying to peak for a competitive event' (Probert et al., 2007, p. 280). Competitors picked their poison, contrasting their controlled, purposeful behaviours against other unhealthy but widely socially adopted behaviours (Grogan et al., 2006; Monaghan, 2002): 'everybody can have side-effects with any drug. I'm not condoning any drugs but it's in moderation. If, for instance, you had a headache you wouldn't take a full box of Anadin' (Grogan et al., 2006, p. 849). For one female competitor, control was further enforced through selective information disclosure whereby they controlled who they informed of their IPED use to further protect themselves from negative social repercussions and help them to navigate the stigma surrounding IPED-using females (Ainsworth et al., 2022a).

Conditional and unconditional social support

Considering the support experienced from those around the competitors in relation to the 'what I do' section of the framework, this construct indicates that support, 'camaraderie' (Suffolk, 2015, p. 79), and 'companionship' (Bjørnstad et al., 2014, p. 1179) within the competitive bodybuilding community appeared to be unconditional, and was attributable to a mutual respect arising from competitors' shared experiences and relatability with 'like-minded people' (e.g. Campbell et al., 2021; Parent et al., 2022; Probert et al., 2007, p. 277). This social support acted as a source of affirmation and recognition for competitors (e.g. Bjørnstad et al., 2014; Karavaglidis & Cogan, 2018; Parent et al., 2022), as illustrated in one study: 'When an acknowledged [name of competing bodybuilder] said: good shape, like, you looked bloody well! Then it is like, 'ooh – nice.' (Bjørnstad et al., 2014, p. 1179). Competitors subsequently made the community a key reference point for encouragement, feedback, and knowledge exchange (e.g. Ainsworth et al., 2022a; Kotzé et al., 2020; Parent et al., 2022), which assisted with managing psychological and social risks, and compensated for challenges faced outside the community (Grogan et al., 2004; Karavaglidis & Cogan, 2018).

Despite this, support from family, friends, and strangers was conditional, depending upon competition season stage, competitive level, a competitor's physique, perceptions surrounding their health, contextual, and cultural factors (Bjørnstad et al., 2014; Channie-Hill et al., 2012; Karavaglidis & Cogan, 2018). Competitors faced stigma and negativity from outside the community, attributing this to jealousy (e.g. Andrews et al., 2005; Aspridis et al., 2014; Bjørnstad et al., 2014), ignorance, and poor understanding (e.g. Aspridis et al., 2014; Campbell et al., 2021; Grogan et al., 2004).

I've lost a lot of friends over it because they don't understand. They say, look at you, you're skinny, you don't need a diet but they don't understand how important the diet is. I don't tell them anymore, I basically just let them drop off. (Aspridis et al., 2014, p. 27)

Whilst competitors coped with negative reactions by ignoring them (Grogan et al., 2004), this lack of understanding impacted relationships (e.g. Aspridis et al., 2014; Campbell et al., 2021; Probert & Leberman, 2009). Female competitors also faced a unique challenge in meeting societal expectations of femininity (i.e. being slender and unmuscular) whilst

meeting expectations within the context of competitive bodybuilding, and the competitive standards required of them (e.g. Chananie-Hill et al., 2012; Grogan et al., 2004; Wesely, 2001). Such pressures were experienced differently by males, as some felt pressure to maintain muscle (e.g. Probert et al., 2007; Sparkes et al., 2005), whilst others felt pressure from society because they were too muscular and perceived as aggressive or 'a freak' (e.g. Andrews et al., 2005; Karavaglidis & Cogan, 2018, p. 172).

Particularly, competitors also felt there was considerable misunderstanding of IPED users, even amongst healthcare professionals (e.g. Andrews et al., 2005; Bjørnstad et al., 2014; Grogan et al., 2006), and they therefore emphasised that IPED use should not detract from their hard work and what it takes to be a competitor (Bjørnstad et al., 2014; Macho et al., 2021; Monaghan, 2002).

Alternatively, the competitive bodybuilding community could also be critical of each other and exhibit differing views (Campbell et al., 2021; Chananie-Hill et al., 2012; Parent et al., 2022), and those outside the community could also be highly supportive; though, this was primarily where there were shared interests between the competitor and the 'outsider', or where the competitor's behaviours were not perceived as extreme: 'He has been very supportive in the decisions I have made in the fitness industry just as long as they are healthy and smart decisions' (Chananie-Hill et al., 2012, p. 822).

Decisional balance

Relating to the 'what I get from it' section of the framework, the studies indicated that competitors found personal value and meaning in their behaviours and experiences (e.g. Aspridis et al., 2014; Campbell et al., 2021; Probert & Leberman, 2009), and that competitive bodybuilding served as a medium for competitors to better themselves, thus achieving an improved sense of self and associated positive psychological outcomes (e.g. self-confidence and autonomy; Aspridis et al., 2014; Bjørnstad et al., 2014; Mischke, 2022). Competitors felt they became mentally stronger, and experienced relief from life's stressors: 'it's my refuge' (Karavaglidis & Cogan, 2018, p. 175). Competitive bodybuilding was considered a 'purifying process' (Probert & Leberman, 2009, p. 368) in which competitors' engagement proved liberating and therapeutic: 'Below the surface, I have embarked upon something that I have known for a long time needed to be done' (Probert & Leberman, 2009, p. 369). Competitors indicated how they coped with and compensated for previous life struggles via their competitive endeavours:

I was forced either by my own realisations or the questioning of others to face things about myself that I had successfully pushed into the background and either minimised or completely forgotten. By bringing them out again I was then forced to act in some manner and I decided it was time to stop denying and to use these to develop. (Probert & Leberman, 2009, p. 368)

The benefits of competitive bodybuilding practices, including IPED use, also extended to further areas of the competitors' lives, such as developing their careers and enhancing their sex lives (e.g. Aspridis et al., 2014; Bjørnstad et al., 2014; Grogan et al., 2004). However, these positive feelings were not unanimous. Some competitors conversely reported negative transfer into other life domains, such as in their relationships and careers (e.g. Ainsworth et al., 2022a; Campbell et al., 2021; Mischke, 2022). A sense of

regret was also present amongst some competitors reflecting upon their behaviours: 'I even put my relatives after bodybuilding, my marriage wasn't a priority, but today I would not make the same errors again' (Chaba et al., 2019, p. 666). Specifically, in relation to IPED use, some competitors demonstrated desires to cease use completely on both an individual and sport-wide level (Grogan et al., 2006), and another competitor felt 'disgust' (Macho et al., 2021, p. 11) at their prior IPED use. Thus, studies showed that competitors engaged in a decisional balance, assessing the benefits and costs of their competitive engagement.

Discussion

The current study was the first to employ a meta-ethnographic approach to explore the motivations, behaviours, and experiences of competitive bodybuilders. Specifically addressing the research questions related to competitors' motivations and the ways in which they justify and manage the impacts of their competitive bodybuilding behaviours, the findings have provided new conceptual understandings of competitors' motivations and experiences, the outcomes of their engagement in the sport, and their harm management and justificatory processes. Previously, quantitative studies have explored various competitive bodybuilding practices in isolation, and have reasoned that engagement in such practices is primarily pathological (e.g. Steele et al., 2019). However, providing insight into the first research question surrounding competitors' motivations, this meta-ethnography illustrates the multidimensional nature of competitive bodybuilders' motivations, where all constituents come together to create a 'perfect storm' that drives individuals to engage in competitive bodybuilding. The framework developed indicates that for competitive bodybuilders, this perfect storm constitutes three factors encompassed within the 'who I am' element of the framework, including (a) a need for self-discovery or improvement, (b) specific personality traits, and (c) situational factors, and these factors may combine to predispose certain behaviours. Studies have highlighted the personal and social motivations of competitive bodybuilders (e.g. Parish et al., 2010) and the collective findings of this meta-ethnography offered further insight as to the specific nature of these; particularly with regards to personal motivations, which included desires to continually test and improve oneself, and the need to develop control over the body.

Building upon this, the study indicated that competitors' desires to discover, improve or develop control over themselves were rooted in a variety of prior, and sometimes early life experiences. Since these desires manifested via their competitive bodybuilding behaviours, the findings mirror and extend earlier quantitative studies indicating the role of bullying, victimisation, and psychological need frustration in the development of obsessive and rigid behaviours amongst bodybuilders (Selvi & Bozo, 2020; Wolke & Sapouna, 2008). Following Steele et al.'s (2020) study, which considered prior life experiences (i.e. psychiatric diagnoses and abuse) amongst competitors and non-competitors, this meta-ethnography provided an understanding of the potential drivers underlying competitive bodybuilding, including competitors' experiences of poor childhood relationships (Sparkes et al., 2005), eating disorders (Probert & Leberman, 2009) and post-traumatic stress disorder (Campbell et al., 2021). Thus, the findings suggest that motivations for competitive bodybuilding are both complex and multifaceted; though future research

utilising in-depth life history interviews is required to explore such specific facets of the framework developed (e.g. Atkinson, 2007).

Furthermore, the current study illustrates that through competitors testing and improving themselves via competitive bodybuilding, they experienced positive psychological outcomes. For example, supporting Roussel and Griffet's (2000) earlier findings relating to competitive bodybuilders' ongoing self-identity development, results indicated that competitors' participation in the sport resulted in an improved sense of self. Additionally, competitive bodybuilding was seen as a purifying and therapeutic process whereby competitors attempted to overcome and compensate for current stressors, and feelings and events experienced in their earlier lives, some of which they had limited or no control over. Thus, whilst the intricacies of competitors' prior life experiences were not unpacked, the findings indicated that competitors' motivations stem from deep-rooted personal experiences and therefore align with the notion that competitive bodybuilding serves a greater meaningful purpose for these individuals, allowing them to navigate hardships and/or improve their quality of life (Szabo et al., 2015; Tod & Edwards, 2015). This may subsequently explain why when engaging in decisional balance assessments of their behaviours, competitors maintain their engagement in the sport, despite its risks.

In addition to its role in competitors' motivations, the results suggest that perceived control was an overarching theme encompassing all aspects of a competitor's identity, and was also used as both a harm management and justification technique. Thus, these findings provide insight relating to the second and third research questions surrounding the ways in which competitors justify and manage the impacts of their behaviours. For example, whilst the competitors in this study acknowledged the negative consequences of their IPED use (e.g. mood fluctuations, physiological symptoms), similar to Ainsworth et al.'s (2018) sample of 2,4-dinitrophenol users, competitors in the studies collectively demonstrated the control they had over their IPED use (i.e. cyclical dosing, knowledge acquisition), which enabled them to manage social, physical and psychological risk. Hence, the notion of control was further facilitated as a means of downplaying the potential risks of IPED and justifying their engagement in risky practices.

Other risky practices noted in this study included strenuous exercise, peaking practices, and disordered eating behaviours. Competitors' exercise behaviours in this study certainly shared similarities with exercise addiction (e.g. compulsion to exercise, mood modification; Szabo et al., 2015), however exercise behaviours also served a clear purpose in terms of competitors attaining positive psychological outcomes and a competition-ready physique. Similarly, support was provided for competitors' engagement in weight control strategies, binge eating, bulimic behaviours, and nutritional preoccupation (e.g. Alwan et al., 2022; Goldfield et al., 2006), though eating behaviours were highly dependent on the phase of the competitive cycle and also served a competitive purpose. Therefore, although competitors' behaviours may indeed resemble exercise addiction or ED symptomatology, based on the results of the current study it remains unclear as to whether competitors' risky behaviours are evidence of underlying addiction or pathology. Instead, it may be that their behaviours demonstrate high commitment to training, which is beneficial for goal attainment (Szabo, 2018). With this in mind, it would be interesting to explore the extent to which competitors may temporarily alter or relax

these behaviours throughout various points in the competitive cycle (e.g. by adopting a less rigid approach in the off season), or whether their behaviours remain consistent over time and therefore may indeed reflect addiction or pathology.

The distinction between pathological behaviours and behaviours that are deemed as necessary or normal amongst competitive bodybuilders is particularly important for support provision. For example, applied practitioners such as therapists or sport psychologists could consider supporting competitors by promoting alternative coping mechanisms for previous life experiences (e.g. counselling or therapy), thus helping to improve their psychological wellbeing, and prevent prior life experiences from manifesting through the development of pathological or maladaptive behaviours (e.g. Selvi & Bozo, 2020; Wolke & Sapouna, 2008). In addition, considering the role that competitive bodybuilding plays in competitors' identities, and the value they attach to this, applied practitioners should support competitors in broadening their identities outside of the competitive bodybuilding scene (e.g. Cosh, 2021), which may help to mitigate the challenges this poses during phases of career termination (e.g. Sparkes et al., 2005), as well as the challenges competitors may experience as a result of societal judgement for their competitive bodybuilding engagement (e.g. Grogan et al., 2004; Karavaglidis & Cogan, 2018). Finally, healthcare professionals should consider supporting IPED users in their harm management, such as through the use of ancillary drugs to mitigate IPED side effects (e.g. Ainsworth et al., 2018, 2022b; Chester & McVeigh, 2018; van de Ven et al., 2022). This is particularly critical given that IPED are viewed as a necessity for success in competitive bodybuilding and are legal for personal use in the UK, and therefore promoting total cessation is unlikely to be successful. To gauge how to best support IPED users, future researchers should focus on the rationales underlying competitors' decisions to use IPEDs, as well as the implications of their use, with particular emphasis on the psychological and social effects. Raising awareness of the highly controlled and informed nature of IPED and ancillary drug use by competitive bodybuilders among policy makers and healthcare professionals would also be beneficial for developing and implementing effective harm-reduction measures.

The conclusions drawn from this study should be considered in light of some limitations. The differences between the primary aims of the included studies and the current meta-ethnography aims meant that the depth of the data extracted was limited in some studies, compared to those which aligned more closely with the current study aims (i.e. those focused on competitive bodybuilders' experiences). Although, this was considered during the quality appraisal phase by emphasising the 'practical considerations' of the study (Garside, 2014), and was also considered during the later phases of analysis through re-coding and clustering of the data. Another limitation was that the majority of participants in the included studies were current competitors, and it is plausible that future and past competitors may have made sense of their motivations, behaviours and experiences differently. The current study also included studies of both male and female competitors, and it is plausible that including only male or female-based studies may have yielded different interpretations. Whilst some gender differences were touched upon within the results, to explore the findings from a more gendered, sociological perspective was outside the scope of this meta-ethnography, and may therefore be addressed within future research.

Conclusion

This study was the first to implement a meta-ethnographic approach to explore the pre-existing literature surrounding competitive bodybuilders' motivations, behaviours, and experiences. The findings and framework developed highlighted the multidimensional nature of competitors' motivations, and consistent with previous research, indicated the complex role that control plays in competitors' motivations, justifications, and risk management. Given that many behaviours associated with harm are deemed as normal amongst competitive bodybuilders, these findings highlighted the need for a distinction between normal and pathological behaviours amongst competitive bodybuilders which offer a basis for support provision for competitive bodybuilders, and inform future research into competitive bodybuilding.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Data availability statement

The authors confirm that the data supporting the findings of this study are available within the article and its supplementary materials.

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