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use

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## Research Paper

# Searching for meaning: British men's stories of long-term androgenic-anabolic steroid use

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## ABSTRACT

**Background and objective:** Social science research on people who use androgenic-anabolic steroids (AAS) has sometimes interpreted the events individuals describe as associated with their initiation and maintenance of AAS linearly, often neglecting the personal meanings and broader contextual factors influencing use decisions. To extend knowledge, the current study employs an existential psychological lens to interpret the factors long-term AAS users believe led to, and maintain, their use. A central feature of this perspective is that people have a restricted freedom to choose their existence and lead authentic lives. Hence, employing this perspective may reveal how our participants' actions in the world (i.e., their body projects and AAS use) may serve (or be a response to) fundamental concerns.

**Methods:** In-depth life-history interviews with co-created timelines and multiple informal conversations were undertaken with four British male bodybuilders (Mean age = 33 SD 9.23 years) who, on average, had been using AAS for 10.25 years (SD = 4.5 years). Data were put to a structural narrative analysis, where we identified central existential themes in participants' stories and crafted a master plot.

**Findings and discussion:** In childhood and adolescence, participants' stories centred on a set of boundary situations (e.g., bullying, parents' critical illness) that disrupted their routine and underscored their everyday uncertainties. Their search for meaning led them to exercise; developing their body became their method to control their situation. Building muscle and becoming absorbed by a bodybuilding routine created self-worth for them and enabled them to transform their identity. In early adulthood, however, further boundary situations (e.g., injury) disrupted the permanency of their muscular self-identity. These situations prompted participants to reflect on the meaning muscle provided in their lives. The threat of losing the core of what they believed defined their identity was inconceivable. Consequently, these men turned to AAS because they believe(d) it to be an authentic way to restore and sustain their identity.

**Conclusion:** These findings extend the linear descriptions of AAS use by showing how these men interpreted their life experiences and chose to use AAS to navigate their world.

## 1. Introduction

Anabolic-androgenic steroids (AAS) are synthetic derivatives of testosterone and are one of the most widely used forms of image and performance-enhancing drugs (IPED) globally (Begley et al., 2017; Sagoe et al., 2014b; Sagoe & Pallesen, 2018). While AAS are sometimes prescribed for specific medical conditions, more individuals are using non-prescribed AAS for reasons such as to enhance muscle size and strength (Begley et al., 2017). Sagoe et al. (2014b) estimate that the global lifetime prevalence rate of non-prescribed AAS use is 3.3 %, with

higher rates for males (i.e., 6.4 %). In the United Kingdom (UK), where this study is based, AAS are controlled as Class C substances under the [Misuse of Drugs Act \(1971\)](#), and it is not an offence to possess AAS for personal use. However, like elsewhere, in the UK the rise in people using non-prescribed AAS (hereafter, AAS users) has been identified as a public health concern (see e.g., McVeigh & Begley, 2017). This concern stems from both the rising prevalence of use and the associated harms, such as the risk of infections and blood-borne viruses (and virus transmission through injecting and/or sexual practices, Hope et al., 2013), and the various other adverse physical, psychological, and social

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consequences associated with use (see e.g., Mullen et al., 2020; Pope et al., 2014; van de Ven et al., 2024).

While the onset, severity, and duration of negative side effects may vary across individuals, substances, and use modalities, those using AAS for an extended period may be at an increased risk of experiencing harmful side effects (see Kanayama et al., 2008; Kotzé et al., 2023; Pope et al., 2014). Given few studies have focused on long-term users, here we explore the life stories of British long-term users interpreting these stories through an existential lens. To our knowledge, an existential perspective has not been deployed to interpret the stories of British male AAS users. Below, we explain the context of this work before outlining the key aspects and contribution of this perspective.

### 1.1. Anabolic-androgenic steroids: the contexts and rationales for long-term use

Much of the existing qualitative and mixed-methods research on long-term and other users has focused on the adverse consequences of and/or motives for AAS use (e.g., Greenway & Price, 2018; Harris et al., 2016; Skårberg & Engstrom, 2007; Santos & Coomber, 2017). Across this body of work, participants most often describe appearance-related factors (e.g., muscle dissatisfaction, not conforming to contemporary ideals) as their primary AAS use motive (e.g., Greenway & Price, 2018). These qualitative studies also describe a variety of factors, events, and experiences in participants' lives that may have led them to AAS use (for review see Sagoe et al., 2014a). Despite some rigorous studies, sometimes events are interpreted linearly without considering their interconnectedness to AAS use and the broader context in which AAS use decisions are made. Skårberg and Engstrom (2007), for example, reveal that, among other experiences, AAS users in their sample more often reported a history of poor parental relationships and a negative set of school experiences than non-AAS users. Due to the scope of the paper, the authors did not offer insight into how this set of events may be connected to AAS use. Nevertheless, a key point is that a set of events or experiences in a person's life may not result in a specific drive or behaviour (e.g., desire for muscle, AAS use). It is the individual's perception of their life events, their circumstances, and their freedom and choice that create meaning which governs how they respond to such events. Understanding individuals' AAS use decisions and the complexity of the contributing factors leading to long-term use may be enhanced by engaging in further theoretical interpretation of how individuals make sense of their life experiences.

Recent work surrounding men's AAS use introduces theoretical perspectives to interpret the personal meaning(s) connected to the events men associate with their decision to use AAS (e.g., Börjesson et al., 2021; Nøkleby & Skårderud, 2013). Nøkleby and Skårderud (2013), for example, interpreted men's AAS use through the concept of embodiment suggesting that an individual's body project and corporeal practices (e.g., building muscle, AAS use) may be further understood by exposing the sense participants make from "being in the world." Other studies highlight how AAS use may be connected to the embodiment of masculine identity and central concerns related to masculinity (Kotzé & Antonopoulos, 2021; Moore et al., 2020; Keane, 2005). Consistent with this existential perspective, Börjesson et al. (2021) explored the life world of male AAS users showing how their participants' AAS use supported their everyday existence. Existential perspectives have also shown relevance in interpreting the personal meaning(s) of other complex body attitudes, body modifications, and behavioural addictions (e.g., van Deurzen & Arnold-Baker, 2010). As such, this perspective may have further potential in explaining men's long-term AAS use.

AAS users are a diverse group of people and recent research highlights the value of focusing on specific samples (Christiansen et al., 2017; Kotzé et al., 2020, 2023). Hence, in the current work, we focused on the stories of a small group of adult long-term AAS users from Britain. Given that a multitude of societal, community, and institutional factors may influence how individuals perceive their AAS use (see Bates et al., 2019),

British AAS users might offer alternative perspectives to those seen in previous existential studies (e.g., both Börjesson et al., 2021 and Nøkleby & Skårderud, 2013 recruited participants from countries where AAS possession is illegal). In addition, an existentialist framework has had limited deployment to interpret the meanings of the life experiences AAS users believe led to their AAS use. Using existentialism to make sense of AAS users' corporeal and related experiences across their life-span has the potential to extend knowledge on both the initiation and maintenance of use. Individuals might use AAS for a variety of reasons and an existential lens also provides a framework to understand the broader context in which individuals' AAS use decisions are made. Hence, using this perspective responds to the calls in the AAS research for in-depth theoretical work that considers the wider influences that shape individuals' AAS use decisions (see Gibbs, 2023). Although our participants' stories are not statistically generalisable, they may resonate with other AAS users' experiences and our theoretical interpretations may be transferable to wider populations (Kotzé et al., 2023; Smith, 2018). As existential theory is not often used in this field, we offer an extended introduction to some of its key aspects below.

### 1.2. Anabolic-androgenic steroid use: an existential perspective

Heidegger (1962) introduced humans as being Dasein ("being there") to identify the unique nature of human life. Thus, "we are aware that we are" and "being is an issue for us" (Ronkainen & Nesti, 2017, p.14). Hence, the existential position "focuses on concerns that are rooted in the individual's existence" (Yalom, 1980, p.5). These "givens of existence" are unavoidable aspects of a person's situation in the world. The four givens Yalom (1980, p.8-9) describes receive the most attention in the literature: death - "we exist now, but one day we will cease to be", freedom - "the absence of external structure", isolation - "an isolation from creatures and from [the] world", and meaninglessness - "there is no preordained design for us, ... each of us must construct our own meanings in life". Existential thinkers have varied ways of expressing these concerns and the emphasis they give to them (van Deurzen & Arnold-Baker, 2005). We refer readers to reviews of existential theory (e.g., Horner et al., 2023; Nesti & Ronkainen, 2020; Nesti, 2004) and the work of existential theorists (e.g., Heidegger, 1962; Kierkegaard, 1980; Sartre, 2007) because, due to word constraints, we are unable to fully describe each of these perspectives here. Fundamentally, however, the existential position focuses on the givens in life and recognises a person's situation in the world is not entirely of their choosing and, to some extent, is outside of their control (Ronkainen & Nesti, 2017). That is, individuals have a "thrown" existence (Heidegger, 1962). They are, for instance, born at a moment in history, to a particular family, who live in a particular culture. Humans, however, are not exclusively shaped by external pressures, constraints, and culture, but also possess (a restricted) free will and are capable of some agency over their situation (Ronkainen & Nesti, 2017). As they age, for example, an individual's level of control over their social situation fluctuates and they may acquire some control over their circumstances. It remains constant, however, that people have limited agency, which contributes to their anxiety (Kierkegaard, 1980).

In existential thought, anxiety reflects the uncertainty of being (i.e., the only absolutes are givens, for example, death is the point where Dasein ends, Heidegger, 1962) and the realisation that one is fundamentally alone in the world (Sartre, 2018). As such, anxiety is part of how a person understands their "being-in-the-world" (Heidegger, 1962, p.6). Events that disrupt everyday routines may lead individuals to discover their ultimate concerns manifesting in anxiety (Heidegger, 1962; Yalom, 1980). Jaspers (1970, p.179) refers to these disruptive events as "boundary situations." Yalom (1980, p.8) described how boundary situations may include "such experiences as a confrontation with ... death, some major irreversible decision, or the collapse of some fundamental meaning-providing schema." Across the wider existential literature, such events have also been described as critical moments,

ruptures, and junctures (Nesti et al., 2012). Nesti et al. (2012, p.25), for example, describe critical moments as "...moments in our lives where we must confront the anxiety associated with an important change in our identity." It is important to note that, in existential thought, identity is not fixed, but is continually evolving and shows itself to others through an individual's actions in the world (Sartre, 2007). The limits of a person's existence and the absence of external guides (i.e., we only have socially accepted conventions) means that individuals are restricted in choosing who and how they are (Cooper, 2003; Eubank et al., 2020). Boundary situations may also continually challenge an individual's perspectives on their choices and life projects (Nesti et al., 2012). To manage this disruption, an individual may respond with actions in the world targeted at protecting themselves (Becker, 2011; Nesti et al., 2012; Yalom, 1980).

The existential themes described so far may connect to the experiences disclosed by AAS users in previous research. Bodybuilders, for example, have revealed critical moments or boundary situations that have influenced their decision to become bodybuilders and use AAS (e.g., Cranswick et al., 2020; Gruber & Pope, 1999). Klein (1993), for example, describes that "bodybuilding ... [is] created" by "some men's need to build their body" and across the literature, individuals have described various boundary situations (e.g., degrading interactions, adverse events, the realisation of the required physique) that have influenced their decision to body build (Gibbs, 2023; Fussell, 1991; Klein, 1993). Given that muscle becomes central to a bodybuilder's identity and the meaning they have in their lives (Klein, 1993; Fussell, 1991), boundary situations for bodybuilders may be experiencing injury (e.g., Cranswick et al., 2020) or a plateau in training (e.g., being unable to add more bulk to their frame). Within his autobiography, for example, Fussell (1991, p.84) notes his "agitated state" when two years into his training he experienced a plateau where his body "...stuttered and stopped growing." In these situations, a bodybuilder may question who they are and experience anxiety (Nesti et al., 2012). As a result, and among other reasons (e.g., the drive to attain specific goals), to maintain their identity performance and manage their anxiety, bodybuilders may turn to AAS use because they believe such substances may allow them to overcome the constraints of their situation (e.g., Fussell 1991; Kotzé & Antonopoulos, 2021; Santos & Coomber, 2017).

Not all bodybuilders experiencing such situations will, however, turn to AAS use. An individual's understanding of themselves, their values and beliefs, and their perceived freedom will influence how they respond to such events. As we describe above, a person's identities are dynamic and in a state of flux, and therefore their decisions are based on points in time and may be authentic or inauthentic (Heidegger, 1962). These ways of existing reflect modes or attitudes a person has towards the world (Lemay & Pitts, 2005). Authentic modes involve the individual making conscious decisions that allow them to own "who and how one is" and, in contrast, inauthentic modes involve the individual being lost in "the they" (Heidegger 1962, p. 167). The concept of (in) authenticity may have further relevance for interpreting individuals' AAS use decisions. Research, for example, suggests that more men are taking (or contemplating the use of) AAS in response to social pressures (e.g., Griffiths et al., 2018; Harris et al., 2016). In such cases, individuals may have fallen into "the they" of their context and AAS use may be an unreflective and inauthentic response to such pressures (Heidegger, 1962, p.167). Bodybuilding and AAS use have often been described as synonymous (e.g., Fussell, 1991), and AAS use is sometimes perceived as the norm within bodybuilding gyms (Gibbs, 2023). Heidegger (1962, p.164), however, notes that "just following the crowd" or, in this case, following the normative scripts of the gym context is not necessarily

inauthentic. When, as Cooper (2003) elaborates, one falls into a set of meanings and perceives them as givens without acknowledging their fragility, it is then when an individual's choices may be inauthentic.

Given, however, that individuals are part of their environment, which is continually evolving, and their freedom to choose themselves is restricted (Heidegger, 1962), bodybuilding and AAS use may also be one-way men respond to cultural constraints (see Gibbs et al., 2022b; Gibbs, 2023). Kotzé and Antonopoulos (2021), for example, show how their participants' hyper-conformity to cultural norms resulted in their AAS use. In such instances, despite being influenced by social scripts, AAS may not be about deviancy, but it may be a reflective adaptation to cultural restrictions. The erosion of other fundamental sources of value and meaning for/of men in contemporary society may result in men turning to other purposeful projects that have individual and/or collective value, such as gym labour and bodybuilding (Gibbs et al., 2022b; Gibbs, 2023; Shilling, 2013). In such instances, these men may not "just [be] following the crowd," but within the boundaries of their circumstances, they may be making a conscious choice that supports their existence. Across the literature, there are multiple examples of bodybuilders describing how they carefully consider and justify their body project and associated AAS use (e.g., Gibbs, 2023; Monaghan, 2012). Equally, a person's ever-evolving understanding of their situation in the world may also shift their perspectives and modes of existence. Led by "the they", for example, an individual might fall into bodybuilding but, over time, muscle might become a meaningful component of their identity (see AAS users' stories in Gibbs, 2023). Hence, their choice to use AAS may become an action that supports them in "owning who and how [they are]" (Heidegger 1962, p. 167).

To summarise, adopting an existential lens involves rejecting the linear accounts of AAS use (e.g., AAS use is a result of specific life experiences) and foregrounds the person's situated freedom and their capacity to choose their existence (Cooper, 2003). As such, interpreting men's AAS initiation through an existential lens recognises that people and their drug use decisions are complex, and engaging this perspective may reveal how an individual's choice to use AAS may serve (or be a response to) deep fundamental concerns. It also recognises how individuals may fall into a socially agreed set of meanings and may come to adopt accepted conventions and behaviours (e.g., AAS) of a particular subculture. Using this lens offers an alternative to the negative views often found in medical discourse, which may position AAS users as psychologically disordered or experiencing a crisis of masculinity (Keane, 2005). Such views can reflect societal stereotypes of AAS users (e.g., see Monaghan, 2016 and Mulrooney et al., 2019) and may not be reflective of users' realities. Previous research, for example, suggests that AAS users do not describe themselves this way (Gibbs, 2023; Monaghan, 2001). Instead, this work shows how AAS users have learned about their limitations and, within that knowledge, have made informed choices to act in their world to live their best lives (e.g., Gibbs, 2023). Hence, the existential lens sees individuals as humans with strengths and flaws (not as damaged, as per medical discourse), and provides an alternative perspective to understand how people engage in actions in the world to navigate their circumstances. As such, the purpose of the current study was to provide an in-depth exploration of how men storied their journeys to becoming long-term AAS users and expose the factors they believe led to, and maintain, their use. To reveal these processes, we adopted a narrative life-history approach and interpreted men's stories from an existential viewpoint, which we outline below.

## 2. Method

### 2.1. Study design and philosophical foundations

We used a narrative life-history methodology and drew on an existential perspective to interpret how participants made sense of their life experiences. Our approach was influenced by the existential-narrative framework as outlined by Richert (2010). Specifically, our narrative methodology gave the freedom for the men to tell their own stories. Liebllich et al. (1998, p.7) describe how stories are “created, told, revised, and retold throughout life.” Thus, at the point in time at which they are told, stories reflect the sense the narrator has made of their experiences and are reflective of their reality (Liebllich et al., 1998; Smith & Monforte, 2020). As such, we were not looking to verify historical facts but explored how the participants’ interpretations of their life experiences had shaped their AAS use decisions. The existential lens provided us with an interpretative framework and sensitised us to key existential themes in men’s stories. Integrating a narrative methodology and existential theory helped us to flexibly explore the multiple ways these men made sense of their experiences (Richert, 2010). A similar narrative-existential approach has been used in previous research (e.g., Ronkainen et al., 2015; Ronkainen & Ryba, 2017; Sille et al., 2020).

Consistent with the foundations of the narrative approach, we held a constructionist epistemology (i.e., we focused on the men’s interpretation of the situation(s) they were in and how they made sense of their world) and a relativist ontology (i.e., we realise that these men’s reality and our interpretation of their stories is subjective). All authors of the current study have lived in the gym world, and have been excessive exercisers and, thus, our understanding is theory, experience, and knowledge-laden (Papaioannas, 2016). As such, we acknowledge the participants’ stories, our interpretations, and the presented narrative are a co-construction.

### 2.2. Participants

The sample consisted of 4 British male bodybuilders, and Table 1 presents their demographic information (pseudonyms used). Given that AAS users are a hard-to-reach population (Richardson & Antonopoulos, 2019), these men were sampled from a broader body of qualitative work focused on people with an extreme level of drive for muscularity (see Edwards, Molnár, & Tod, 2017, 2022). In the current work, we focus on the stories of men who disclosed their long-term AAS use. These participants were recruited through conversations in bodybuilding gyms (i.e., by establishing contacts in various gyms and snowball sampling from these contacts) and via bodybuilding social media platforms (i.e., the details of the research were shared with Bodybuilding groups on Facebook and individuals contacted Christian to express their interest in participation).

Participants had been bodybuilding for an average of 12 years, and they currently trained with weights approximately five times per week. Participants had been using AAS for between 5 and 14 years (Mean years AAS use=10.25, SD 4.5 years), with the average age of first use being 23 years (SD= 5.6 years, which echoes previous research e.g., Christiansen, 2020). Participants were using multiple AAS in their current cycle, including, Methandrostenolone, Stanozolol, and Nandrolone decanoate. Although all participants disclosed a history of intramuscular and oral AAS use, three participants were currently using both oral and intramuscular AAS, and one participant reported intramuscular use only. Along with multiple modes of AAS administration, participants also reported engaging in polypharmacy which is associated with several

adverse health consequences (van de Ven et al., 2020; Sagoe et al., 2015). Participants, for example, disclosed a history of using other appearance-related substances (e.g., weight loss drugs), peptides (e.g., Human Growth Hormone), and ancillary substances to lessen AAS use side-effects (e.g., Anti-Oestrogens).

### 2.3. Procedure

A university research ethics committee granted ethical approval and participants provided written informed consent before data collection. All participants were interviewed on one occasion. Before and in between interviews, Christian took various steps to become more familiar with the participants’ worlds, including several visits to gyms where participants trained, and engaging in multiple informal conversations with participants and their peers before interviews. These interactions were not voice recorded, but the value of them is that they helped Christian establish a relationship with the participants which then gave rise to additional information (e.g., about their current training) allowing him to make a better understanding of their lives. Christian conducted interviews in the participants’ homes or gym settings, contacting the second author before and after interviews in adherence with lone working protocols. Consistent with previous life history research, interviews began with a set of grand tour questions (e.g., When did you start lifting weights?), prompting participants to give a verbal account of their experiences across their lifespan, in their own words (Carless & Douglas, 2010; Douglas & Carless, 2009; Wolcott 1994). As such, interviews were participant-led to explore their experiences in an open-ended manner (Douglas & Carless, 2009). Kotzé et al. (2023) highlight that open-ended formats present a sensitive way of understanding AAS users’ experiences and may lead to insights that better reflect their realities (i.e., rather than closed-question approaches). During interviews, Christian used probes and prompts to support participants in providing additional depth and clarity. When individuals mentioned their AAS use, for example, he followed up with questions that led participants to reflect on their rationales for use and the events and contexts that shaped their decisions. Interviews lasted, on average, sixty-five minutes and were digitally recorded on a Dictaphone. Recordings were manually transcribed verbatim by Christian and stored on a password-protected device.

Similar to previous work, we also used supplementary methods to ensure that we understood the participants and their lives (e.g., Kotzé et al., 2023). Specifically, during the interviews, participants were provided with a timeline to visually depict the sequence of events they had encountered (Adriansen, 2012). This timeline helped participants recount what had happened at specific points in their life and contextualise their experiences. In addition, interviews were followed by informal conversations in the gym and direct messages on the Facebook messenger application. These informal interactions helped Christian become more familiar with the story the participants had told and allowed them to expand upon the events described during interview. Within these interactions, participants reflected on a broad variety of topics (e.g., training, funding their AAS use) providing additional insight into their lives. These ongoing interactions were recorded as field notes.

### 2.4. Research credibility

Consistent with our philosophical foundations, we adopted a non-foundational approach to guide and evaluate our research design (Smith & Caddick, 2012). This approach involves researchers

**Table 1**  
Participant demographics.

Name	Age	Years bodybuilding	Relationship status	Profession	Bodybuilding status	Age of first AAS use	Current method(s) of AAS use
Scott	33	8	In relationship	Personal trainer	Competitive	25	Inject
Craig	24	9	In relationship	Gym Contract manager	Non-Competitive	19	Oral and inject
Dan	32	10	Single	Personal trainer	Competitive	18	Oral and inject
Kyle	44	24	In relationship	Surveyor	Competitive	30	Oral and inject

**Table 2**  
Selected benchmarks and actions taken.

Aim	Benchmark	Actions
Ensure we understood the participants and their lives	Sincerity	We only focused on the stories of men who were long-term AAS users. We became aware, through frequent team meetings, of the biases we held (e.g., related to our own gym-related motives/behaviours). In analysing the transcripts, we engaged in critical friend discussions where Győző and David continually challenged Christian's interpretations.
Demonstrate to participants that we cared about them and their experiences	Rich Rigour	We prolonged our engagement with participants pre, during, and post-interviews (e.g., by getting to know participants and interacting with participants and their peers pre- and post-data collection).
Provide a narrative that would advance theoretical and practical knowledge	Significant Contribution	Our narrative provides an in-depth, rich description of participants' journeys to long-term AAS use. This narrative shows novel theoretical connections to existential thought, and our discussion highlights the potential applied implications of these connections.
Provide information that resonates with readers' experiences	Resonance	We presented and received feedback on our narrative representation in academic circles. We also discussed our interpretations with other men experiencing muscle-building preoccupations (some of those men contemplating/have contemplated AAS use). We reflected on these interactions in research team critical friend discussions and this reflection informed our interpretation.

developing a set of criteria that are specific to the research that can be used to assess the work's credibility (Smith & Caddick, 2012). Table 2 presents the criteria that guided our work and details how we met these benchmarks.

### 2.5. Analytic process

Interview transcripts were put to a structural narrative analysis (see Smith 2016, pp.265-266). This analysis allowed us to identify central threads in participants' stories and craft a plot of the key experiences, meanings, and processes leading to and maintaining AAS use. Initially Christian immersed himself in the men's stories. This "narrative indwelling" involved reading and re-reading transcripts (Smith 2016, p.264). This period helped him to start to think with the story of each participant. The reading and re-reading of the transcripts was undertaken through an existential lens (Richert, 2010). This lens helped Christian look beyond the events these men disclosed to interpret how these events may have had meaning to them. To aid this interpretation, he asked questions of the men's transcripts, for example: "who were they?," "how did they describe their existence?," "how did boundary situations influence them?," and "on what basis did they make their decisions?" What became apparent in this analysis process was that, while participants recounted different stories, their stories shared a similar narrative plot. In crafting this plot, Christian's interpretations were continually challenged by Győző and David who acted as critical friends. Here, Győző and David asked critical questions around existential themes and Christian's interpretations (e.g., "How did the near death of his father influence him?" and "at this point, on what basis did he make his decision?"). Christian also reflected on his life experiences that may have shaped his understanding (e.g., being a body image researcher, a former rugby player, and an excessive exerciser) and David supported him in becoming aware of how these factors shaped his analysis. These critical discussions led Christian to re-read participants' transcripts and revisit his interpretations. We also sought feedback on our interpretations by presenting our findings to both academic and bodybuilding communities. Based on the above, what follows here is a narrative of the events and their associated meaning(s) that led these men to become long-term AAS users.

## 3. Findings and discussion

Consistent with the way the participants told their stories, we structure our narrative as a temporal plot from childhood to adulthood. We present this plot through participants' quotes, along with our interpretations, showing how these men's AAS use was influenced by, and connected to central existential threads. The themes encompassed within this plot are: (a) my thrown existence; (b) muscle provides meaning; (c) muscle reflects my sense of self; and (d) restoring and sustaining my identity. Despite presenting this narrative as a temporal plot, the events and processes described should be viewed as a set of

ongoing and intertwined interactions.

### 3.1. My thrown existence

The participants described the specific circumstances they existed in and how these circumstances involved several boundary situations that forced them to confront their limited existence. Similar to bodybuilders' stories in previous work (e.g., Klein, 1993), most of the circumstances participants described were social and involved relationships and interactions with others (Heidegger, 1962). Dan, for example, explained how he made sense of his existence through interactions with peers at school:

[At school], I was very shy and didn't really want to be outspoken or anything like that. [Other] guys at school were a bit brash and show-off ... and I didn't really look like that. I think maybe, deep down, [that made me want] ... something that made me stand out a little bit.

Scott described boundary situations with his father:

In terms of ... what [started my journey to bodybuilding] initially, it was the way I was spoken to by my dad, ... [because] compared to everyone else in the family I [was always] the one to poke fun at.

All participants also highlighted instances of peer bullying as critical moments in their early lives. Craig, for example, recalled how he was bullied because his physical appearance did not conform to socially informed expectations:

I was bullied [by my classmates] in primary school for being a massive [overweight] kid. I was big, like twelve stone. So, a big, fat kid... [At] thirteen I was still a bit chubby, and... [then] puberty kick [ed] in and [my] [weight] start[ed] to level off, but at fourteen I ... [still] looked shit [out of shape].

Craig continued to explain the consequences of bullying:

[Bullying led me to have] low self-esteem and obviously with lasses and stuff, [being fat] was a pain in the ass... I didn't have much confidence. ... I got rejected [by girls] a lot... [and] something was missing with regards [my] confidence.

Across their childhood and adolescence, these men's descriptions of their social interactions highlighted how they were often treated (or were treating themselves) as objects (i.e., a thing that has "present-at-hand properties") rather than a person (Heidegger, 1962, p.67). They were, for example, victimised because of their physical appearance and/or had their abilities scrutinised based on others' objectified criteria (e.g., their achievements). In being treated as "a mere thing" in their childhood and adolescence, these men were "misplaced" and viewed by others and themselves as less than what they were (Heidegger, 1962). These interactions shaped their development, and resulted in them struggling to realise the possibilities of their existence. Unlike objects, however, people have a restricted freedom to choose how they want to live and create meaning in their lives (Heidegger, 1962; Sartre, 2007).

In responding to their situation, all of the participants chose to (and/or were expected to by their family members and others in their social milieu) take part in traditional masculine sports (e.g., rugby). In Western

societies, sports participation has historically been perceived as a male domain and one of the key sites for constructing a masculine identity (Drummond, 2002). Similarly, in existential thought, “one is the embodiment of Dasein’s world” (Lemay & Pitts, 2005, p.50) and Dasein’s world is fundamentally a “being with others” (Heidegger, 1962, p.281). Thus, traditional ways of fitting may involve conformity to social conventions which may include adapting to gender stereotypes, such as participating in traditional sports. Conforming to these cultural traditions shaped these men’s behaviour, limiting what and how they could be (Heidegger, 1962). In line with the connections between sport and traditional masculinity, the participants identified how engaging in sports helped them form some purpose and coherence in their lives. Critical moments, however, challenged the continuity of their evolving sporting identity and made them more aware of their limitations. As Scott reflects:

I played [football] from when I was six through to when I was about twenty .... When you get to a certain age ..., [you end up having to play adult football]. [When I started playing adult football,] ... I was twelve stone .... The problem was, as somebody who weighs twelve stone, [you had to] play against ... forty-year-old men who weigh almost double your weight. [They] played ... football for fun and they enjoyed hard tackling. [So,] you would have someone double your age and double your weight smacking into you .... It just wasn’t [fun]. I didn’t enjoy it [anymore], so I stopped playing football ... [because] I didn’t want to get the crap kicked out of me every time I played.

The physical body always lies in the background of Dasein’s doings, and, as such, “Dasein requires a body of a certain sort” (Inwood, 2019, p.29). Having a physique outside of the expected standards hindered these men’s actions in the world (e.g., in their sports participation) isolating them from their peers and reinforcing their uncertainty. For these men, the limits of their physical domain left them unable to negotiate their circumstances which influenced other domains of their lives (i.e., their personal and social domains).

For two participants, it was also having a parent with a life-threatening illness/injury that reinforced their fragility and the finitude of control they had over existence. Craig describes:

[When I was younger] I thought I could control everything in my life .... But [when] my dad had a heart attack [it] literally meant ... [and] translated [into] that I can’t affect everything.... I couldn’t control [my dad’s situation] so I felt I was out of control completely... I couldn’t control the family, and I couldn’t help the family, so I felt out of control.

Similarly, Dan reflected on his dad’s injury:

My dad broke his spine ..., [and, as a result] my mum went a bit nutty, and she couldn’t focus on anything. She would break down in tears cooking dinner and things like that. Everything had changed for [my] mum and [I] had to help [her] through that .... [It] was tough.

As with all individuals, these men did not have a choice over their situation but, within the limits of their circumstances, they could choose how they would continue. In the next theme, we show how these men confronted their limited existence.

### 3.2. Muscle provides meaning

These men’s search to confront their limitations led them to exercise; building muscle became their method to take control of their situation. Dan describes:

You don’t feel like much, so you have to go and find something that you are good at. And I think I must have been looking for that for a bit, and then bodybuilding came along and [finding something like that] makes you really sort of [realise] “yeah, ... I am ok.”

Finding muscularity gave Dan a way to manage his uncertainty and he started to use his physical domain to show who and what he could be. The men also described how boundary situations led them to the gym. As Craig identifies:

[Part of my dad’s] recovery was to go to the gym. I was a fat kid as well, ... [so] I said to him that I would go to the gym and help him [get

fitter]. And [my training] ... literally started off from there.

Developing their physical domain was congruent with their thrown existence (e.g., the masculine scripts to which they had been exposed) and their perceived constraints (e.g., their perceived physical limitations), and was within their sphere of control (i.e., it was within the restrictions of their environment; Yalom, 1980). Hence, normative scripts and their circumstances continued to restrict and shape what and how these men could be (Heidegger 1962; Sartre, 2007). They found, however, that embodying muscularity and the meaning offered through gym work enabled them to interact with people on their own terms, which allowed them control over the possibilities of their existence, including access to previously restricted domains. For example, their increasingly muscular physique influenced their interactions with others. Craig explains: “...obviously people notice [when you get more muscular] ... in [your] peer group and ... [you get] a bit of attention [from girls].” For these men, building muscle was the action in the world that helped them navigate their thrown existence and was their way of confronting “their own limitations” allowing them more capacity to control their existence (Sartre, 2007, p.43). These men’s focus on bodybuilding may be consistent with existing accounts, that highlight some men may turn to modifying their body (and use AAS) in response to threats to their masculinity (e.g., Fussell, 1991; Kotzé & Antonopoulos, 2021; Klein, 1993; Moore et al., 2020). These events and associated meanings (e.g., threatened masculinity), however, were not the only concerns that prompted these men to turn to the development of muscle.

For the two participants who had parents with life-threatening illnesses/injuries, their parents’ vulnerability prompted them to reflect on the ultimate concern of death and their own existence. The death (or near-death) of a loved one leads Dasein to “gain experience of death, ... because Dasein is essentially a being with others” (Heidegger, 1962, p.281). As such, death “remain[s] ... as an external reality.” These traumatic near-death experiences offered these men a terrifying, critical foresight that guided them towards gaining a perspective of their Dasein (Heidegger 1962; Yalom, 1980). Such a perspective forced them to reflect on their fundamental condition in the world and choose how they would continue (Yalom, 1980). Consistent with the defences against death (which can be conscious or subconscious), as Yalom (1980, p.96) describes, these men chose to respond to this ultimate concern (i.e., the realisation that they will at some point die) by engaging in actions in the world (i.e., building their physical domain) that would allow them to convince themselves (and others) of their “specialness”, “invulnerability and imperishability.” Across previous accounts, bodybuilders have used similar terms to describe how building muscle was their defence mechanism (e.g., Fussell 1991; Klein, 1993). Fussell (1991), for example, explained how bodybuilding presented him with a way to create a “walking billboard of invulnerability.” Various theorists have described these defence mechanisms in different ways (see Yalom, 1990, p.41). Becker (2011), for example, describes them as immortality projects. As we show below, our participants chose to build a hyper-muscular physique that they came to describe as the body they would be “known for.” As such, the body, and its development, may have presented these men with a way to show they were special and invulnerable.

### 3.3. Muscle reflects my sense of self

The men’s narratives reveal that becoming absorbed by a bodybuilding routine helped them confront their own limitations, navigate their being in the world, and enabled them to transform their identity. That is, by building their body they had created purpose and meaning for themselves. Kyle reflected:

I went through a phase like most lads of just drinking and fighting. I would always be training, but [I] got to the stage where I was training all the time and ... [drinking at the] weekend... and [I thought] what is the point in that... I don’t see the point ... the weekend [was] just ruining [it

all]. [I don't drink anymore, and in my training now], I am just always trying to better myself.

As Kyle's quote shows, becoming muscular allowed him to escape his previous lifestyle and, in turn, choosing muscle made him "better," more special than others and more able to deal with life's struggles (Yalom, 1980). The themes of distinction, specialness, and discipline offered by training are also central to the narratives of bodybuilders in previous work (e.g., Gibbs, 2023; Fussell, 1991). Our participants reflected on how muscle became central to their identity performance. Dan reflects:

[Everyone associated] me with being big [and muscular], and ...like my friends [would call me], "big Dan." [They would say] "have you seen him, he's getting really big!" and you know, [for me] it was the association with being the big [muscular] guy. That's what [I was] known for.

Boundary situations, however, continually disrupted the permanency of their new muscular identity. Some participants, for example, described critical moments in competitive bodybuilding such as finishing last in a competition or perceiving that they "can't compete" against other bodybuilders. Kyle, for example, reported that a plateau in muscular gains led him to take AAS. Equally, Scott described how it was the realisation of his innate corporeal limitations that led him to AAS use:

[It was] ultimately realism [that led to steroids], I am not stupid ... [and] looking at the metabolic pathways of the body, how protein synthesis works, [and] how fast you can actually put on muscle ... [and the limit of] the body's own testosterone levels .... For my height, the maximum weight is about 209 to 210 pounds..., so you know you're maxing out at 210 [pounds], and I know I was at 190 pounds after I ... [had been] bodybuilding [for six years] .... I was like I've got 20 pounds [left] over the next 20 years ..., that is [only] a stone and a half! [At this point] I thought I looked better, but [my size] will max out fairly quickly, and it was realism [at that] point that I knew there is only so far ... [I could] get [in bodybuilding].

By this point in their lives, being a bodybuilder was central to these participants' identities and being unable to effectively perform this part of their identity (e.g., by building more muscle) resulted in significant angst. Muscle was also fundamental to Dasein's doings and the collective meanings these men had from "being with others" in their bodybuilding context (Gibbs et al., 2022b; Gibbs, 2023; Heidegger, 1962, p.281). In turn, these critical moments continued to remind them that they were vulnerable, were not special enough, and had still not overcome their limitations (Yalom, 1980; Becker, 2011). Hence, as their fragility resurfaced, they were reminded of how they were no less deserving of death and how central muscle was to them (Yalom, 1980; Becker, 2011). As Scott describes: "If I didn't have [bodybuilding] what would I do? [For me] it is the difference between being alive and living." Fussell (1991) provides a similar account, disclosing "...without it [bodybuilding]... I shrivel up and die." For our participants, this terrifying reality prompted them to reinforce their hyper-muscularity and turn to AAS use in the hope of communicating their invulnerability.

Critical moments in competitive bodybuilding, however, were not the only situations that challenged these men's muscular self-identity. Two participants described how their vulnerabilities were exposed by injury/illness that resulted in significant weight loss. For these two men, the threat of losing the most meaningful component of their identity (i.e., muscularity) was inconceivable and prompted their decision to use AAS. Craig described:

[For me, my injury] was the turning point [to start steroids]. I guess, I might have ...[started] a couple of years later but [I] think [the injury] gave me that nudge that I needed, simply because I'd lost so much weight.

Although a continual set of boundary situations led participants to turn to AAS, their decision to use AAS was carefully considered, and we describe these men's AAS use decisions next.

### 3.4. Restoring and sustaining my identity

Despite "the they" shaping these men's behaviours, embodying muscularity had become their way to take hold of their destiny (Heidegger, 1962). These men's decision to continue to build muscle and take AAS involved them making considered and calculated choices that were within the boundaries of their circumstances. Unlike inauthentic modes where a person is lost in "the they," authentic decisions involve a person "...[taking] hold of [their] own way" (Heidegger 1962, p. 167). Such decisions may not appear logical or sensible to others (e.g., AAS use is associated with adverse health effects), but, at that moment in time, they are reflective and founded on the individual's values and beliefs, even if these attitudes are influenced by others (Lemay & Pitts, 2005). For our participants, we see this reflective decision-making process in the ways they described how they carefully assessed the benefits and risks of their actions. Craig reflects:

I was dead against [steroid use] at the start, I was like [saying to my mates]: "I would never put that in my body, jabbing does not really do anything for me really," so I couldn't do it. Then, obviously, I had my injury... [and] I lost [the muscle I had] built up [over] nineteen months!

Craig continues:

[My] main focus was [that] I need to get myself back and [taking steroids] was a massive decision. I needed to get myself ... into a better [physical] state... I needed to think of how to get [my physique] back and that obviously coincided with when I really weighed up the options ...[Thinking about becoming] a drug user put me at a little bit of a downer. [Although], my [negative] body image [and] how I thought about myself massively outweighed [the cons]... so mentally I was looking forward to [starting] steroids, if you could say that. I had educated myself ... [it was more than just] you stick it in your arse, and you get massive. I took massive steps [to learn how to use steroids].... There was [this experienced steroid user] who .... I just spent near enough every day in the gym learning [from] and then obviously he educated me in the use of steroids and every kind of aspect. So, when I had finally decided that this is what I want to do, I had a clear kind of knowledge of like how it works biologically, [and] how [it can be] tailored to your body.... Everything had a clear purpose, ... which I enjoyed in my life.

In a similar way to bodybuilders in previous work, these men carefully considered their values and beliefs and voiced constructive rationales for their AAS use (e.g., Monaghan, 2012; Gibbs, 2023). Similar to AAS users in Gibbs (2023), Craig's quote above also highlights how his AAS use and associated actions helped him to deal with his situation and (re)establish his purpose. In Craig's attempt to cope with his circumstances, he also chose an experienced AAS user as his key adviser. It is Craig who chose his adviser, and in choosing his adviser, he knew "in his heart, more or less, what advice [his adviser was] ...likely to give" (Sartre, 2007, p.33). In turn, as Sartre (2007, p.33) describes: "to choose one's adviser is only another way to commit to oneself." For the men in the current study, their choice to use AAS was a conscious and reflective decision that enabled them to confront their limits and project who they were.

Similar to the narratives of bodybuilders in previous work (e.g., Gibbs, 2023), two of the men also highlighted their frustration at others in the gym whom they perceived turned to AAS use "too quickly" where the gym goers' decision to use AAS appeared unreflective (e.g., the fact that they are not yet bodybuilders). The men's narratives highlight how these other gym goers also had their own AAS use advisers (i.e., other gym goes who acted as steroid mentors, see van de Ven & Mulrooney, 2017), but, unlike the reflexive AAS use decision-making process they had engaged in, these gym goers had fallen into socially agreed conventions, which may be reinforced by steroid mentors, and become lost in the "the they" of the gym context (Gibbs et al., 2022a; Heidegger 1962, p. 167). Dan reflects:

I really can't stand when people who look like nothing [use steroids]. They walk into the gym, and they have been in the gym for two weeks



and their friend says ... “oh yeah, you should get on some stuff [steroids] that I am on.” And I am thinking, “hang on a minute, he has lifted weights for two weeks he doesn’t need any [steroids] ... he is still growing, he is still going to get bigger if he eats right.” And they are like “yeah but he just wants to get some weight on him quickly” and I am like “well stop being a little idiot... he is either in it for the long haul or he is in it to get a bit of muscle.”

When taking AAS, men in the current study highlighted how they continued to experience boundary situations that challenged the continuity of their muscular identity, including interactions with doctors, significant others, and use harms. For these men, being forced to stop AAS resulted in anxiety and the potential for crisis. Kyle, whose AAS use was under scrutiny during a hospital stay because of “a bad jab,” identified that coming off AAS was not only problematic because of the performance of his identity, but also for how being forced to stop might influence the other domains of his existence (e.g., his personal domain). He reflects:

I said to [the] consultant, “I have obviously been doing fourteen things [steroids] a day, [and] you know I am in here [hospital] and I can’t just stop [taking steroids, like the doctors have told me to] because ... [my] body [will crash] ... and [I] will feel worse than ever.”

Paralleling AAS users’ stories in previous work (Gibbs, 2023; Monaghan, 2012), despite being aware of health problems associated with AAS use (e.g., the potential for AAS to cause “damage to the heart”), our participants often discounted the significance of such consequences and explained how they carefully mitigated risks associated with their AAS. They, for example, described how they conducted extensive research on AAS, assessed substance quality, injected in a “healthy way” (e.g., “swabbing [injection] sites”), and scheduled regular health checks with medical professionals. Their stories, however, highlight that they continued to experience boundary situations. When these situations resulted in the potential for muscle loss (e.g., when forced to come off AAS) or they challenged their identity (e.g., not placing as expected in a bodybuilding competition), their limits resurfaced prompting them to prolong their use and/or take compensatory actions (e.g., taking more risky substances and/or not coming off AAS).

#### 4. Conclusion

We explored our participants’ journeys to gain insight into the personal experiences that led to their AAS use. Their stories focused on how their struggles with the givens in life and boundary situations forced them to confront their limited existence. In response, they developed their physical domain because it was congruent with the constraints of their being in the world. By sculpting their body, they created themselves, their meaning and their purpose in life. For these men, AAS was their action to take control of their existence and maintain their identity performance. Below, we describe the many ways this narrative extends knowledge.

First, to our knowledge, this is the first study to use an existential lens to interpret the life experiences of British male AAS users. Unlike some of the linear descriptions of AAS use, for our participants, the current work shows how the drive for hypermuscularity (and AAS use) may serve, or be a response to, deep and fundamental dilemmas of their existence. Whilst not statistically generalisable, our findings highlight the complexities of AAS use and, given the parallels with other literature, may be transferable to wider populations (Smith, 2018). Our participants’ stories, for example, may resonate with other users and understanding the narratives of our sample may be useful for practitioners supporting men who use AAS. For instance, despite the issues with healthcare for AAS users (e.g., Hope et al., 2020; Hill & Waring, 2019; Pope et al., 2004), our participants’ stories may suggest practitioners could enhance their support by exploring how AAS use may be related to the users’ fundamental being. By listening to users and beginning to understand their rationales for use, practitioners may be better positioned to care for, support, and signpost users to appropriate

harm-reduction services. For harm-reduction practitioners, recognising that identity is fluid may place them in a more informed position to help users find courses of action that are in their best interests (e.g., by supporting AAS users to realise they have agency and to find alternative ways to make sense of themselves). Insights from such interventions may ultimately support the process of AAS use reduction/cessation.

Second, we reveal how these men engage(d) in a behaviour not typically perceived as socially acceptable outside of some bodybuilding communities, but did so authentically. These men’s beliefs about themselves and their corporeal drives were shaped by cultural scripts, but their decision to use AAS was reflective and based on their perceptions of who they were. AAS use is frequently perceived as a personal issue, with the ‘blame’ for use often targeted at the individual user. Similar to previous research, however, our participants found themselves in a specific set of circumstances that shaped their development and, despite their authentic choice to use AAS, their environment and restricted freedom led to their decision to use AAS (see Kotzé & Antonopoulos, 2021; Gibbs, 2023). Their AAS use was a product of their world (Heidegger, 1962). If organisations are to tackle this growing public health issue, the current findings suggest that AAS use also needs to be treated as a social issue and interventions need to be targeted at the community level (e.g., challenging cultural scripts and social conventions that limit what and how men can be, see Bates et al., 2019).

We crafted this narrative from the stories of our participants (i.e., four heterosexual, British, Caucasian male bodybuilders), and acknowledge other narratives will exist. The population of people using AAS is diverse, and AAS users from other ethnic and cultural backgrounds, genders, and age groups, may disclose a different set of experiences, pressures, and boundary situations to the men in the current sample (Christiansen et al., 2017). Our findings may, however, highlight the value, and further relevance of, existential concepts in extending knowledge of other AAS users’ lives.

As AAS use is a growing public health concern (e.g., McVeigh & Begley, 2017), enhancing our knowledge of people’s understanding of the experiences they believe led to their AAS use may assist researchers in the development of an evidence base that may support practitioners working with individuals who use and depend on AAS. The findings from the current work suggest that assistance or prevention strategies based on (often) overly unilateral assumptions (e.g., linear pathways to AAS use) may not be effective when AAS use is connected to a person’s fundamental being. Optimal support should consider the meanings that the individual connects to their AAS use.

#### CRedit authorship contribution statement

**Christian Edwards:** Writing – review & editing, Writing – original draft, Methodology, Investigation, Formal analysis, Conceptualization. **Győző Molnár:** Writing – review & editing, Supervision, Formal analysis, Conceptualization. **David Tod:** Writing – review & editing, Supervision, Methodology, Formal analysis, Conceptualization.

#### Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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