



Brief research report

Do representations of male muscularity differ in men's and women's magazines?

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Abstract

Men overestimate the degree of muscularity that is attractive to women, and women overestimate the degree of thinness that is most attractive to men. Consistent with the thesis that sociocultural input influences such body type preferences and beliefs, we postulated that magazines aimed at a male audience would portray a more muscular male body ideal than would magazines aimed at a female audience. Systematic comparison of popular magazines (*Cosmopolitan*, *Men's Health*, *Men's Fitness*, and *Muscle & Fitness*) revealed that the ideal male body marketed to men is more muscular than the ideal male body marketed to women. We introduce the Physical Trait Overvaluation Hypothesis, which proposes that gender-specific media fuel emphasis on certain body parts in within-gender prestige competitions. The resulting competitive escalation creates a disconnect between the preferences of one gender and the personal aspirations of the other.

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Introduction

People assess themselves on a variety of criteria, including their physical attractiveness, by comparing themselves to gender-specific ideals communicated to them by the larger society (e.g., Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). Men are exposed to media images of muscular men that exemplify the contemporary American vision of the ideal male body (e.g., Leit et al., 2002; Leit, Pope, & Gray, 2001; Pope,

Olivardia, Borowiecki, & Cohane, 2001; Pope, Olivardia, Gruber, & Borowiecki, 1999). After viewing images of the idealized male physique, men's body image satisfaction decreases (e.g., Thompson & Heinberg, 1999), and time spent reading health and fitness magazines is correlated with higher levels of body image dissatisfaction and more frequent contemplation of the use of steroids (e.g., Botta, 2003; Morry & Staska, 2001).

Media representations of the ideal male body as muscular may influence the body shapes men desire and strive to achieve. Studies have assessed men's body type preferences by presenting participants with an array of male bodies that vary in percentage

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of muscularity and asking men to indicate their current and ideal body. In these studies, men chose as ideal a body that was more muscular than their current body (Buchanan, Frederick, & Friedman, 2005; Frederick & Haselton, 2003; Lynch & Zellner, 1999; Olivardia, Pope, Borowiecki, & Cohane, 2004; Pope et al., 2000).

Women in the contemporary West find male bodies that are more muscular than average most attractive, and men recognize that women prefer these body builds (Frederick & Haselton, 2003; Olivardia et al., 2004; Pope et al., 2000). One study examining advertisements in leading US women's magazines (*Cosmopolitan* and *Glamour*) observed that images of undressed men increased from 3% in the 1950s to 35% in the 1990s, suggesting that male physiques are becoming more important to women over time (Pope et al., 2001).

Overestimating the importance and attractiveness of a trait to the other sex

Past research has asked women to indicate the level of female thinness desired by men, and then separately measured men's preferences for female thinness. Some results indicate that women overestimate the level of female thinness desired by men (e.g., Cohn & Adler, 1992; Fallon & Rozin, 1985; Jacobi & Cash, 1994), although other research suggests that women are accurate in their estimations (Tovée & Cornelissen, 2001). Research employing similar measures designed for men has shown that men desire a level of muscularity that is greater than the level found attractive by women (Frederick & Haselton, 2003; Olivardia et al., 2004), and that men overestimate the level of muscularity women find ideal (Olivardia et al., 2004) and the level women desire in a short-term sexual partner (Frederick & Haselton, 2003).

We examined whether the contrast between men's perceptions of women's preferences and women's actual preferences is reflected in differences in the images presented by gender-specific media. To explore whether the ideal level of male muscularity presented in media aimed at men differs from that which is presented in media aimed at women, we compared images of men taken from the covers or centerfolds of magazines marketed to each gender.

Do magazines present different ideals to male and female audiences?

We compared male bodies presented in three types of magazines: Female-Audience (*Cosmopolitan*), Male-Audience (*Men's Health* and *Men's Fitness*), and Body-Builder Audience (*Muscle & Fitness*). Given that men overestimate the level of muscularity women desire, we predicted that men represented in the Female-Audience magazine would be less muscular than those in the Male-Audience magazines. The Body-Builder Audience magazine was included to establish that the Male-Audience magazines portray an ideal that is less muscular than those marketed towards individuals interested in muscularity per se, and to demonstrate that the rating instrument used in this study can discriminate between the levels of muscularity ranging from non-muscular to extremely muscular.

Publications were selected because they have a wide circulation and/or are marketed to our target audiences of interest. *Cosmopolitan* magazine has a readership of 16 million women, and 89% of them are between the ages of 18 and 49 (Media Mark Research, 1999). The majority of *Men's Health's* readers are men (85%), and the majority (71%) are between the ages of 18 and 44 (cf. Alexander, 2003). In 2003, *Cosmopolitan* ranked 14th in revenue among all U.S. magazines, *Men's Health* ranked 42nd, and *Muscle and Fitness* and *Men's Fitness* did not rank in the top 100 (Magazine Publishers of America, 2004). It is our impression based on the advertisements in these magazines that *Men's Fitness* is marketed to a population similar to that of *Men's Health*, whereas *Muscle & Fitness* is marketed to body-builders.

Methods

Magazines

We located 100% of the issues of *Cosmopolitan* magazine published between June 2002 and September 2004 (28 issues), 100% of the issues of *Men's Health* from January 2001 to August 2004 (36 issues), 93% of the issues of *Men's Fitness* from January 2002 to August 2004 (27 of 29 issues), and 81% of the issues of *Muscle & Fitness* from January 2002 to August

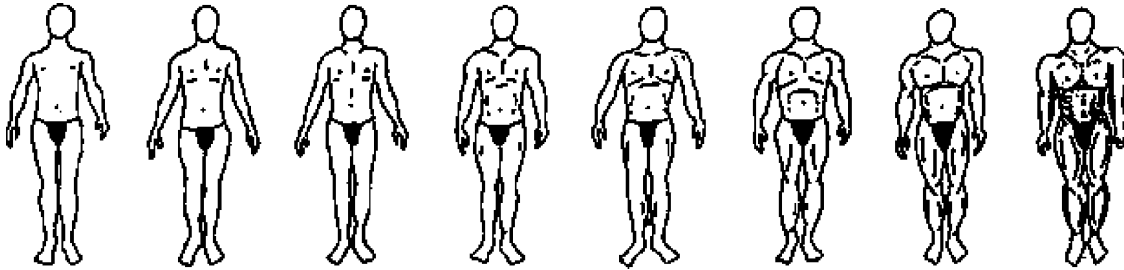


Fig. 1. The Muscle Silhouette Measure presents a series of eight images that increase linearly in percentage of muscularity (Buchanan et al., 2005).

2004 (22 of 27 issues). We made color photocopies of the front covers of *Men's Health*, *Men's Fitness*, and *Muscle & Fitness*, and the monthly "Hunk of the Month with His Shirt Off" centerfold in *Cosmopolitan*. We selected the covers rather than advertisements because of the widespread visibility of the covers; even non-subscribers are exposed to the covers at stores and newsstands, hence the covers presumably impact the largest audience.

Five undergraduate research assistants (two males, three females) were coders. Ignorant of the hypothesis, each coder rated the muscularity level of all images.

Muscularity

The coders employed the Muscle-Based Silhouette Measure (see Fig. 1), consisting of eight male images ranging from a slender and non-muscular individual (Image 1) up to a slender and very muscular individual (Image 8). The images were drawn from photographs, representing different levels of mesomorphy, in Sheldon's *The Atlas of Men* (1954). The scale has good test-retest reliability when used to assess men's perceptions of their current level ($r = .83$) and ideal level of muscularity ($r = .89$). The validity of the scale was previously confirmed by comparing participants' self-ratings to ratings of each participant's muscularity by three independent judges using the same form. The ratings made by judges showed acceptable inter-rater reliability (Cronbach's alpha = .83; Buchanan et al., 2005).

Coders were instructed to rate the muscularity level of the man portrayed in each picture using intervals of .25. For example, if they perceived that the muscularity level of the man pictured in the magazine

was half way between images 4 and 5, they could record 4.5 as their rating.

Results

Four of the *Muscle & Fitness* covers featured only women on the cover, and two of the *Men's Health* covers presented only a man's face; these issues were treated as missing data. The coders showed high inter-rater reliability (Cronbach's alpha = .96) and a pattern of high inter-correlations between coders (ranging from $r = .80$ to $.90$), suggesting that the coders were highly similar in their proportional ordering of images.

A three-way ANOVA was conducted to determine if the magazines differed from each other in terms of muscularity level, with the following independent variables: Magazine (*Cosmopolitan*, *Men's Health*, *Men's Fitness*, and *Muscle and Fitness*), Rater, and Image (nested within magazines). There was a significant main effect of Magazine $F(3, 33) = 57.3$, $p < .001$, partial eta-squared = .840, when controlling for the effects of Coder, Image nested within Magazine, the interaction of Coder with Magazine. Table 1 summarizes the results.

Table 1
Ideal levels of muscularity

Magazine title	Mean	SD
<i>Cosmopolitan</i>	4.26	1.01
<i>Men's Health</i>	5.77	.91
<i>Men's Fitness</i>	6.27	.85
<i>Muscle & Fitness</i>	7.50	.60

Note: Pairwise comparisons revealed that the four magazines differed from each other at the $p < .001$ level.

Discussion

Summary of findings

These results indicate that, as predicted, Female-Audience magazines present representations of the ideal male body that are less muscular than Male-Audience magazines. Male-Audience magazines were also less muscular than magazines specifically targeted at body-builders.

Limitations

The images displayed in the Male-Audience magazines may not be typical of all Male-Audience magazines. Our initial intention was to also code shirtless male images in other Male-Audience magazines (e.g., *Details*, *GQ*, *Maxim*, etc.). However, review of these magazines revealed that they did not routinely feature shirtless men, with the exception of advertisements for “muscle enhancement supplements.” This led us to evaluate only *Men’s Health* and *Men’s Fitness*. Nevertheless, we believe these findings are informative given that the covers of these and similar magazines are the principal source of the images of shirtless men to which large numbers of men are exposed in supermarkets, bookstores, and newsstands. Lastly, we cannot rule out the possibility that, because the coders were not blind to the magazine titles, these titles influenced ratings. However, because the coders were not aware of the hypothesized differences between the magazines, we presume the findings are not due to such influence.

Comparison to past studies

In a previous study, 124 college-aged women were asked to rate their ideal short-term sexual partner using the same Muscle Silhouette Measure employed in this study (Frederick & Haselton, 2003). The mean rating of the muscularity of the *Cosmopolitan* images closely resembles college women’s mean ratings of their ideal short-term sexual partner ($M = 4.49$, $SD = 1.05$) but appears more muscular than women’s ratings of the average male ($M = 2.86$, $SD = 1.06$). The *Cosmopolitan* images appear less muscular than the mean ratings of the ideal short-term sexual partner that men believe women desire ($M = 5.04$, $SD = 1.17$). One

factor contributing to men’s overestimation of the level of muscularity desired by women may be related to the level of muscularity represented as ideal in Male-Audience magazines.

The Physical Trait Overvaluation Hypothesis

Research to date has documented that exposure to media representations of same-sex bodies affects viewers’ personal body ideals and their level of body image satisfaction (see Thompson & Heinberg, 1999). Ideal body forms presented in Western media have changed over time, with declines in female body fat and increases in male muscularity; correspondingly, there have been increases in levels of body dissatisfaction among women (Feingold & Mazzella, 1998). In making sense of these patterns, many investigators (e.g., Alexander, 2003; Thompson et al., 1999) argue that individuals assess themselves on a variety of criteria, including their physical attractiveness, by comparing themselves to gender-specific ideals communicated to them by society. While some version of this explanation is likely correct, it leaves unanswered the question of why the body form held as ideal by one sex should diverge from the other sex’s ideal for those individuals. Given the often-explicit linkage between body form and sex appeal, why do women overestimate the level of female thinness preferred by men (e.g., Cohn & Adler, 1992; Jacobi & Cash, 1994) and why do men overestimate the level of male muscularity preferred by women (Frederick & Haselton, 2003; Olivardia et al., 2004)?

Our results suggest that the media plays a role in the misfit between the body form perceived by members of one sex as attractive and that which is actually most attractive to members of the other sex. While this is congruent with existing explanations of the relationship between media portrayals and body ideals, it raises the question of the source of the disparities between media aimed at one gender and media aimed at the other. To explain these patterns, it is helpful to examine the processes underlying the acquisition of gender-specific ideals.

Prestige competition

In all human societies, people compete for prestige (Henrich & Gil-White, 2001). Among students at our university, prestige competition includes such varied

aspects of the person as the clothes on one's body or the automobile in one's garage. In addition, around the world, body form constitutes an arena for prestige competition.

The body as an arena for prestige competition

While some avenues for prestige competition are arbitrary (e.g., fashions and fads), others originate from aspects of life to which the human mind is innately attuned. Given the importance of mate choice for reproductive success, natural selection and sexual selection likely endowed the minds of our ancestors with propensities to attend both to particular attributes of the bodies of members of the opposite sex, and to the preferences displayed by such individuals with regard to the bodies of members of one's own sex (cf. Buss, 1998).

The degree and distribution of female body fat is likely one such feature because of its role in female fertility (Jones, 1996). Likewise, male muscularity, a determinant of male success in hunting and combat in ancestral populations, can be expected to have special psychological salience (Frederick & Haselton, 2003). Note that we are not claiming that natural selection crafted rigid criteria for the evaluation of bodies, a position inconsistent with the evident historical and cross-cultural variation in body ideals. Rather, selection attached heightened salience to some aspects of bodies, female adiposity and male muscularity being likely candidates; this salience enhances the likelihood that these aspects will be seized upon as avenues for prestige competition.

Many forms of prestige competition involve only members of one gender. Given differences between female and male bodies, this is probably intrinsically true of prestige competition involving body form. Prestige competitions often generate runaway processes in which the attribute at issue becomes increasingly exaggerated over time as competitors strive to outdo one another. Because bodily prestige competition involves only comparisons between, and evaluations by, members of one gender, the possibility exists that runaway processes will lead to divergence between what members of that gender consider ideal and the preferences of the opposite gender. This appears to have occurred with regard to both female thinness (Davidov, 2000) and male muscularity. Other physical traits the importance of which one gender

may overestimate include breast and buttock size and shape, penis size, foot size, and height (e.g., Jones, 1996).

This account sheds light on the power of the media to influence body ideals and generate body dissatisfaction. The media highlights high-status individuals who display extreme versions of the bodily traits at issue, fueling prestige competition. In order to maintain their preeminence, celebrities must often work hard to manifest even more extreme versions of the attributes at issue. Similarly, magazines, videos, and television programs frequently feature relatively unknown individuals who, because they display many other prestigious attributes (attractive faces, possession of prestigious objects, an association with attractive members of the opposite sex, and a linkage with themes of sexual success), communicate the message that they possess a prestigious body form. The difference in the muscularity of male bodies portrayed in magazines aimed at men and those aimed at women is consistent with a pattern in which the media fuels gender-specific prestige competition involving body form, enhancing a runaway process through which male body ideals diverge from women's preferences.

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References

- Alexander, S. M. (2003). Stylish hard bodies: Branded masculinity in men's health magazine. *Sociological Perspectives*, *46*, 535–554.
- Botta, R. A. (2003). For your health? The relationship between magazine reading and adolescents' body image and eating disturbances. *Sex Roles*, *48*, 389–399.
- Buchanan, G. M., Frederick, D. A., & Friedman, M. A. (2005). Preoccupation with body fat among heterosexual and homosexual males.
- Buss, D. M. (1998). Sexual strategies theory: Historical origins and current status. *Journal of Sex Research*, *35*, 19–31.

- Cohn, L. D., & Adler, N. E. (1992). Female and male perceptions of ideal body shapes: Distorted views among Caucasian college students. *Psychology of Women Quarterly*, *16*, 69–79.
- Davidov, V. M. (2000). Physical ideals and mate choices: A comparative study of heterosexual male and lesbian populations. Unpublished master's thesis. Department of Anthropology, University of California, Los Angeles.
- Fallon, A. E., & Rozin, P. (1985). Sex differences in perceptions of desirable body shape. *Journal of Abnormal Psychology*, *94*, 102–105.
- Feingold, A., & Mazzella, R. (1998). Gender differences in body image are increasing. *Psychological Science*, *9*, 190–195.
- Frederick, D. A., & Haselton, M. G. (2003). Muscularity as a communicative signal. Paper presentation at the International Communications Association, San Diego, CA.
- Henrich, J., & Gil-White, F. J. (2001). The evolution of prestige: Freely conferred deference as a mechanism for enhancing the benefits of cultural transmission. *Evolution and Human Behavior*, *22*, 165–196.
- Jacobi, L., & Cash, T. F. (1994). In pursuit of the perfect appearance: Discrepancies among self-ideal percepts of multiple physical attributes. *Journal of Applied Social Psychology*, *24*, 379–396.
- Jones, D. M. (1996). *Physical attractiveness and the theory of sexual selection: Results from five populations*. Ann Arbor, MI: University of Michigan Press.
- Leit, R. A., Pope, H. G., & Gray, J. J. (2001). Cultural expectations of muscularity in men: The evolution of playgirl centerfolds. *International Journal of Eating Disorders*, *29*, 90–93.
- Lynch, S. M., & Zellner, D. A. (1999). Figure preferences in two generations of men: The use of figure drawings illustrating differences in muscle mass. *Sex Roles*, *40*, 833–843.
- Magazine Publishers of America (2004). Circulation trends and magazine handbook, <http://www.magazine.org>.
- Media Mark Research (1999). *Cosmopolitan demographic profile*. New York: Media Mark Research.
- Morry, M. M., & Staska, S. L. (2001). Magazine exposure: Internalization, self-objectification, eating attitudes, and body satisfaction in male and female university students. *Canadian Journal of Behavioural Science*, *33*, 269–279.
- Olivardia, R., Pope, H. G., Borowiecki, J. J., & Cohane, G. H. (2004). Biceps and body image: The relationship between muscularity and self-esteem, depression, and eating disorder symptoms. *Psychology of Men and Masculinity*, *5*, 112–120.
- Pope, H. G., Gruber, A. J., Mangweth, B., Bureau, B., deCol, C., Jouvent, R. et al. (2000). Body image perception among men in three countries. *American Journal of Psychiatry*, *157*, 1297–1301.
- Pope, H. G., Olivardia, R., Borowiecki, J. B., & Cohane, G. H. (2001). The growing commercial value of the male body: A longitudinal survey of advertising in women's magazines. *Psychotherapy and Psychosomatics*, *70*, 189–192.
- Pope, H. G., Olivardia, R., Gruber, A., & Borowiecki, J. (1999). Evolving ideals of male body image as seen through action toys. *International Journal of Eating Disorders*, *26*, 65–72.
- Thompson, J. K., & Heinberg, L. J. (1999). The media's influence on body image disturbance and eating disorders: We've reviled them, now can we rehabilitate them? *Journal of Social Issues*, *55*, 339–353.
- Thompson, J. K., Heinberg, L. J., Altabe, M., & Tantleff-Dunn, S. (1999). Sociocultural theory: The media and society. In J. K. Thompson (Ed.), *Exacting beauty: Theory, assessment, and treatment of body image disturbance* (pp. 85–124).
- Tovée, M. J., & Cornelissen, P. L. (2001). Female and male perceptions of female physical attractiveness in front-view and profile. *British Journal of Psychology*, *92*, 391–402.