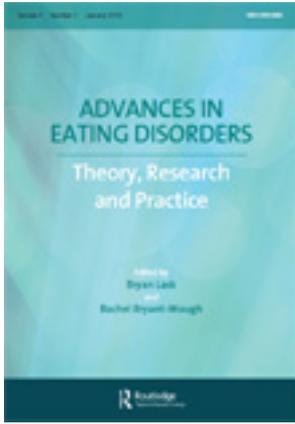


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How do clinicians in the field conceptualise muscle dysmorphia?

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Objective: Muscle dysmorphia is a relatively recently identified psychiatric condition, whose precise nosological nature remains unclear. This study is aimed at investigating the diagnostic conceptualisation of muscle dysmorphia amongst a group of clinical practitioners. *Method:* A clinical vignette, which ambiguously depicted the features of muscle dysmorphia in either male or female cases, was presented to a group of 100 clinical practitioners, who provided preliminary diagnoses based on the symptoms depicted. *Results:* The majority of clinicians conceptualised this cluster of symptoms as an eating disorder phenotype, as opposed to variants of either body dysmorphic disorder or obsessive compulsive disorder. *Conclusions:* These findings provide some support for the notion that muscle dysmorphia may best be conceptualised as an eating disorder phenotype. The findings are discussed in light of their clinical implications.

Keywords: muscle dysmorphia; male eating disorder; male body image; DSM-5

Given the increasing prevalence and the recognised severity of male body image dissatisfaction, a thrust of empirical interest has illustrated the nature of male body image dissatisfaction, which is characteristically inclusive of a desire for a larger and more muscular physique as opposed to a more slender physique (McCreary & Sasse, 2000). An excessive pursuit of muscularity may in some cases lead to the development of muscle dysmorphia, a relatively recently identified psychiatric disorder, which represents the pathological desire to increase lean muscle mass alongside the pervasive belief that one is insufficiently muscular. As such it most frequently occurs in males (Olivardia, 2001).

Muscle dysmorphia also involves the development of a complex array of behavioural and cognitive features, inclusive of dietary and exercise regimens, which aim to increase muscle mass (Mosley, 2009; Pope et al., 2000) and ensure reassurance or avoidance of confirmation of one's beliefs around being too small (Olivardia, Pope, & Hudson, 2000). These features can be characterised by (i) long hours spent in the gym undertaking a muscle-building regimen, often despite physical injuries (Pope et al., 2000), (ii) adherence to a meticulously calculated high-protein diet despite deleterious health effects (Mosley, 2009), (iii) avoidance of bodily exposure and sophisticated body checking practices (Olivardia, 2001), (iv) prioritising of the muscle-building regimen over other important areas of life and, in some cases, (v) the abuse of synthetic muscle-building agents (Pope, Gruber, Choi, Olivardia, & Phillips, 1997).

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This disorder was initially conceptualised and hypothesised to be a reverse form of anorexia nervosa, due to their striking conceptual similarities and a vastly elevated prevalence of previous features of anorexia nervosa amongst those with muscle dysmorphia (Pope, Katz, & Hudson, 1993). A characteristic distortion of one's body size is also present in muscle dysmorphia, which leads many afflicted with this illness to underestimate their current level of muscularity, causing significant distress, anxiety and shame (Pope et al., 1997). However, subsequent to its identification, further research illuminated the symptomatic profile and proposed tentative diagnostic criteria, reconceptualising this cluster of symptoms as a sub-type of body dysmorphic disorder in the somatoform spectrum (Pope et al., 1997). Underpinning this conceptual shift, in part, was the notion that the primary disturbance in muscle dysmorphia involves pathological exercise behaviour, which contrasts largely with eating disorders, in which pathological exercise behaviour may exist (Meyer, Taranis, & Touyz, 2008), although this is often conceptualised as secondary to the central pathological eating and dietary practices.

Tentatively proposed diagnostic criteria refer to (i) a preoccupation with one's subjectively deemed insufficient muscularity which causes clinically significant distress and impairment in functioning, and (ii) an avoidance or intense anxiety around body exposure (Pope et al., 1997). Furthermore, the proposed criteria specify (iii) a prioritisation of diet and workout schedules over other important areas of life (and maintenance of the diet/training regime and ergogenic substance use despite adverse consequences). However, despite findings which validate this cluster of symptoms as a valid diagnostic entity (Hitzeroth, Wessels, Zungu-Dirwayi, Oosthuizen, & Stein, 2001), an ongoing empirical debate surrounding the conceptual understanding and diagnostic placement of muscle dysmorphia has postulated that this condition be variously recognised as (i) a specific sub-type of body dysmorphic disorder (Pope et al., 1997), (ii) an obsessive compulsive spectrum disorder (Chandler, Grieve, Derryberry, & Pegg, 2009) and (iii) an eating disorder phenotype (Murray, Rieger, & Touyz, 2011; Murray, Rieger, Touyz, & De la Garza Garcia, 2010).

A recent review of the published literature highlighted an array of symptomatic and conceptual similarities between muscle dysmorphia and anorexia nervosa, concluding that muscle dysmorphia may possibly be reconceptualised as an alternative eating disorder phenotype (Murray et al., 2010). For instance, muscle dysmorphia demonstrates a high level of bi-directional diagnostic cross-over with the eating disorders (Pope et al., 2000) and also appears inclusive of a central eating-related component, in that disruptions to dietary practices alone may result in marked symptom exacerbation (Murray et al., 2011). Furthermore, a direct comparison of males diagnosed with muscle dysmorphia and anorexia nervosa demonstrated widespread symptomatic similarities with respect to eating pathology, compulsive exercise, and shape and weight concerns, concluding that both disorders share a similar constellation of eating- and exercise-related psychopathology, although are oriented towards differing body ideals (Murray et al., 2012). Thus, both disorders may represent the pathological pursuit of the culturally shaped antonymic body ideals for men and women, respectively, which partially accounts for the skew in gender prevalence of each disorder.

The aim of the current study was to examine how experienced clinicians conceptualise the constellation of symptoms which represent muscle dysmorphia in hypothetical case vignettes, ambiguously depicting muscle dysmorphia symptomatology in both male and female patients. It is hypothesised that clinicians will diagnose the male vignette as muscle dysmorphia, and the female vignette as anorexia nervosa.

Method

Participants and procedure

Participants were 100 clinical psychologists and psychiatrists who were invited to participate through their affiliation with professional accrediting bodies in Australia, New Zealand and the

UK. Invitations were circulated through professional organisation mail-outs and forums, which ensured that all participants had undergone adequate training and had accumulated significant clinical experience. No particular area of clinical expertise was targeted when recruiting clinicians.

Measures

The survey contained clinical vignettes which depicted diagnostic details of three separate hypothetical cases. Two cases were control vignettes and did not vary in the details depicted (one case was based on the diagnostic criteria for post-traumatic stress disorder (PTSD) and the other on the diagnostic criteria for obsessive compulsive disorder), nor were they scored or measured. The experimental vignette depicted hypothetical case details inclusive of all diagnostic and documented symptomatology of muscle dysmorphia, although the directionality of all symptomatology was left ambiguous. For example, instead of reporting that the patient depicted in the vignette desired a more muscular or a more slender body, the vignette reported the person's current and ideal bodies becoming increasingly disparate. Furthermore, the gender of the hypothetical patient depicted was varied, such that participants were asked to describe this cluster of symptoms in either male or female presentations.

The vignette depicting muscle dysmorphia symptomatology read:

Grant is a 19 year old college student, who reports intense body image dissatisfaction, such that his ideal body and his current body are becoming increasingly incongruent. He further exhibits a distorted body image, in that his descriptions of his body differ markedly to how it is described by members of his family. Grant has recently made concerted efforts to alter his physiological dimensions, such that his BMI falls outside of the normal weight range, although he continues to report significant shape and weight concerns. In addition, Grant adheres to a rigid, restrictive and rule-driven diet plan, and becomes very anxious and agitated if it is not rigorously adhered to. Grant also maintains a rigid exercise plan, which frequently impinges on his social life, and he becomes extremely agitated if this is cannot be adhered to, reporting immediate attempts at compensation. He often exercises despite cautionary medical advice and goes to extreme lengths to avoid exposing his body to others, preferring to wear clothes which mask his body shape. Further, he reports 'constant thoughts' pertaining to his body which make it harder and harder for him to concentrate on other important parts of his life, such as school and work. Furthermore, Grant's recent behaviour also includes use of non-prescribed pharmaceutical products for the purpose of achieving his ideal body shape.

Further to reading the case vignettes, clinicians were asked to provide one provisional diagnosis for each case.

Results

Participant characteristics

Amongst the 100 participants, 72 were female (72%) and 28 were male clinicians (28%), and 63% ($n = 63$) were clinical psychologists, 35% ($n = 35$) were psychiatrists and 2% ($n = 2$) were paediatricians. The average age of participants was 42.3 years ($SD = 7.4$), and the average length of clinical experience was 16.6 years ($SD = 5.3$). In terms of areas of expertise, 39% of the sample reported no particular area of expertise, 27% of clinicians reported expertise in mood disorders (such as anxiety and depression), 11% reported expertise in personality disorders, 9% reported expertise in disorders of body image (including eating disorders and body dysmorphic disorder), 8% reported expertise in psychotic disorders (such as schizophrenia) and 6% reported expertise in childhood disorders (such as oppositional defiant disorder and Asperger's syndrome).

Table 1. Summary of the diagnoses made for each clinical vignette.

Diagnosis	Male case vignette ($n = 50$)	Female case vignette ($n = 50$)
Anorexia nervosa	20	46
Muscle dysmorphia	28	0
Body dysmorphic disorder	2	2
Obsessive compulsive disorder	0	2

As Table 1 illustrates, 94% of clinicians diagnosed the case vignette as either muscle dysmorphia or anorexia nervosa, whereas 4% of clinicians made diagnoses of body dysmorphic disorder, and 2% made obsessive compulsive disorder diagnoses. Chi-square testing revealed that male presentations were significantly more likely to be diagnosed as muscle dysmorphia, and female presentations as anorexia nervosa, $\chi^2(1, n = 100) = 38.22, p = .001$.

Discussion

The main aim of this study was to examine how clinical practitioners conceptualise the cluster of symptoms which represent muscle dysmorphia. Specifically, an examination was undertaken of provisional diagnoses amongst a group of clinicians to an ambiguous case vignette which depicted conceptual features of muscle dysmorphia. As predicted, clinicians generally conceptualised the features of muscle dysmorphia akin to anorexia nervosa, which is consistent with a developing body of research postulating that muscle dysmorphia may be conceptualised as an alternative eating disorder phenotype (Mosley, 2009; Murray et al., 2010, 2012).

When diagnosing the case vignettes, a gender split emerged in that the vast majority of clinicians assessing the female vignette made diagnoses of anorexia nervosa, as opposed to muscle dysmorphia, body dysmorphic disorder or obsessive compulsive disorder. Somewhat contrastingly, in diagnosing the male vignette, more clinicians diagnosed the cluster of symptoms as muscle dysmorphia than anorexia nervosa. This finding offers important insights into how the construct of gender may affect psychiatric diagnoses. Eating and body image disorders are inherently gendered phenomena, with qualitatively different body image ideals, psychopathology and prevalence rates commonly being demonstrated between males and females. The removal of the directionality of symptom expression in the present study rendered the clinical vignettes non-gender specific in terms of the body ideals demonstrated, despite the symptoms depicted remaining constant. However, the gender of the patient resulted in more diagnoses of anorexia nervosa in the female vignette, despite the same constellation of symptoms being represented in both cases. This finding is important and suggests that gender biases may partly contribute to the disparate prevalence rates of eating disorder between males and females, respectively.

What is also interesting is that few clinicians diagnosed this cluster of symptoms as body dysmorphic disorder, suggesting that when being considered inclusive of the recently identified eating-related features of muscle dysmorphia (Murray et al., 2011, 2012) this cluster of symptoms may more closely resemble an eating disorder sub-type, rather than a body dysmorphic disorder sub-type. Thus, these data provide support for the notion that muscle dysmorphia may be conceptually similar to anorexia nervosa and differs symptomatically as a function of the opposing dimensional extremes of body image psychopathology towards which each disorder predisposes those afflicted. Indeed, the notion that this cluster of symptoms may represent anorexia nervosa if symptom expression is oriented towards weight loss and muscle dysmorphia if oriented towards weight gain may stretch nosological credulity. Both muscle dysmorphia and anorexia nervosa in males increasingly present inclusive of both a drive for muscularity and enhanced leanness (Darcy

et al., 2012; Pope et al., 2000), with little conclusive evidence suggesting that this constitutes two separate psychiatric disorders, as opposed to varying symptom expression in the same underlying condition (i.e. an eating disorder).

This may therefore call into question the clinical utility of the current diagnostic placement of muscle dysmorphia. Current arguments have called for those developing DSM-5 to 'recast the diagnostic scheme in such a way that it accurately represents clinical reality and is of value to clinicians' (Fairburn & Cooper, 2011, p. 8). This underscores the necessity for male presentations of eating disorders in particular, given the current sentiment that 'there is not an eating disorder diagnosis specifically geared towards the male experience of eating pathology' (Greenberg & Schoen, 2008, p. 469). In keeping with previous research, the present data suggest that the nosological classification of muscle dysmorphia may offer the most clinical utility in an eating disorder spectrum (Mosley, 2009; Murray et al., 2010, 2011). In addition, such a conceptual shift may assist in delineating meaningful sub-categories from the current preponderance of cases falling within the eating disorder not otherwise specified (EDNOS) category, which has also been identified as a key task for those redeveloping the diagnostic scheme as they pertain to the eating disorders (Fairburn & Cooper, 2011).

However, whilst the use of clinical vignettes is novel in illuminating the clinical utility of the current diagnostic conceptualisation of muscle dysmorphia, this method must not be conflated with more rigorous scientific methods such as latent class analyses and taxometric analyses, which may be better able to illustrate the nosological nature of muscle dysmorphia. Furthermore, the present study focused largely on the diagnostic conceptualisation of this cluster of symptoms amongst clinical psychologists and psychiatrists, to whom patients are typically referred after consultation with a general practitioner (GP). Thus, perhaps an important area of future research is to investigate the conceptual understanding of muscle dysmorphia amongst GPs, who typically determine to which specialist services patients are referred. However, despite these limitations the present findings do further collective knowledge as to the clinical utility of the current conceptualisation of muscle dysmorphia, suggesting that perhaps placement within an eating disorder may offer more clinical utility.

Notes on contributors

Stuart B. Murray, DClinPsych, PhD, is a clinical psychologist specialising in male body image and family therapy. He is currently involved in several international research projects and serves as the Director of Family Therapy at the Redleaf Practice, and is an Honorary Associate at the University of Sydney.

Stephen Touyz, PhD, FAED, is a Professor of Clinical Psychology and Honorary Professor of Psychiatry at the University of Sydney. Professor Touyz is also co-editor of the *Journal of Eating Disorders* and is a previous President of the Eating Disorder Research Society.

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