Body Image 16 (2016) 17–20

Contents lists available at ScienceDirect

Body Image

journal homepage: www.elsevier.com/locate/bodyimage

Brief research report

Go big or go home: A thematic content analysis of pro-muscularity websites

Stuart B. Murray[a,*], Scott Griffiths[b], Leila Hazery[a], Tori Shen[a], Tom Wooldridge[c], Jonathan M. Mond[d]

[a] Department of Psychiatry, University of California, San Diego, San Diego, CA, USA
[b] School of Psychology, University of Sydney, Sydney, NSW, Australia
[c] Department of Psychology, Golden Gate University, San Francisco, CA, USA
[d] Department of Psychology, Macquarie University, Sydney, NSW, Australia

ARTICLE INFO

Article history:
Received 19 May 2015
Received in revised form
28 September 2015
Accepted 10 October 2015
Available online 31 October 2015

Keywords:
Muscularity
Muscularity-oriented eating
Muscle dysmorphia
Male eating disorders

ABSTRACT

Existing content analyses of pro-eating disorder web content have focused on thinness-oriented eating disorder pathology. With the increasing prevalence of muscularity-oriented body image concerns, we conducted a systematic content analysis of 421 active pro-muscularity websites including static content websites, blogs, and online forums. Emergent coding methods were utilized (Cohen's kappa range = .78–.88), and eight distinct thematic categories were identified: rigid dietary practices (26.2%), rigid exercise rules (18.4%), the broader benefits of muscularity (16.1%), the encouragement of the drive for size (15.9%), the labeling of non-ideal body (11.4%), marginalizing other areas of life (6.1%), muscle enhancing substances (3.3%), and minimizing medical risk (2.6%). Pro-muscularity websites provide explicit material surrounding potentially non-healthful muscularity-oriented eating and exercise practices. Clinician awareness of the potentially non-healthful behaviors involved in the pursuit of muscularity may enhance the detection and treatment of male eating disorders, in particular.

Introduction

In recent years, the ongoing expansion of the Internet and mobile-Internet technology has afforded unprecedented access to a wealth of information to over 2.7 billion users (Spada, 2014). Whilst many people access Internet platforms to seek health-related information (Boepple & Thompson, 2014), the recent online uniting of those with physical and mental illness has facilitated a platform to share support, experiences, and illness-related information. In this context, pro-eating disorder (pro-ED) websites have emerged as a particularly ominous platform through which those with EDs may share and encourage an array of ED behaviors. For instance, pro-anorexia nervosa (pro-AN) websites typically postulate that EDs are a lifestyle choice which should be revered, and commonly feature tips and tricks around self-starvation and weight loss, images of emaciated figures, "thinspiration" quotes to assist in the ongoing drive for weight loss, and chat rooms and forums in which those accessing the site can interact with one another (Bardone-Cone & Cass, 2007). Whilst these pro-ED sites may offer support and a shared sense of identity (Wooldridge, 2014), usage may also serve to promote non-healthful eating behaviors in those without EDs or with early symptoms and negatively impact the recovery of those with EDs (Bardone-Cone & Cass, 2007; Harper, Sperry, & Thompson, 2008; Wilson, Peebles, Hardy, & Litt, 2006). Indeed, a recent meta-analysis of nine studies by Rodgers, Lowy, Halperin, and Franko (2015) confirmed that exposure to pro-ED websites leads to increased body dissatisfaction, dieting, and negative affect.

As the prevalence of ED behavior among males increases across both age (Hay, Mond, Buttner, & Darby, 2008) and geographical boundaries (Musaiger, Al-Mannai, & Al-Lalla, 2014), with some behaviors (e.g., extreme dietary restriction) increasing more rapidly in males than in females (Mitchison, Hay, Slewa-Younan, & Mond, 2014), interest in the male experience of body image disturbance and ED behavior has intensified. One important distinguishing feature of this experience is the central role of muscularity-oriented, as opposed to thinness-oriented, body image concerns and behaviors (Murray, Rieger, Touyz, & De la Garza Garcia, 2010). Indeed, the ideal male body widely portrayed in Western society is characterized by a high degree of muscularity and an absence of body

* Corresponding author at: Eating Disorders Treatment & Research Center, Department of Psychiatry, University of California, San Diego, 4510 Executive Drive, Suite 310, San Diego, CA 92121, USA. Tel.: +61 420 838734.
E-mail address: drstuartmurray@gmail.com (S.B. Murray).

http://dx.doi.org/10.1016/j.bodyim.2015.10.002
1740-1445/

adiposity, since adiposity is thought to obscure the visibility of muscularity (Cafri & Thompson, 2004).

With empirical evidence illustrating that media exposure may contribute to body dissatisfaction and muscularity-enhancing efforts in men (Smolak & Stein, 2006; Tylka, 2011), a significant limitation of existing content analyses pertains to their exclusive focus on female site usage, female images of emaciated figures, and thinness-oriented ED pathology in general (Harshbarger, Ahlers-Schmidt, Mayans, Mayans, & Hawkins, 2009). Males do report increased body dissatisfaction and an elevated drive for greater muscularity upon viewing muscular images in the media (Arbour & Martin Ginis, 2006), with internalization of media-driven body ideals being the greatest predictor of the drive for muscularity (Daniel & Bridges, 2010). However, despite evidence suggesting a relationship between media consumption and muscularity-oriented body image disturbance in males, no evidence to date has documented the content of pro-muscularity websites.

Therefore, the purpose of the present study was to analyze the content of pro-muscularity web-based content, both in static (unchanging and constant) and dynamic (blog and forum) platforms, and thereby add to earlier analyses of this kind focusing on pro-anorexia nervosa (pro-AN) website content (Bardone-Cone & Cass, 2007; Boepple & Thompson, 2014; Harshbarger et al., 2009; Wilson et al., 2006; Wooldridge, 2014). In the absence of any previous research of this kind, our only hypothesis was that pro-muscularity content would include information and themes consistent with body image issues and ED attitudes and behaviors.

Method

To obtain a valid and generalizable array of pro-muscularity content, we identified websites using three popular search engines: Google, Yahoo, and Bing. We conducted a basic keyword search on each search engine between January and April 2015, and included the following seven muscularity-related search terms in our search: muscle building, bodybuilding, body building, muscle growth, get ripped, bulk up, and big muscles. To locate further forum and blog content, we performed additional searches that combined each of these terms with the terms "blog" and "forum" added respectively. The first five pages of search engine results for each search term were used to generate a list of websites which were included in analyses, as we predicted that thematic saturation would occur within analyses of the first five pages of search engine results. Additionally, any websites inclusive of hyperlinked key terms embedded within the text were followed up on, and these external ("second generation") websites were also included in analyses. News and journal articles, medical reference pages, medical organizations, sponsored advertisements, and e-shop sites (i.e., selling steroids or protein supplements) were excluded, and all written content was included in analyses (photographic content was not coded). Duplicate websites were also removed ($N = 143$). Cumulatively, across the three search engines, we identified 204 static content sites, 130 blog sites, and 87 forum sites. The team coding this content comprised two male clinical psychologists (SM and TW), a female clinical psychology intern (LH), and a female pre-medical school intern (TS).

Given the dearth of literature pertaining to web-related content for pro-muscularity sites, no a priori variables or categories were developed before coding. Rather, a general inductive approach (Thomas, 2006) for raw data analysis, which entailed preliminary in-depth analyses of the raw content, was adopted, such that frequently occurring themes and categories could be identified. The entire four-member coding team convened to resolve two coding ambiguities.

Following the preliminary analyses, emergent coding methods (Harshbarger et al., 2009) were utilized, and the research team created a codebook of frequently occurring categories with detailed guidelines and examples to ensure inter-rater reliability. To further ensure the consistency of coding, three members of the research team (SM, LH, TS) coded the data separately and consensus was reached through discussion. This emergent coding resulted in eight categories (see Table 1). Inter-rater reliability was assessed by double-coding the full content from 30 randomly selected websites. Inter-rater reliability of the coded data, as determined by Cohen's kappa, ranged from .78 to .88 for the eight themes. In addition, a member of the research team not involved in the coding process (SG, a male psychologist) reviewed each thematic category across static, blog, and forum websites in order to confirm that each theme was evident across each type of website.

Results

The most frequently identified themes concerned dietary rules, exercise rules, the admiration/encouragement of the drive for size, and promoting the broader benefits of muscularity. Collectively, these categories accounted for approximately 76% of the thematically coded content. Of note, rigid dietary rules (26.2%) were frequently conceptualized as part of one's training regime, and were conceptualized as equally or more important than one's physical training regime in the pursuit of muscularity. Example statements highlighting the centrality of rigid dietary practices included, "Think of eating as part of your training," and "If you can't lift to recover, eat to recover. Leave the gym and go to an all-you-can-eat Mongolian BBQ and make it an epic struggle." Example dietary templates were also common, and included eating up to nine meals per day, and promoted arbitrary rules surrounding protein intake, recommending that overall protein consumption be calculated according to one's body weight in order to maximize muscle growth.

Also relating to rigid dietary practices, the notion of "cheat meals" or "cheat days" was noted. This concept described the beneficial metabolic effects of consuming vast quantities of calorie dense foods in a discrete time period, before reverting back to restrictive and restrained dietary practices, and included for instance, "One day a week of HIGH calories is all that you need to shift your body out of a metabolic slur and keep fat burning as your main source of energy. What can you eat? ANYTHING! Eat KFC or my favourite, Popeye's. Remember, however, ONE meal. This is NOT a cheat DAY."

Exercise practices also featured centrally in the reviewed content, in particular the promotion of rule-driven muscle-building exercise (18.4%). Example weight lifting regimes were typically discussed with rule-driven rigidity, deviation from which should be either avoided, or compensated for. Example statements included "Friends don't let friends skip leg day," and "Your training regime needs to be like a job. You clock in, and you clock out. Every. Single. Day. Without exception." Another theme to emerge in relation to muscle-building exercise regimens was the notion of continuing to exercise despite physical injury. Example comments included, "If you have an injury you will probably want to do whatever you can to make sure you don't miss a workout. If you take time off, you will lose much of what you worked hard to build," and "Train through injuries. Tony Romo played with a punctured lung. What's your excuse?"

In the context of both dietary and exercise rules, the drive for size was consistent throughout (15.9%), specifying that all efforts ought to be oriented toward developing greater muscularity. Example statements included "bigger muscles should be the only thing on your mind when planning your training and diet routine." Additionally, the reported broader benefits of muscularity (16.1%) included