Bigger is better? Understanding body - image dissatisfaction in male students with high drive for muscularity

Sara Rhiannon Jones

Abstract

Much past research has been conducted in terms of exploration of body – image dissatisfaction in females (Hargreaves & Tiggemann, 2009; Schwartz, Grammas, Sutherland, Siffert & Bush-King, 2010; Greenberg & Schoen, 2008). The purpose of this study was to explore what factors influence male athletes' drive for muscularity which in extreme cases of dissatisfaction can lead to Muscle Dysmorphia. Study 1 consisted of a validation of McCreary and Sasse's (2000) Drive for Muscularity Questionnaire by distributing the scale to a convenience sample of 132 undergraduates studying sports science which demonstrated significant reliability and internal consistency. In Study 2, a qualitative research design using semi – structured interviews of the lowest scoring (high drive for muscularity) undergraduates from Study 1 was conducted. Transcribes were analysed using Interpretative Phenomenological Analysis. Four superordinate themes were produced; Physique – Enhancing Behaviours, Sociocultural Influences, Physique Dissatisfaction and Exercise Participation. Themes were compared with Tod & Lavallee's (2009) conceptual framework of Muscle Dysmorphia Development and Sustainment during which it was corroborated that MD likely stems from an interaction between sociocultural and interpersonal influences, rather than stemming from one identifiable source.

KEY WORDS:	DRIVE FOR MUSCULARITY	IPA	FACTOR ANALYSIS	MUSCLE DYSMORPHIA	BODY IMAGE DISSATISFACTION

Introduction

Generally, body-image dissatisfaction is considered to be a phenomena primarily experienced by females (Hargreaves & Tiggemann, 2009; Schwartz, Grammas, Sutherland, Siffert & Bush-King, 2010; Greenberg & Schoen, 2008), and research has mostly focused on individuals suffering with anorexia and bulimia nervosa in both sexes (Pope, Gruber, Choi, Olivardia & Phillips, 1997). In recent years, there has been a shift in the focus of research about body - image dissatisfaction, where the condition has been recognised as a progressing preoccupation among males (Hargreaves & Tiggemann, 2009). While women might feel pressure to conform to an ideal level of thinness, recent studies imply that males are more likely to adhere to pressure concerning a muscular ideal (Schwartz et al, 2010; Smolak & Stein, 2006); an ideal which is depicted as being muscular, strong and broad (Cafri & Thompson, 2004). Increasing awareness of this growing concern has received recent attention in literature about the influences in body - image dissatisfaction in both sexes and its negative consequences for feelings and behaviours.

The shift has prompted researchers to examine the social influences for body – image experiences. In an examination of body – image experiences and their social constructions in male athletes, Galli & Reel (2009) found the impact of sport to be the most influential factor with participants discussing concerns such as body comparison with team - mates and famous athletes, motivation to preserve fitness, pressure from coaches and the influence of team - mates. Other significant dimensions included sociocultural influences such as media impact, significant others, body dissatisfaction, body enhancing behaviours and positive feelings about the body. Supporting these findings, Parish, Baghurst & Turner (2010) found that social factors also influenced males' decision to engage in competitive bodybuilding. For example, emulation and previous participation in sport, as well as positive feelings, such as self-esteem and health was found to influence behaviour.

Several other studies have explored the impact of media on body - image dissatisfaction (Giles & Close, 2008; Harrison & Bond, 2007; Hobza & Rochlen, 2009; Hargreaves & Tiggemann, 2009). Giles & Close (2008) discovered a stronger relationship between drive for muscularity and exposure to 'lad' magazines in non-dating males than those in a romantic relationship, corroborating the idea that a desire to attract the opposite sex influences attitudes and behaviours. Males who were exposed to images of muscular men in magazines in Hobza & Rochlen's (2009) study disclosed lower body esteem than the control group. Harrison & Bond (2007) found gaming magazines promoting muscular characters predicted drive for muscularity in preadolescent white boys, whilst magazines depicting more achievable figures such as sporting magazines did not appear to have such an effect. Harrison and Bond (2007) assert that prepubescent boys are susceptible to such influences due to the blurry distinction between reality and fantasy, in which perceived realism does not seem to affect desires to emulate fictional characters. Farquhar & Wasylkiw (2007) explored depictions of male physiques in magazines as presenting the body as a process or the body as an object and their effect on the self – evaluations of male adolescents. Results showed that individuals who were exposed to media images emphasizing the body as an object displayed negative self – evaluations

whilst individuals exposed to images exhibiting the body as a process evaluated themselves positively.

A particular concern is that one can unknowingly be exposed to unrealistic depictions of unattainable masculine ideals whilst sitting at home watching television. Hargreaves & Tiggemann (2009) found that exposure to commercials featuring males which epitomized the ideal masculine figure caused lower muscle satisfaction and physical attractiveness in male viewers, particularly in those possessing high appearance orientations. Particularly worrying is the unattainable nature of these prototype masculine ideals without employing the use of anabolic steroids and other supplementation (Schwartz et al, 2010). In a different approach, Davis, Karvinen & McCreary (2004) discovered similar vulnerable personality characteristics between male drive for muscularity and female drive for thinness. Certain personality characteristics such as perfectionism, neuroticism, appearance and fitness orientation proved to be significant vulnerabilities (Davis et al, 2004). Gender role has also been found to significantly correlate with drive for muscularity (Smolak & Stein, 2006; Schwartz et al, 2010), with muscular men generally being perceived as more masculine (Farquhar & Wasylkiw, 2007).

More specific to this project, psychiatric disturbances of body – image in males has also recently been allocated increased attention. Disturbances such as Body Dysmorphic Disorder (BDD) and Muscle Dysmorphia (MD) are particular causes for concern as the conditions involve an irrational preoccupation with either particular parts of the body (BDD) or the illusion that one is insufficiently muscular (MD); absorptions which can lead to distress and relationship impairment (Pope et al, 1997). MD, a condition branded by Pope et al (1997) as 'an underrecognized form of Body Dysmorphic Disorder' appears to stem from severe cases of Drive for Muscularity. This corroborates MD's link to other disorders such as Obsessive Compulsive Disorder (Pope et al, 1997), as obsessive thoughts regarding muscularity can translate into extreme behaviours to achieve these goals. Despite reflections that MD may be genetically predisposed (Pope et al, 1997), the mechanisms responsible for its development need to be further examined (Tod & Lavallee, 2009). One contributor is believed to be Self – Objectification, found by Schwartz et al (2010) to be implicated by gender role conflict, differentiation of self and a low sense of self. Others have implicated the role of Self – Discrepancy Theory in relation to BDD and MD, with findings implying that sufferers of BDD are mostly affected by failing to attain their aesthetic ideal than the perceptions of observers (Veale, Kinderman, Riley & Lambrou, 2003). For this study, Tod & Lavallee's (2009) conceptual framework provided a basis for launching a line of inquiry regarding MD. Results will be compared and contrasted with the conceptual framework of Muscle Dysmorphia Development and Sustainment (Tod & Lavallee, 2009).

Finally, Galli and Reel (2009) recognised one limitation with research about body – image dissatisfaction where the problematic nature of quantitative methods provided a too rigid framework to gain a full understanding of body - image dissatisfaction. Furthermore, Galli and Reel (2009) recommend qualitative research methods due to its potential to provide researchers with a richer understanding of individual experience along with ideas of what influences body – image awareness and their consequent effect on behaviour. The current study intends to address this

limitation and employs a qualitative research design – specifically in Study 2. Given the novelty surrounding MD in the literature, it was considered to still be in its embryonic stages and qualitative methods provide a strong basis for explorative research. Thus, the main research aim of this project is to explore what factors most influence male athletes' Drive for Muscularity. It is expected based on the literature presented that participants' dissatisfaction will be influenced by sociocultural influences and downward self – comparison with peers.

Study 1

Method

Design & Materials

A quantitative non – experimental design was employed to identify participants with a high drive for muscularity. Item analysis using Cronbach's Apha (Cronbach & Meehl, 1955) was used to examine the psychometric properties and reliability of McCreary & Sasse's (2000) Drive for Muscularity Scale (Appendix 2). This scale consists of 15 items and is scored using a likert format where 1 indicates a high drive and 6 indicates a low drive. Example items include attitudinal perspectives; 'I wish I were more muscular' and behavioural perspectives such as 'I use protein or energy supplements'.

Participants

A convenience sample of 132 Aberystwyth University undergraduates studying sports science participated. Galli & Reel (2009) report prior sports participation as an important influence for male athletes' understanding of body – image and thus, sport science students were targeted due to the assumption that participants demonstrated sports participation as part of the screening process for selecting applicants. Females were excluded from the sample; therefore a total of 72 male undergraduates were retained for analysis. Participants ranged from 18 – 29 years of age, with M = 19.3 and SD = 2.0

Procedure

Ethical approval (Appendix 1) was obtained, and permission was sought by module convenors in the department of sport science. A schedule was provided by convenors and data collection began. Participant consent forms (Appendix 4) along with information sheets (Appendix 5) and the DMS were distributed to students enrolled on a sports science degree during lectures and seminars. Afterwards, participants were given a debrief sheet (Appendix 6) explaining the purpose of the study. Questionnaires were collected and scored, and data was analysed using SPSS Version 18.

Results

Cronbach's Alpha was used to examine the internal consistency and reliability of the DMS which is presented in Table 1 along with the mean and standard deviation. For the scale in total, M = 61.4 whilst SD = 11.5. Despite providing no useable means, Cronbach's Alpha for McCreary, Sasse, Saucier & Dorsch's (2004) study can also be found in Table 1. Output indicated that the DMS Scale was internally consistent and

reliable generating a significant alpha figure of 0.93. Alpha figures of 0.80 or beyond are acknowledged to constitute a scale with significant internal consistency and reliability (Field, 2009). DeVellis (2003) asserts that powerful correlations suggest strong links between items creating a more reliable scale, the benefits of which include that they increase statistical power for a given sample size relative to less reliable measures.

To explore the scale's factor structure, a factor analysis using the extraction method of principle component analysis was performed (Table 2). Factor loadings less than 0.4 were excluded from the output due to the assumption that values beneath this marker aren't significant (Field, 2009). Eigenvalues were acquired for each component in the data where it emerged that four components had eigenvalues over Kaiser's criterion of 1 and explained 66.62% of the variance when combined. The first two factors appear to support the findings of McCreary et al (2004) who found Factor 1 to represent participants' attitudes towards a muscular ideal body image (e.g., 'I wish I were more muscular') and Factor 2 to represent the behaviours participants engaged with in order to obtain their ideal body image (e.g., 'I use protein or energy supplements'). Factor 3 depicts the influence of weights (e.g., 'Other people think I work out with weights too often') whilst Factor 4 appears to represent the extremities undertaken to uphold muscularity (e.g., 'I think about taking anabolic steroids').

Scale	***M***	***SD***	**A**
DMS (Current Study)	61.4	11.5	.93
DMS (McCreary, 2004)	-	-	.87

Table 1. Comparison of mean, standard deviation and Cronbach Alpha.

Table 2. Rotated Factor Loadings from responses to Drive for Muscularity Scale.

	Components			
Scale Item	*1*	*2*	*3*	*4*
1. I wish that I were more muscular.	**.784**			
2. I lift weights to build up muscle.		**.552**	**.614**	
3. I use protein or energy supplements.		**.807**		**.404**
4. I drink weight – gain or protein shakes.		**.717**		
5. I try to consume as many calories as I can in a day.		**.706**		
6. I feel guilty if I miss a weight training session.			**.675**	
7. I think I would feel more confident if I had more muscle mass.	**.851**			
8. Other people think I work out with weights too often.			**.860**	

9.	I think that I would look better if I gained 10 pounds in bulk.	**.605**		
10.	I think about taking anabolic steroids.			**.719**
11.	I think that I would feel stronger if I gained a little more muscle mass.	**.631**		
12.	I think that my weight training schedule interferes with other aspects of my life.		**.447**	**.671**
13.	I think that my arms are not muscular enough.	**.849**		
14.	I think that my chest is not muscular enough.	**.776**		
15.	I think that my legs are not muscular enough.	**.691**		

Note. Items 2, 3, 4, 5, 6, 8, 10 and 12 form the DMS behavioural subscale. Items 1, 7, 9, 11, 13, 14 and 15 form the DMS attitude subscale.

Conclusion

Item analysis of the DMS demonstrated high internal consistency, a finding which is consistent with those of Cafri & Thompson (2004) who determined that the DMS was one of the most sufficient means of measuring male body image. A significant alpha figure of 0.93 indicated that the DMS Scale was highly reliable, and thus it be assumed that the findings of Study 2 will be based on a reliable source. Factor analysis revealed a four factor model in contrast to McCreary et al's (2004) analysis, suggesting that some items are more independent and that body image in males may be more complex than originally suggested. To further explore body – image dissatisfaction, a qualitative investigation was employed in Study 2.

Study 2

Method

Methodology

A qualitative research design was conducted using semi – structured interviewing as a method of data collection. Transcriptions were analysed using IPA, providing richer information than attempting to confine participants' responses in predefined categories (Smith, Flowers & Larkin, 2009). This in turn allows for advanced understanding of participants' responses as researchers gain a detailed perception what experiences for the people in question are like (Smith et al, 2009). The process of extraction was based on guidelines provided by Willig (2008) and compared and contrasted with Tod and Lavallee's (2009) Muscle Dysmorphia Development and Sustainment Model.

Design

Using purposive sampling, the four male participants to score lowest in response to the DMS were requested to via email to return and participate in Study 2. Should the participants identified decline, the next lowest scoring subjects were contacted. Participants ranged from 18 – 29 years of age, with M = 19.3 and SD = 2.0. Participants' mean weight in kilograms was M = 78.8 (SD = 12.7), whilst subjects' mean height in cm was M = 179.8 (SD = 8.6). Participants had been training and using weights on average M = 2.1 (SD = 1.7) years, whilst participants trained with weights on average = 2.4 (SD = 1.7) a week.

Participants were assured that their personal data will be kept anonymous and confidential by using codes to identify subjects. Structured questions were inspired by the DMS (Appendix 3.i). In order to elicit maximum possible information, a series of circumstantial prompts were also employed where necessary (Appendix 3.ii). Structured questions were piloted in order to ensure maximum response quality possible.

Procedure

Ethical approval was granted by the Psychology Department Research Ethics Committee (Appendix 1). Times convenient to the participants were negotiated and a resource room in the Psychology Department was reserved respectively. Participants were provided with information sheets (Appendix 7) and consent forms (Appendix 4). Participants were requested to sign the consent form, given a copy to keep and reassured that they were not obliged to answer any question they felt uncomfortable with. Interviews lasted no longer than 25 minutes and were recorded using a digital voice recorder. Afterwards, participants were given a debrief sheet (Appendix 8), and reminded that they were permitted to withdraw at any time. Participants were aware that anonymised verbatim quotes would be used in the report, and that recordings would be erased after transcription.

Interviews were transcribed remaining as loyal as possible to participants' experiences and analysed using IPA based on guidelines provided by Willig (2008). The first phase consisted of rereading the transcriptions whilst noting any emerging ideas. The most apparent sub – themes of the transcripts were noted before their relation to each other was considered. Condensable themes were clustered to form a group which shared meanings or concepts (Willig, 2008). These condensed clusters of similar references were compared across transcripts; summaries and key quotations can be found on the enclosed CD. The final phase of extraction included the identification of super – ordinate themes.

Results

Transcription analysis revealed four superordinate themes;

1. Physique – Enhancing Behaviours.
2. Sociocultural Influences.
3. Physique Dissatisfaction.
4. Exercise Participation.

Due to participant confidentiality, subjects will be identified as P1 – 4.

Physique – Enhancing Behaviours

Galli & Reel (2009) found that being involved in a sporting context, much like being engaged in a Sport & Exercise Degree Scheme as in the current study, influenced the behavioural techniques undertaken to achieve the ideal body image as well as having an effect on attitudes and feelings. Participants exhibited advanced knowledge of approaches to building muscle through employment of weight lifting in order to attain the maximum effect possible.

> *P1:* "I tend to go on dumbbells a lot and do a lot of weightlifting instead of like, going on machines, I'd say dumbbells apply more pressure on the muscles so I prefer to use the muscles that tends to feel the strain a lot more..."
>
> *P2:* "By doing a whole clean sweep it works every single body, muscle in your body, and you're going to feel better in 20 minutes than you would in an hour working like, every individual muscle."

Participants also expressed regret when questioned on missing a gym session. The perceived negative impact on physique appears to be inflated, as subjects often reported feeling the need to double their work load to compensate in a subsequent session.

> *P2:* "If I do set out and I do miss it, sometimes it does play on my mind..."
>
> *P4:* "I just, next training session I'd work that extra bit harder I suppose."

Participants displayed an awareness of the boundaries of over – exercising, and the point at which a high drive for muscularity becomes both physically and mentally unhealthy to the extent where it affects one's everyday life.

> *P2:* "...When they start to look at other methods of becoming stronger such as steroids and umm... Illegal uses so, or spending hours and hours in the gym and not going out to see people or not doing other, other activities to help them have a healthy life."
>
> *P3:* "I do have a high drive I just... Don't obsess about it, so it doesn't come in to other aspects of my life. So I wouldn't for instance, sacrifice umm, time with someone or you know, time supposed to be spent doing assignments to go to the gym."

Participants also exhibited dietary strategies such as increasing protein intake and engaging with supplementation in an attempt to gain weight and enhance physique. Results also showed strong support for allowing muscle to build naturally, with most participants reporting having tried sporting performance enhancers, yet displaying a strong aversion to extreme techniques such as steroids.

> *P4:* "I take protein supplements, cardio supplements quite regularly... You certainly ache a lot less after a session if you've taken the right supplements."
>
> *P2:* "I'm fine with supplements such as protein shakes and tablets but having steroids or dopamine... I don't think should be used because at the end of the day... If you miss a session it's going to affect you mentally and physically..."

Sociocultural Influences

P2 expressed the incorporation of fitness into everyday life due to growing up alongside the influence of health conscious parents, whilst others reflected on the observations of their parents regarding the development of their physiques. Low confidence levels appear to restrain P1 from accepting the positive response of his parents subsequent to a period at the gym, whilst P2 and P3 are provided with feedback to build on.

> *P2:* "My parents are quite like, my mum always says; 'Oh hey, just go do gym sometimes, go do this, I was like; Yeah I will.'"
>
> *P1:* "And my dad said he noticed some change so umm, but I am like really low in confidence in myself so I tend to like always be negative..."
>
> *P3:* "...You know what Mums are like, like you need, you need a good meal or something, or 'You're a bit skinny' or something like that."

P1 and P3 formulated a particular physique socially considered to be physically attractive to the opposite sex, whilst P2 expressed a desire to attain a more muscular physique in order to influence his confidence.

> *P3:* "the thing is umm, mentioned a lot by men and women is like, the ideal body, not too big, not too small, not too muscular, not…… You know 'Fight Club' [the film]? It's umm, Brad Pitt basically with his shirt off… That's supposed to be the archetypal, for modern day men I suppose."
>
> *P2:* "I think they always look at you and think 'Oh he's... He's a little bit muscular, he looks quite interesting, let's go and talk to him' rather than if you turn up umm... quite like, if you turn up skinny and you're not really that confident about yourself [...]However, I do find that now that personality does come a lot into it like, and the amount of effort you can put in and time."

It is no surprise that participants often drew on media resources as benchmarks for how they believed they should look. Not restricted to fitness magazines such as Men's Health Magazines, participants reported being influenced by films such as 'Fight Club', online fitness sites as well as drawing inspiration from sporting figures.

> *P2:* "I also read Men's Health Magazine, so that's key towards how a person should look and the right image and the right body appearance so I always, I always look at that and I'm like 'Okay, I need to look like that' and that's how… I'd want to be."
>
> *P4:* "I suppose magazines, like Men's Health magazines and things like that, umm, maybe the internet… It's everywhere really, like if you like look up sport sites and you see like rugby players and things like that."

In addition to drawing inspiration from media based images, participants also exhibited social comparison with peer groups, classmates and sporting heroes. P2 expressed the influence of being exposed to alpha – male influences at boarding school, not only in terms of physique but the social power being bigger appeared to bring. Whilst P1 appeared to aspire to emulate standards attained by friends, P2 and P4 drew inspiration from sporting figures which are less realistically attainable.

> *P2:* "Umm, I think, when I was at school, being at boarding school, there's always that alpha – male status that you want to gain but like, if you're not as big you're not gonna fit in as much as all the other... Like the stronger and more muscular people."
>
> *P1:* "I guess I just compare to my friends and stuff… They're showing off their muscles and I tend to just, compare to them…"

> *P2:* "I watch a lot of sports… Rugby, football… Umm, and like looking at them you always think 'Oh, they look quite good and oh, they're quite big and I want to be that size'."

Physique Dissatisfaction

Participants often expressed discontent with particular aspects of their body and overall appearance. P2 expressed the influence of puberty on concerns over appearance, remarking it develops as one grows up, whilst P3 recognizes the contrasting body image pressures felt by men as opposed to those felt by women. P1 expresses that his drive for muscularity comes from the desire to be strong enough to fight back against the teasing experienced when younger.

> *P2:* "…When you're growing up, I didn't really care that much about how I looked, I just thought I'll go round looking how I look and it'll be fine but now at this age, it's like 'Okay I've got to start going to gym, I've got to start looking better and feeling better about myself'."

> *P3:* "...Especially the girls, you can tell you know, it does preoccupy them sometimes, body issues and stuff... ... You can tell they still feel pressure which is mainly to do with I guess fat or being overweight, which is the big pressure isn't it especially for girls."

> *P1:* "...Towards the end of school when I was like... I was very small [...] and I used to get picked on and stuff and I, I know I couldn't fight back so, and then through collage as well I started growing a bit so I started to get in the gym a bit more..."

All subjects asserted that their physiques could be improved due to the belief that it was far from a standard they desired to reach. Interestingly, participants expressed a desire to become more toned as opposed to being bigger.

> *P2:* "I wouldn't like to be overly muscular, I'd just like to be, you can tell that you're toned and like, you fit your t – shirts a little bit better in the arms and you can tell when you take your top off and you have a six pack, you have muscular tone, I think that would be better."

> *P4:* "I'd see muscular myself as more toned than just bigger, that's the way I'd see it personally... I think most people would [say the same], but then you'd always have the odd few who do just want to be like, bigger."

Subjects also depicted low confidence levels in relation to their current physique and often predicted higher confidence levels if they were to achieve their ideal body. Whilst P1 believed feeling more confident as a result of a more muscular physique would improve his sporting performance, P2 expressed the increased confidence visibly muscular areas would provide.

> *P1:* "I feel it'd [being bigger] change the way I perform in sport as well, I feel umm, it would give me much more confidence on the pitch."

> *P2:* "I'd feel more confident in myself if you look at your upper body, you don't normally see other people's legs but you see your upper body a lot more,

> you're going to feel that, I'd feel confident having a better upper body than like, lower body."

Exercise Participation

Sporting environment was also found to impact participants' drive for muscularity. Having enrolled in a Sport and Exercise Degree Scheme, it was no surprise that enjoyment in exercising was listed by some as a motivator; whilst others listed exercise as a stress reliever, as providing motivation to complete university work and allowing improvement in sporting performance.

> *P1:* "I'm always energetic with being a sports person so I feel that, like, it's a big stress reliever for me and obviously some people who don't participate in sport seem to suffer from a lot of stress..."

> *P4:* "…The next day I'll feel really refreshed and motivated to, like, help me with my studies and things like that."

> *P1:* "I feel it [being bigger] would definitely benefit my sport performance as well because I could be more physically competitive in football and it might help me to play other sport such as rugby [...]I'd have the umm, characteristics to play it which I've never had before..."

Visible improvement in one's physique also acted as positive reinforcement for participants' drive for muscularity. In particular, most subjects highlighted the importance of leaving the gym having invested time building muscle knowing it would contribute to the overall picture over time.

> *P2:* "...Even if it was for 20 minutes I've just done a run or I've just been on the bike, I always think 'I've done something' so that's gonna be put towards it and it always makes me feel a little bit better."

> *P3:* "It [training] pretty much always makes me feel good... Yeah, so, I mean there's one part, like you've achieved something like a goal, and you see yourself improving all the time."

Being in a sporting environment exposed participants to the influences of team - mates and sporting competitors. P2 commented on the encouragement team - mates in keeping up with fitness, whilst P3 remarked on the boost gained from beating both competitors and team - mates. P4 drew on the social advantages of sport participation, providing an opportunity to meet new people.

> *P2:* "I play American Football and we always, we always say 'Oh you need to go to the gym, you need to get more toned' but we're not gonna say, if someone misses it, we're not going to have a go at them because it doesn't really matter that much..."

> *P3:* "Regarding sport, I mean, beating your competitors, even being better than your teammates just makes you feel good about yourself."

> *P4:* "Through like, gym work and through like, playing sport, you meet more people and things, and you gain friends, so it's been good, it's helped me a lot

with uni like, I wouldn't know half the people I know unless I did play rugby for the uni so it's definitely a positive."

General Discussion

The main research aim of this project was to explore what factors most influence male athletes' Drive for Muscularity. Furthermore, a line of inquiry was launched regarding the orientation of MD by comparing the findings of this research with Tod & Lavallee's (2009), Conceptual Framework.

The numerous findings of this study reinforce the thinking behind Tod & Lavallee's (2009) framework, asserting that MD is likely to originate from an interaction between the characteristics of individuals known as antecedent variables and situations which prompt body – image awareness, known as immediate variables. The antecedent variables believed to contribute towards individuals' reactions to immediate variables in the model are reinforced in the current study's findings, during which it was found that both sociocultural and interpersonal influences can manipulate ideas of what is perceived as an ideal masculine figure. Despite previous findings implying a genetic predisposition for MD (Pope et al, 1997), Tod & Lavallee (2009) propose an indirect relationship between the two during which being genetically skinny may interact with environmental factors resulting in teasing; an area which is reinforced by P1 who asserted his drive stems from the desire to be stronger as a result of provocation at school. It is proposed that the reinforcement of variable interaction through negative appraisal and discrepancy generate temperaments linked with MD; for example, P1 may become engaged with muscle building as a defence mechanism.

Tod & Lavallee's (2009) asserted that triggering events could elicit attitudes associated with Muscle Dysmorphia in individuals. The impact of environmental influences upon individuals was reflected in the expressions of P2 who was affected by growing up alongside a health conscious family whilst enrolled in boarding school. Consistent with the assertions of Tod & Lavallee (2009) and Veale et al (2003), the findings of the current study demonstrated considerable support for the role of Social Comparison and Social Discrepancy in the formulation of high drives for muscularity. Participants expressed feeling their physique was inadequate in comparison with sporting figures, friends and magazine images which encouraged discrepancy between their actual, ought and ideal selves. This is apparent in participants' assertions that they desired to become more muscular, yet most subjects agreed that their goal was not to become bigger and alternatively aimed towards becoming more toned which contrasts with assertions that male ideals are considered to be muscular, strong and broad (Cafri & Thompson, 2004). It is reinforced that when individuals fall short of their unattainable ideal or what they believe are their observers' ideals without the employment of drastic measures such as anabolic steroids (Schwartz et al, 2010), they are vulnerable to negative emotional states such as physique dissatisfaction and reliance on exercise, as is apparent in the current study. Findings of this study also reflect previous findings of physique enhancing motivators, such as sociocultural influences, dissatisfaction with current appearance and low self – esteem (Galli & Reel, 2009; Parish, Baghurst & Turner, 2010; Hobza & Rochlen, 2009). Tod & Lavallee's (2009) model highlights the difficulty in breaking this cycle due to reinforcements through operant and classical conditioning.

Given that literature surrounding MD is considered to still be in its embryonic stages, this qualitative research allows the area to be explored in richer terms. The current study has implications for recognising the motivators of drive for muscularity

in university students, and raises awareness regarding the development and sustainment of MD. In doing so, the key symptoms can be identified from the early stages of development allowing monitoring of behaviour and attitudes. However, the study possesses certain limitations. As quantitative research doesn't work with representative samples, this could be problematic in generalizing findings to the general population. It is also imperative that the preconceptions and interpretations of the researcher and their effect on analysis are considered. It should also be noted that being a female interviewing males may have impacted on communication. Due to the vast contributors MD's development and sustainment, future research should focus on one section of Tod & Lavallee's (2009) model in order to gain a more in - depth perspective of particular mechanisms. It could also be beneficial to examine Drive for Muscularity cross - culturally, as traditions, social class and ethnicity could impact on its development (Smolak & Stein, 2006).

Conclusions

Past research has implied that attempts to adhere to unattainable masculine ideals often result in negative effects such as turning to excessive weightlifting and pharmaceutical methods to keep up, which in extreme cases leads to the pronounced dissatisfaction associated with MD. This study explored what motivated students' Drive for Muscularity through employment of four semi – structured interviews which were interpreted using IPA. Results implied that several factors contributed towards this motivation, most pronounced of which were sociocultural influences. Due to the vast influences of Drive for Muscularity, it is advised that one area in particular should be focused upon in future research.

References

Cafri, G., & Thompson, J. K. (2004). Measuring Male Body Image: A Review of the Current Methodology. *Psychology of Men & Masculinity, 5,* 18-19.

Cronbach, L. J., & Meehl, P.E. (1955). Construct validity in psychological tests. *Psychological Bulletin*, 52, 281-302.

Davis, C., Karvinen, K., & McCreary, D. R. (2005). Personality Correlates of a Drive for Muscularity in Young Men. *Personality and Individual Differences, 39,* 349-359.

DeVellis, R. F. (2003). *Scale Development: Theory and Applications (2nd Edition).* SAGE Publications.

Farquhar, J. C., & Wasylkiw, L. (2007). Media Images of Men: Trends and Consequences of Body Conceptualization. *Psychology of Men & Masculinity, 8,* 145-160.

Field, A. (2009). *Discovering Statistics Using SPPS (3rd Edition).* SAGE Publications.

Galli, N., & Reel, J. J. (2009). Adonis or Hephaestus? Exploring Body Image in Male Athletes. *Psychology of Men & Masculinity, 10,* 95-108.

Giles, D. C., & Close, J. (2008). Exposure to 'Lad Magazines' and Drive for Muscularity in Dating and Non-Dating Young Men. *Personality and Individual Differences, 44,* 1610-1616.

Greenberg, S. T., & Schoen, E. G. (2008). Males and Eating Disorders: Gender – Based Therapy for Eating Disorder Recovery. *Professional Psychology: Research and Practice, 39,* 464-471.

Hargreaves, D. A., & Tiggemann, M. (2009). Muscular Ideal Media Images and Men's Body Image: Social Comparison Processing and Individual Vulnerability. *Psychology of Men & Masculinity, 10,* 109-119.

Harrison, K., & Bond, B. J. (2007). Gaming Magazines and the Drive for Muscularity in Preadolescent Boys: A Longitudinal Examination. *Body Image, 4,* 269-277.

Hobza, C. L., & Rochlen, A. B. (2009). Gender Role Conflict, Drive for Muscularity, and the Impact of Ideal Media Portrayals on Men. *Psychology of Men & Masculinity, 10,* 120-130.

McCreary, D. R., & Sasse, D. K. (2000). An Exploration of the Drive for Muscularity in Adolescent Boys and Girls. *Journal of American Collage Health, 48,* 297-304.

McCreary, D., Sasse, D. K., Saucier, D., & Dorsch, K. D. (2004). Measuring the Drive for Muscularity: Factorial Validity of the Drive for Muscularity Scale in Men and Women. *Psychology of Men and Masculinity, 5,* 49–58.

McCreary, D. R., Saucier, D. M., & Courtenay, W. H. (2005). The Drive for Muscularity and Masculinity: Testing the Associations Among Gender-Role Traits, Behaviors, Attitudes, and Conflict. *Psychology of Men & Masculinity, 6,* 83-94.

Parish, T., Baghurst, T., & Turner, R. (2010). Becoming Competitive Amateur Bodybuilders: Identification of Contributors. *Psychology of Men & Masculinity, 11,* 152-159.

Petrie, T. A., Greenleaf, C., Reel, J., & Carter, J. (2008). Prevalence of Eating Disorders and Disordered Eating Behaviors Among Male Collegiate Athletes. *Psychology of Men & Masculinity, 9,* 267-277.

Pope, H. G., Gruber, A. J., Choi, P., Olivardia, R., & Phillips, K. A. (1997). Muscle Dysmorphia: An Underrecognized Form of Body Dysmorphic Disorder. *Psychosomatics, 38,* 548-557.

Pope, H. G., Kanayama, G., Bickel, W. K., Kean, J., Nash, A., Samuel, D. B., et al. (2010). A Diagnostic Interview Module for Anabolic-Androgenic Steroid Dependence: Preliminary Evidence of Reliability and Validity. *Experimental and Clinical Psychopharmacology, 18,* 203-213.

Sánchez, F. J., Westefeld, J. S., Ming Liu, W., & Vilain, E. (2010). Masculine Gender Role Conflict and Negative Feelings About Being Gay. *Professional Psychology: Research and Practice, 41,* 104-111.

Schwartz, J., Grammas, D. L., Sutherland, R. J., Siffert, K. J., & Bush-King, I. (2010). Masculine Gender Roles and Differentiation: Predictors of Body Image and Self-Objectification in Men. *Psychology of Men & Masculinity, 11,* 208-224.

Smith, J.A., Flowers, P., & Larkin, M. (2009). *Interpretative Phenomenological Analysis: Theory Method and Research.* London: Sage.

Smolak, L. & Stein, J. A. (2006). The Relationship of Drive for Muscularity to Sociocultural Factors, Self - Esteem, Physical Attributes Gender Role and Social Comparison in Middle School Boys. *Body Image*, *3*, 121-129.

Tod, D., & Lavallee, D. (2009). Towards a Conceptual Understanding of Muscle Dysmorphia Development and Sustainment. *International Review of Sport and Exercise Psychology, 0,* 1-21.

Veale, D., Kinderman, P., Riley, S., & Lambrou, C. (2003). Self-Discrepancy in Body Dysmorphic Disorder. *British Journal of Clinical Psychology, 42,* 157-169.

Willig, C. (2008). *Introducing Qualitative Research in Psychology (2nd Edition).* Open University Press.