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Australia's Adonis

Australia's Adonis: Understanding what motivates young men's lifestyle choices for enhancing their appearance

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Abstract

Objective: Increasing numbers of young Australian men are training and dieting to attain high muscle mass and low body fat and using steroids and performance and image enhancing drugs to expedite this process. This study explored men's identification with a muscularity-centred subculture and what contributes to the pursuit of masculine body image defined by muscularity. **Method:** Participants were 14 young men who (1) weight-trained >3 times per week, (2) used bodybuilding supplements daily, and (3) used/had used steroids/other performance and image enhancing drugs. **Results:** Interview analysis identified precipitating (e.g., low self-confidence), perpetuating (e.g., social media pressures), and resultant factors related to strict regime adherence, including simultaneous recreational drug use. This range of influences gives support to a sociocultural framework for explaining the development and maintenance of striving for a muscular ideal among this cohort. **Conclusions:** Understanding the factors contributing to the attainment of a muscularity-defined masculine body image is important given the risky health behaviours young men may engage in to reach this ideal.

Keywords: Male; muscularity; body image; social influence; steroids.

Words: 8373

Key Points

What is already known about this topic

- Body ideal predominantly promoted in Western society is a mesomorphic body shape.
- Men internalise this ideal as something they personally value and wish to strive towards.
- Increased bodily concern leads to negative effects in young men such as ingestion of performance and image enhancing drugs including anabolic-androgenic steroids.

What this adds

- Thematic analysis yielding precipitating, perpetuating, and resultant factors.
- The pursuit of a muscular body may stem from identity formation issues in adolescence and identification with muscularity-centred subcultures.
- Concurrent use of performance and image enhancing drugs and recreational drugs, common among this cohort, may lead to deleterious outcomes.

Introduction

Research distinguishing between women's drive for thinness and men's drive for a muscular body has resulted in substantial growth in male body image research (Murnen & Karazsia, 2017; Ridgeway & Tylka, 2005). The salience of muscularity in men's body image ideal, has become a symbol of the Western stereotype of traditional masculinity (Martin & Govender, 2011; Reardon & Govender, 2011). A male body ideal is now characterised by high levels of muscle mass accompanied by a low body fat percentage; researchers refer to this as a muscular mesomorph (McCabe & Ricciardelli, 2004; McCreary, Karvinen, & Davis, 2006; Olivardia, 2001). Studies have shown that Western media targeting men is flooded with stereotypic messages linking masculinity to the muscular and lean body ideal (Gattario et al., 2015; Ricciardelli, McCabe, & Banfield, 2000). The shift of masculinity expressed through muscularity has become a source of great pressure for men in the Western World.

Pope et al. (1999) were the first to suggest that men were under increasing cultural demands, and it was these pressures that drove them to pursue heightened muscularity. McCreary and Sasse (2000) conceptualised the phenomenon as 'drive for muscularity' at the turn of the century. Initially investigated among boys and young men, the drive for muscularity involves strong body image concerns about being inadequately muscular as the average male (McCreary & Sasse, 2000). It later became established that there was, in fact, existence of dual pathways to body dissatisfaction – muscle mass and body fat (Jones & Crawford, 2005). In the context of body dissatisfaction, research has benefited from sociocultural theories as a framework for environmental influences in contributing to body image concerns.

Sociocultural theories underscore the importance of pressure from parents, peers, and the media on body image dissatisfaction, mediated by internalisation of ideals and the process of social comparison (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). The model that was initially used to map relationships between these variables – the tripartite influence model – was developed for women (Thompson et al., 1999). Manipulation of the variables in this model has led to the ability to predict muscle-building techniques in adolescent boys (Smolak, Murnen, & Thompson, 2005); muscularity dissatisfaction and excessive exercise in men (Karazsia & Crowther, 2009); and, finally, risky body change behaviours such as performance and image enhancing drug (PIED) use to increase muscularity (Tylka, 2011).

Research has highlighted the use of PIEDs such as anabolic-androgenic steroids (AAS) in reducing body dissatisfaction and muscle dysmorphia symptoms (Grogan, 2006) – a condition where individuals become preoccupied with the belief that they are small or weak (Pope, Gruber, Choi, Olivardia, & Phillips, 1997). Recent qualitative work provides insight into the complexities of AAS use, showing initial motivations to use revolve around social acceptance, whereas the maintenance of use is primarily through secondary reinforcers such as self-esteem, confidence, and social acceptance (Greenway & Price, 2018). The authors also argue that AAS use becomes a part of an individual's identity, to the point that they do not know who they are apart from it (Greenway & Price, 2018). Ravn and Coffey (2016) interviewed non-steroid users about the perceptions of steroid users, finding that the use of steroids was associated with masculine appearance, lifestyle, and identity.

As the primary motive for PIED and AAS use among Australian men is to improve appearance (Dunn & White, 2011), it logically follows that, for young men exploring what

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makes up a masculine identity, the connection between muscularity and masculinity is obvious. Popular culture has served to reinforce this concept of masculinity through muscularity, especially embodied by the late Aziz 'Zyzz' Sergeyevich Shavershian. Zyzz is an identity created by Aziz Shavershian through a strong online and social media presence which entailed him posting in online bodybuilding forums, posting pictures and videos on social media platforms, and regular YouTube videos of himself (Underwood, 2017). Zyzz transformed his body with the goal of aesthetic appearance in mind, not bodybuilding competitions. He was known for attending festivals and clubs, where he would display his 'shredded' physique – a term which means to be muscular but also low in body fat. He was so popular, in fact, that an evolving body ideal for men desiring muscularity, which focuses on the development of a body which is aesthetically-pleasing to the general public, has been discussed in academic literature. Underwood (2017) suggests that this ideal is not just physical but also encompasses the creation of an aura, becoming an alpha male, increasing sexual attractiveness, and having a perceived positive impact on gendered power relations. As with any icons, groups of admirers often bond based on their shared admiration. Collective peer group identity is an important part of people's self-identity and can serve to prescribe what one should think and how one should behave as a prototypical group member (Abrams & Hogg, 1988; Hogg & Turner, 1987). Identifying with Zyzz or similar muscular focused subcultures may provide guiding norms for young men forming masculine identities through increasing their muscularity.

The current research sought to provide insight on the complex interplay of relationships between heavy resistance training, ingestion of bodybuilding supplements, and use of PIEDs and AAS among young Australian men. This study aimed to explore young men's

identification with a muscularity-centred subculture, and what factors underlie and maintain the pursuit of a muscular physique. The narratives intended to capture the complexities of men's experiences in pursuing the ideal body, particularly the sociocultural factors that underpin risky behaviours such as PIED use. Using a qualitative approach to explore these experiences may provide greater insight into how young men perceive the ideal, muscular body to be meaningful in the context of Australian society.

Method

Recruitment

All participants in the study had an informal conversation with the first author regarding their adherence to the inclusion criteria. These included (1) an age range of 16-30 years; (2) weight training >3 times per week, (3) daily ingestion of supplements, and (4) use of PIEDs such as AAS. The sample was drawn through snowballing from the first author's social networks (i.e., clubs/gyms) and connections in the bodybuilding/ powerlifting communities, as well as through university students enrolled in degrees such as exercise science. Recruitment continued until theoretical saturation was reached (Braun & Clarke, 2006) and no new themes were emerging from the interviews, agreed upon by authors from regular discussions as the interviews were conducted (Adams, Turner, & Bucks, 2005).

These inclusion criteria were chosen based on previous research targeting PIED users (Sagoe, Andreassen, & Pallesen, 2014). This age range has been shown to be the age where motives for muscular-building behaviours is highest (Boyda & Shevlin, 2011; Martin & Govender, 2011). The initiation of steroid use is generally younger than 30 years (Sagoe et al.,

2014), with investigations highlighting the rising use in young men (Copeland, Peters, & Dillon, 2000; Dunn, McKay, & Iversen, 2014; Dunn & White, 2011; Jacka et al., 2017; Van de Ven et al., 2018). Growing rates of PIED use among young men (Dunn & White, 2011) have been observed in the Australian context and linked with a high drive for muscularity (Parent & Moradi, 2011).

It is well established in the literature that steroid users are a private and secretive cohort (Sagoe et al., 2014). The first author's pre-existing positive relationships and rapport with members of the bodybuilding/ powerlifting community helped to overcome this potential fear of disclosure, and increased the likelihood of open and honest responses. All participants were offered a list of relevant health services (e.g., local counselling) at the end of the interview.

Statement of Positionality

The first author conducted all interviews for this study and identifies as an active member of Brisbane's bodybuilding and powerlifting communities. At university, he completed an Exercise Sciences degree and met young men and women who considered fitness a large part of their life. He spent time working in nightclubs where young men frequented, and experienced the social dynamic in these settings. He also worked in a supplement store assisting customers with muscle building goals. Given these connections, he frequently reflects upon this potential bias and its impact on his research. The paper's co-authors also reflect upon their experiences with fitness industries/communities, as well as perceptions of illicit drug users, in their approach to providing critique and feedback for data.

Participants

A total of 14 interviews with young men aged 16 to 30 years ($M = 21.71$, $SD = 2.05$) were conducted (M length=52.78 mins; range=30-80 mins). The men interviewed engaged in an average of 5.3 weight training sessions per week and 11 of them followed a specific meal plan and diet. The majority of the sample (12/14) was working either full-time or part-time when interviewed, with only 1 participant identifying as a student.

Materials and Data Collection

The study was approved by the University's Human Research Ethics Committee. Each interview was conducted at a location of the participant's choosing. The semi-structured interview (refer to Appendix A) contained questions covering themes identified from the previous literature including body image issues such as weight and appearance, substance use/abuse, and social influences (Grogan & Richards, 2002; Martin & Govender, 2011, 2013). Participants were prompted for further details as necessary. For example, the more general question: "If you think back a bit, can you tell me about your history of exercise?" was accompanied by prompts such as "and what about after high school?" or cues like "what did you like so much about having to go to the gym for rugby?". Additionally, as further interviews were conducted, additional probes to interview questions were added based on responses given by previous participants to explore issues more fully. The interviews were audio recorded and transcribed verbatim by the interviewer with removal of personal identifiers.

Analysis

Each interview was conducted with reflective notation made immediately after completion (Braun & Clarke, 2006). Interviews were transcribed as rapidly as possible to allow the co-authors to make preliminary notes and reflections, and were analysed using thematic content analysis methodology (Braun & Clarke, 2006). This initial appraisal of the data contributed to the dependability of the data in the final transcripts. Later, the co-authors each coded one full transcript chosen at random. The authors compiled their preliminary notes into emerging themes reflecting their key meanings, using the same analysis techniques as the first author. To enhance the credibility of this iterative process, several research team meetings were held to scrutinize the results of coding decisions and reflect upon themes and patterns emerging in this process. A list of verbatim quotations illustrating each theme was compiled and a list of theme titles and representative extracts was created. Further analysis was conducted on the basis of these data. For each new transcript, extracts illustrating the existing themes were listed. New themes were recognised as they emerged. Themes were further organised and conceptually supported by relevant examples from more than one transcript. All 14 transcripts were reviewed again in light of the most recent set of themes. Thus, the analysis was audited at various stages to enhance reliability of the coding process. The process by which themes were derived and included in the analysis was discussed among all authors, including the progress towards more abstract perceptions based on word-for-word indication, established in previous research (Adams et al., 2005).

Inter-rater reliability

An independent researcher analysed a randomly selected subsample of transcripts and prepared a report identifying the main themes. The first author met with the independent

researcher once they had completed their analysis and discussed the findings and any discrepancies. The results showed close agreement on the content of the basic themes although the independent coder did label the themes a little differently, a common occurrence when engaging the services of an independent coder (Armstrong, Gosling, Weinman, & Marteau, 1997). For example, the independent researcher classified diet as a subtheme to muscular body image, quoting "Diet is generally seen as an integral part of their physical activity, often carefully planned and includes supplements". This categorisation is similar to the subtheme of diet being captured under striving for muscularity by the first author.

Results

Factors contributing to body image enhancement

The thematic analysis yielded themes across three broad areas; precipitating, perpetuating, and resultant factors, which contributed to participants' desire to attain a masculine body image defined by muscularity. Themes from each area are listed and illustrated with representative quotations.

Precipitating themes

Body image issues during adolescence: All the young men (14/14) interviewed experienced body image issues during adolescence, specifically related to being overweight or underweight. Examples include: P1: "I remember it all started when my mate 'name' (pause) for some reason we sort of... became mad (pause) conscious about how we look like (pause) we wanted to get fit. And we started running and like then we asked my Dad to train us like with his weights," and P09: "... I was really skinny, but like, not shredded skinny,

wasn't ectomorph skinny, I was sort of skinny-fat. So I had like skinny as arms, skinny as legs, but a gut (laughs). So yeah it was the worst...felt like s**t". P06: "... I was with an ex-partner at the time, I looked in the mirror and said what the actual f**k. Like (pause) like I look like s**t, why didn't you tell me and her response was yeah you have been looking a little skinnier lately, and I just lost my s**t (pause) I lost my s**t."

Low self-confidence: Most participants (12/14) reported low self-confidence before transforming their body i.e., P02: "I actually discovered that, I was so insecure that I wanted a girlfriend to basically tell me that I was good." P09: "...I was (pause) I still am, so self-conscious I wouldn't ever take my shirt off in front of anyone like (pause) even with (laughs) this might sound stupid but even with girls". A lack of self-confidence was often stated as an important reason for young men to use/abuse PIEDs, for example: P06: "Because I didn't feel confident um (pause) I think the steroid issue was because I needed the confidence. I ... wasn't (pause) I wasn't well... so I turned to something completely different instead of addressing the issue." Many participants also mentioned how much their general wellbeing improved as well as their confidence with the addition of gym into their lives, for example: "P03: Everything got better. Had to have a girlfriend, till I was at the gym, not long after, had a girlfriend. Um, Uh (pause), felt more comfortable, so I guess that kind of like helped with me, confidence, confidence was a big thing so um everything kind of benefited."

Muscular idols as a guide to fitting in: Many participants (9/14) felt they did not fit in with their original social group and that they has found new friendships in the muscle building community. For example: P12: "I went through so many different identities man like through high school man.... And so yeah, then I started like going to solarium and like

tanning, and like just getting lean and blah blah blah... And like, all the people I was hanging out with like name and name and all those boys, that was like, what we did man, you know like... we thought we were like those dudes, we thought we were f**king awesome bro.”

Many participants also spoke about the influence of particular idols in the community such as Zyzz – e.g., P13: “Zyzz was obviously my idol, and um yeah that was the main aim”, or P04: “Zyzz is the only reason people do it, he's the aesthetic era, he made the aesthetic era.”: P02: “I actually started gym because um, because of this guy named Zyzz. Because um, originally I was just living with a bunch of mates and one of my mates came out and he was just like oh, check out this dude on YouTube, and he was nothing that I've ever seen before. He was cocky, arrogant, um yeah, confident, really confident and hilarious. And next thing you know people were trying to aspire to be like him, so um, that's when the whole craze came up within um certain groups and what not because um, pretty much from looking at all his YouTube clips there was just a certain (pause) there was just a better life from getting (pause) just from getting more, ah how would you say, just getting women and just getting that physique to make you confident.”

Coping with the dissolution of romantic relationships: Many young men (9/14) described the role of difficult relationship experiences with females in their body preoccupation. For example: P02: “I was seeing this girl at one stage, uh um, and basically I was quite insecure I was quite jealous, um, and basically things didn't work out and I was sort of like oh s**t, um I better start, um, I better start improving myself”. Most young men claimed that their outlook on their body, as well as their readiness for PIED use, was based largely on experiencing unpleasant events (e.g., break-ups) leading them to experiment. For

example: P13: "I was looking alright and I was sticking, sticking to gym probably only like 3 times a week. But it did increase at the start of the year because of the fact that I broke up with my ex um and she was actually seeing a guy that had like, full 6 pack, you know, he was jacked to the s**t, round probably 7% body fat. I don't know if he was on it, but he was a lot shorter than me so he had a lot more um muscular structure as well um. So I immediately started hitting the gym harder and upon doing that I had the 'Stereo' (Stereosonic music festival) goal in mind at the end of the year um. So that was a defining moment for me to start really training a lot harder".

Positive attention from others: The men that did speak openly about their craving for self-validation (6/14) were quite unanimous. For example: P04: "Like, the self-image, like when you see results it becomes an addiction."; or: P12: "You know, people look at them and they walk past and they're like f**k, and I was like f**k man, I, I, I want to be that, I want to be that. And that's what I did man...". Furthermore, once the interviewees had expressed their fulfilment from the positive feedback and/or commentary they received, they stated how much they continued to enjoy the responses/comments from others. For example P04: "The stares and the attention, you're like (pause) yeah, obviously I'm something they haven't seen before and they've gone out of their way to stare. I'm not like the next guy that's next to me who they haven't gone out of their way to stare at. Yeah, it's just they're looking at you like f**k, what's he done".

Perpetuating themes

Social media pressures: All participants agreed that social media perpetuated their body image anxiety and preoccupation with enhancing their body. Most interviewees (12/14)

agreed that Facebook and Instagram specifically were the primary cause of their sustained self-image concerns. For example: P12: "...everyone wants to get 'likes' on their photos, and everyone wants to have the photo that everyone talks about like (pause) it plays a massive role bro. Like some people like, some people that I know will even like (pause) f**king edit their photo and s**t so they look good on Instagram...". P09: "I think the biggest thing that ties into it is the social media, without Instagram or Facebook nobody would even give a f**k."

Subculture and identification: Young men in this cohort often referred to their 'gymming' or 'training' habits, their 'dieting' or 'shredding', their 'tanning' and their 'cycles' as activities they did and that were representative of the group in general. These activities were seen as a basis for identification with each other, and the formation of strong connections, for example: P02: "... we would um, all see our mates out, we would see like, the other pockets of guys from around who were all into health and fitness and we all just started to have like a mutual sort of bond. So I guess we um, we all started inspiring each other and started getting motivation from each other." Although there was a sense of mutual ingroup identification and respect among this cohort, it was acknowledged that there was associated negative connotations from being a group member. Participants noted that it was typical for individuals outside the subculture to view the investment they had made in their body and appearance negatively, as well as their character. For example: P12: "You know, I used to love going to festivals bro, especially with our boys and our crew. Oh dude it was so much f**king fun man. And everyone used to call us f**king gay and fa**ets and s**t, but

we didn't give a f**k man, we were like f**k you c**ts like. We used to just say, like we look better than everyone here...".

Men with a highly muscular appearance who engage in these activities are commonly associated with the term 'Bruss' in the media/social media in Australia, (Mitchell, 2014; SevenNetwork, 2013). The term, which initially developed as a negative label, seems to have been embraced to some extent by the young men in the subculture, for example P04: "...like when we go out clubbing we'll be out in the smokers area, and we'll be with all our crew of Brusses...". However, it was clear that while the term was acceptable for use between ingroup members, others calling them 'Bruss' was not, P07: "The actual Bruss word is what they [Brusses] said to each other".

Resultant themes

Striving for a muscular ideal: All participants described having a high level of drive towards their past/present training and diet regimes. For example: P06: "I got up and trained on Christmas day. I was so focused, I did things (pause) you know, cause I was on (refers to being 'on' a steroid cycle) you know, and I was single, people would ask me to go out, you know, why, I gotta get up early to train. If some girl asked me to come home and have sex with her, I don't care, I wanna train; do you have protein at your house? (Imitational, laughing). Do you have meals? No. F**k off then. That was the mentality". Many of the young men interviewed reported a high drive and commitment to training as a requirement to have a muscular body.

The commitment to a muscular ideal was not restricted to training, with their dietary regime including planning how many meals they ate per day/week based on their ideal

macronutrient intake for each day, as well preparing and packing the necessary meals and bodybuilding supplements. Most participants (12/14) maintained that food specifically fulfilled their caloric macronutrient needs (protein, carbohydrate, fat [and water]) and was not necessarily seen as an enjoyable or social activity. The young men interviewed recognised that they had become habitual regarding their self-regulated dietary requirements. These requirements were generally representative of abstemious dieting. For health and bodybuilding supplements, the following example highlights the level of organisation and planning displayed by these young men: P09: "But um, yeah always taken protein but lately I've been (pause) I have 40 grams of carbs pre, 40 during, 40 after, uh whey protein after, 10 grams creatine after, 10 grams glutamine, 'pharmagreens' [micronutrient powder], BCAAs [branch-chain amino acids] during. So yeah, I have a fair bit. And I'm, I'm pretty organised so I just (pause) once a month I do up little clip-lock bags. I just sit there and do 30".

Performance and image enhancing drug use: All participants had used or were using some form of PIED and/or AAS as a requirement for their inclusion in study. The reported dosages, combinations, and repeated use of these drugs, however, were higher than that reported in the literature (Baker, Graham, & Davies, 2006; Boada et al., 1999; DuRant, Rickert, Ashworth, Newman, & Slavens, 1993; Hartgens & Kuipers, 2004; McCabe, Brower, West, Nelson, & Wechsler, 2007; Middleman & DuRant, 1996). All participants used/were using testosterone or some derivative of testosterone at varied dosages, at least parentally (injecting it) if not orally as well (swallowed). Most participants were repeat users and had completed multiple 'cycles' (AAS combination and duration of use). Many participants also 'stacked' (combined) their AAS (injectable and oral) with other PIEDs such as insulin,

clenbuterol, thyroxine, human growth hormone (HGH), among others. One example of a first cycle is illustrated in the following example: P06: "...I bought my first cycle, cost me a bit, think it was \$360 (AUD) for ten weeks, for two vials, test enanthate [testosterone enanthate] and boldenone, or equipoise [boldenone undecylenate] they call it, and so (pause) I started.".

An example of a more advanced (i.e., higher doses or multiple compounds) cycle is demonstrated in the subsequent quote: P04: "So, at the moment I'm on 750mg of test enanthate, 600mg of boldenone (pause) obviously arimidex [anastrozole] every second day at 0.5mg, and I'll stay on that for about 20 weeks on my bulk.".

Alcohol and illicit drug use: All participants had consumed alcohol and taken illicit drugs at least once in their lifetime. This concurrent use of AAS and illicit drugs and alcohol may be perceived as counter-intuitive, given most participants considered themselves healthy and were striving for a muscular physique. Most young men (11/14) indicated that they preferred illicit drugs to alcohol as they perceived it to be less harmful or damaging to their body enhancement efforts. Many young men (9/14) stated they used various illicit substances and/or alcohol on numerous weekends, especially during music festivals, for example:

Interviewer: "What's your thoughts about drinking and recreational drugs?". P12: "Yeah I like drinking and drugs (laughs). They're fun. Um, yeah, like I, I like um (pause) yeah man like I said I just like to get loose... I can drink a f**kload of alcohol before I'm real f**ked up, and like I know my limits with alcohol. But with like pills [Ecstasy/MDMA] and s**t man, I'll just eat them for days, and I'll just go till I'm f**ked and I can't do anything else.".

A few interviewees (3/14) gave accounts of periods where they abused both body image and recreational drugs with deleterious consequences, for example: P10: "I ended up in hospital

one time um bit a mixture of everything really. A concoction of getting electrocuted during the week at work...and obviously I was on steroids at the time and I was (pause) on that weekend I got drunk and I went out and I took drugs (pause) well I ended up the next week in hospital with heart palpitations and all sorts of dramas, couldn't breathe properly, um all because of that cocktail".

Discussion

This study explored the experiences of 14 young Australian men striving for a muscular body ideal. The participants were engaged in resistance training and dieting behaviours, as well as PIED and AAS use to achieve high levels of muscle mass and low levels of body fat.

Identification with a muscularity-centred subculture and use of terminology associated with the subculture was restricted to members of the in-group only, as any out-group members' comments about this subculture were considered to be potentially offensive. As stated by one participant, colloquial terminology that referred to themselves or their 'group' could be considered as a form of identification; however, when used by other people, the terms had negative connotations. The role of peers and other men who identified with the subculture appeared to support potentially risky behaviours linked with increased muscularity such as extreme exercise, restrictive dieting, and PIED use.

The majority of young men reported body image issues in adolescence, related to them being 'fat' or 'skinny'. These feelings of inadequacy related to their body type or size seemed central to their striving for a muscular ideal in later adolescence and early adulthood.

The impact of this experience of not conforming to a predefined idealised body shape (i.e., being too fat or too skinny) in early/late adolescence appeared to have an effect on their self-confidence and perceptions of their body image later in life. These negative consequences of not conforming to a traditional masculine image centred on muscularity have been shown in previous literature (McCabe & Ricciardelli, 2004).

Many participants found acceptance and happiness in the new friendship groups they formed with other young men, with similar body image goals fixed around training and dieting. These new friends also seemed self-conscious about their body image, potentially reinforcing the negative body image perceptions of these young men. Some young men found a sense of connection with influencers, in particular, Aziz 'Zyzz' Sergeyevich Shavershian. While watching Zyzz's videos, the young men mentioned they admired his popularity, physique, confidence, and humour as a source of inspiration and a male figure these young men could relate to.

The dissolution/end of romantic relationships appeared to cause a great deal of distress amongst this cohort. Interviewees stated that they often used PIEDs and AAS after a break up to improve their appearance and cope with unpleasant break-ups. While it is not uncommon for people to engage in dieting and fitness to enhance their appearance following a relationship break-up (Emmers & Hart, 1996), clear differences in the intensity of weight training, and use of PIEDs and AAS to achieve these goals emerged.

The present study suggests that the lengths these young men will go to striving for muscularity may result in social impairment in their lives, due to apparent obsessive-compulsive nature of their training and dieting program. In many instances, young men's

preoccupation with muscularity led to them missing important social and family engagements (e.g., Christmas) to spend more time working out. The young men also acknowledged their 'clean eating' self-regulated controlled dieting habits contributed to this. This type of behaviour is in line with previous literature showing that the main body-change strategies used by adolescent boys were increased exercise and modified eating patterns (Eisenberg, Wall, & Neumark-Sztainer, 2012). What is of interest is that the participants in this study did not identify any issues with their way of living or their lifestyle.

Seemingly, the most influential theme that drove young men to strive for a muscular ideal were social media pressures from popular websites and apps, such as Facebook and Instagram, including those with a focus on a muscularity-centred subculture. Interviewees were insistent that the pressure from social networking sites motivated them to increase their weight training and/or cardiovascular activity and dietary regulation. Higher frequency use of social media platforms, particularly Facebook, Instagram, and Snapchat correspond to greater body image concerns (Griffiths, Murray, Krug, & McLean, 2018). Further, the young men unanimously agreed that social media also played a role in their AAS and/or PIED use.

Another factor that perpetuated the determination for a muscular ideal among this cohort was the positive attention they received from other people when they transformed their body through training, diet, PIED and/or AAS use and other appearance-related modifiers such as sun tanning and tattooing. Young men placed high value in the praise they received from members of the general public, which they found self-validating and increased their self-esteem.

Research suggests that significant signs of body anxiety in men may result in PIED use (Kanayama, Hudson, & Pope, 2010; Kanayama, Pope, Cohane, & Hudson, 2003). Interestingly, some authors have found this relationship to work in reverse, in which AAS use had led to body obsession and resulted in excessive training and body anxiety (Greenway & Price, 2018). The same authors went on to suggest that as body image issues were not mentioned before initiation to AAS, muscle dysmorphia symptoms were, in fact, a result post use (Greenway & Price, 2018). As all the men in the present study had used or were using PIEDs such as AAS, we found it difficult to speculate on the origins of the body anxiety issues expressed in the interviews. We suggest these body image concerns may have first emerged in adolescence (a time where they were not using PIEDs), which is consistent with existing research showing muscle dysmorphia symptoms precede the use of AAS in men (Rohman, 2009).

In the context of a muscularity-centred culture, some men overtly stated that AAS were used specifically to prepare for night clubbing and/or festival appearances. Certainly, the presence of reinforcers such as increased self-esteem, body confidence, and social acceptance, have been shown in previous work to be important in maintenance of AAS use (Greenway & Price, 2018). Unlike recreational drugs, steroids do not necessarily produce an immediate high or intoxicating effect. The literature available suggests that the reward experienced by the user comes much later in the form of these secondary reinforcers (Greenway & Price, 2018). In the present investigation, even though the participants did not describe themselves as AAS dependent, they exhibited many other features suggestive of dependence, such as the use of the drugs in larger amounts than originally intended,

commitments of considerable time and money to obtain supplies of the drugs, and continued use of various drugs despite adverse physical or psychological effects. Such individuals also rarely present voluntarily to professionals for AAS use treatment (Pope, Kanayama, Ionescu-Pioggia, & Hudson, 2004). Furthermore, the lack of available information on AAS dependence is problematic for health professionals in providing appropriate treatment of long-term users and their perceived dependency.

The present study provides unique contributions to understanding PIED and AAS use in Australia including the role of concurrent recreational drug use. According to the 2016 Australian National Drug Strategy Household Survey, only 0.6% of people over 14 years reported previous/current use of AAS, and there had been little change in the rates of AAS use since 1993 (0.3%). However, users of these drugs are unlikely to have completed the survey, and little is known about the range of PIEDs outside AAS used within Australia. Reports from participants in the current study point to many users on internet-based forums providing opinion pieces via posts/threads. The fact that PIED users have access to a large array of views and opinions becomes concerning when anecdotal evidence is given such high credence in the light of a paucity of scientific findings in this area, a view expressed previously in the literature (Tighe, Dunn, McKay, & Piatkowski, 2017).

All of the young men in the present study reported illicit drug use, typically in conjunction with PIED use. This pattern is concerning as illicit drug use combined with PIED use could be more harmful (Baker, Graham, & Davies, 2006; Pope, Kanayama, & Hudson, 2012; Van de Ven et al., 2018), particularly among individuals with high levels of muscle mass and low levels of body fat engaging in a strict weekly weight training and diet regime.

The current study identified multiple precipitating and perpetuating factors associated with the dieting and training behaviours and body image of the young men who participated in this study. Striving to attain and maintain an idealised masculine appearance defined by a muscularity appeared to be precipitated by body image, self-esteem, social, and dating issues. The new friendships they develop with other young men who may identify with a muscularity-centred subculture and the positive attention they receive from social media and their peers appear to reinforce and perpetuate these behaviours. The resultant strict training and dieting regimes required to attain and maintain the idealised body type may result in AAS and PIED use to expedite and enhance the process. AAS and PIED use also provides these young men with the means to achieve an appearance consistent with a muscular image. Concurrent recreational drug use could be interpreted as a way for men to take a break or escape from their strict training and dieting regimes. Unfortunately, when combined with AAS use, this could provoke different, and possibly more dangerous, physiological reactions than those experienced by regular users of party drugs or AAS alone (Beaver, Vaughn, Delisi, & Wright, 2008; Skarberg, Nyberg, & Engstrom, 2009).

Research suggests clinicians may be unaware of AAS abuse by recreational athletes and therefore unprepared to treat clients presenting with AAS withdrawal or other AAS related complications (Pope, Khalsa, & Bhasin, 2017). It would be beneficial to raise health care practitioners' awareness about the serious consequences of AAS and PIED. These include increasing rates of other high risk behaviours such as using other injectable drugs, needle sharing, drink driving, and physical fighting (Bahrke, Yesalis, Kopstein, & Stephens, 2000). Additionally, these drugs may also affect the several psychological factors, in

particular self-esteem, as research has shown higher levels of depressive symptoms and lower self-esteem are common among male steroid users (Smolak et al., 2005). Lastly, the adverse influence of social media focused on young men striving for a muscular ideal and the related behaviours among this cohort as found in the present study would be something worth bringing to health practitioners' attention.

The conclusions from this study are limited by the small sample size; however it was sufficient for thematic saturation to be reached in the interviews. The lack of comparison group in the form of men not using PIEDs or AAS was something that we did not consider. Future research could consider a larger sample that includes a comparable group of men who resistance train but do not use PIEDs or AAS and explore their reasons for doing so. The results of this study suggests that interventions to assist in reduction of the deleterious behaviours (such as PIED use) associated with an increased determination in achieving a muscular ideal in males should include a focus on reducing the impact of social media influence on young men. This influence of peers and social media may be enhanced by identification with a muscularity-centred subculture. Clinicians working with young men whose drive for a muscular ideal may be leading to problematic and unhealthy behaviours should consider the potential impact of norms of muscularity-centred subcultures and the associated media attention of noted influencers among these cohorts. Intervention strategies, then, should consider not only individual precursors (such as self-esteem) but the important role of specific social influences related to one's identity.

Conclusions

This study explored the motivations underlying young Australian men's determination to achieve muscular ideal, particularly the role of PIEDs such as AAS in achieving an aesthetic, muscular, body ideal. The investigation intended to examine how muscularity is contextualised among this cohort in an attempt to investigate the emergent norms, values, and meanings. Explicit identification with a muscularity-centred subculture was dependent on in-group status. Acceptance of ingroup terminology was based on the source of the communication, with greater acceptance from other ingroup members. The effects of identification with a muscularity-centred subculture and social media representation likely serve to amplify the impact of other influences on striving for a muscular ideal among this cohort. The high use of AAS and/or other PIEDs among the young men interviewed, particularly when used in combination with illicit drugs, is concerning. The findings suggest the high levels of determination in achieving a muscular ideal as observed in this group may stem from identity formation issues in adolescence related to body image, self-esteem, social status, and early dating experiences. The intermediary and transitional factors that perpetuate young men's focus on their body image comprise social media pressures, identification with a muscularity-centred subculture/other young men pursuing similar goals, and the positive attention they receive from their peers. The outcomes for these young men are often the use of obsessive-compulsive exercise and diet regimes as well as AAS and PIED use to obtain their muscular ideals. The concurrent use of recreational drugs, however, increases the related harms dramatically and therefore warrants further investigation. Future research should establish whether the findings of this exploration of factors contributing to risky health

behaviours among Australian young men are generalisable to a larger sample striving to enhance their appearance to attain a masculine body image defined by muscularity.

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Appendix A

Semi-structured interview questions

- *Participants will first engage in semiformal 'chat' in an attempt to make them feel at ease. Eg. How was your day? How's gym? How's work? Etc.*
- *Following this, recording will begin via iphone5/ipod and the interview started.*
- *Questions 1 – 14 will always be attempted. All a or b responses however are done depending on how much the participant has disclosed, and what direction the interview is taking.*

Gym & Diet

1. Can you tell me about your lifting at the moment?
 - a) How often are you lifting these days? How long have you been lifting?
2. Can you tell me about your eating/dieting at the moment?
 - a) What's your plan for dieting– are you bulking or shredding?
 - b) What about supplements? What do you use? Why do you take those ones in particular? What do you think they do for you?
3. Can you tell me about the gym you are going to?
 - a) Why do you go there?
 - b) Do you prefer to train alone or with others? Why do you like training alone/with others?
 - c) What do you think the effect of training with people who have similar goals/ideas is?

History & Body

4. Can you tell me a bit about your history of exercise?

- a) What sports did you play as a kid?
- b) What about high school? ; did you play many sports? Since school what's changed?
5. Tell me a bit about the people, icons, and inspirations that played a role in your eagerness to train-bodybuild?
- a) What do you think influences you to train?
- OR
- b) What do you think influences others to train?
6. Now could you take me back to a moment, time, age, event that you had first thoughts, which, may have influenced you to improve your physique?
- a) Can you tell me about any other areas in your life where you were/are as focussed in reaching your goals? (re "Perfectionism" construct – Grieve, 2007)
7. What kind of look are you after body wise? (ie. Can you tell me about any ideal looks you are aiming for?)
- a) What do you think other people think about your look? What sort of comments do you get? When you're told any good stuff, what is your reaction? When people say any bad stuff, what is your reaction?
8. If you think back, can you tell me what your health and appearance was like before you started training?
- a) What about the rest of your life - like relationships and stuff?
- b) Can you tell me about other people in your life and their level of support of you reaching your health goals?

- c) If some people showed more support of you than others, can you tell me a bit about what that meant to you?

Body Image & Other Drug Use

- 9. Can you tell me about the cycle you are running at the moment
 - a) Can you tell me about any bad experiences you had from cycling?
 - b) If you can think back to your first one, can you tell me a bit about it and what happened?
 - c) Without using names, can you tell me if you think there are some guys who are taking it too far to reach their body/health goals? Why do you think they are going too far?
 - d) Can you tell me about any legal problems ever? Without using names, how about for other people that you know?
- 10. What's your thoughts on legalising gear?
 - a) Why do you think other people are so quick to judge?
- 11. What do you and your mates get up to when you go out?
 - a) Tell me your thoughts about drinking alcohol when you go out?
- 12. So what do you think about taking drugs (e.g., pills) when you go out?
 - a) What about you?

Girls

- 13. Can you tell me about girls and how they factor into how you are feeling about your looks?

- a) Can you tell me about how many girls you reckon were interested in you before you started training and what it's like now?

Social Media

14. I really want to know what you think of social media and online representation of guys who train and diet and use supplements?

Other possible prompts:

How do you feel about yourself now that you've transformed? Are you happy with your look? (re Q7)

If you haven't reached your ultimate goal/shape yet, what do you think it will feel like when you do? (re Q8)

What do you think your mates think about your look? (re Q14)

Tell me about how you get on with your family...? Have there been any differences since you've transformed? (re Q9).

Australia's Adonis: Understanding what motivates young men's lifestyle choices for enhancing their appearance

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