GI Joe or Average Joe? The impact of average-size and muscular male fashion models on

men's and women's body image and advertisement effectiveness

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Abstract

Increasing body size and shape diversity in media imagery may promote positive body image. While research has largely focused on female models and women's body image, men may also be affected by unrealistic images. We examined the impact of average-size and muscular male fashion models on men's and women's body image and perceived advertisement effectiveness. A sample of 330 men and 289 women viewed one of four advertisement conditions: no models, muscular, average-slim or average-large models. Men and women rated average-size models as equally effective in advertisements as muscular models. For men, exposure to average-size models was associated with more positive body image in comparison to viewing no models, but no difference was found in comparison to muscular models. Similar results were found for women. Internalisation of beauty ideals did not moderate these effects. These findings suggest that average-size male models can promote positive body image and appeal to consumers.

Keywords: body image, media, advertising, model size, men

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Amongst young women and men, exposure to mass media images depicting ultra-thin

women and muscular men is associated with poor body image (Barlett, Vowels, & Saucier,

2008; Grabe, Ward, & Hyde, 2008). Consequently, policy makers and governments (e.g.,

Australian Federal Office for Youth, 2008) have suggested that including a more diverse

range of body sizes and shapes in media imagery may be an effective strategy for promoting

positive body image. Consistent with this, several studies have found that viewing average-

size *female* fashion models in print advertisements is associated with more positive body

image, among young women and young men, in comparison to viewing ultra-thin female

fashion models (Diedrichs & Lee, 2010; Dittmar & Howard, 2004a, 2004b; Halliwell &

Dittmar, 2004; Halliwell, Dittmar, & Howe, 2005). In contrast to industry concerns that

average-size models do not appeal to consumers (e.g., Connolly, 2009), these studies also

found that average-size female models were rated as equally effective in advertisements as

ultra-thin models. The potential for using average-size *male* fashion models to improve body

image and appeal to consumers, however, has not been well examined. Therefore, we aimed

to extend the evidence base for the effects of size diversity in media imagery, by exploring

the impact of exposure to advertisements featuring average-size male fashion models on

young men's and women's body image, and their perceptions of advertisement effectiveness.

Mass Media Influence on Body Image

Media content analyses have documented a cultural shift in beauty standards in recent

decades. For women, the ideal body has become synonymous with thinness. For example,

Playboy centrefolds became progressively thinner from 1953 to 2003, with 69% of

centrefolds from 1979-1988 weighing 15% or more below the expected body weight for

women of their age and height (Garner, Garfinkel, Schwartz, & Thompson, 1980; Seifert,

2005; Wiseman, Gray, Mosimann, & Ahrens, 1992). The ideal body for men has also been transformed, and is now characterised by a mesomorphic body type, with large defined muscles, low body fat and a v-shaped upper body (Law & Labre, 2002). As evidence of this, an analysis of *Playgirl* centrefolds from 1973-1997 found that male centrefolds became more muscular and lean over time (Leit, Pope, & Gray, 2001). Furthermore, the presence of muscular male models has also increased in other popular men's and women's magazines, such as *Men's Health* and *Cosmopolitan* (Frederick, Fessler, & Haselton, 2005; Law & Labre, 2002). At the same time, women and men in the general population are becoming larger (Spitzer, Henderson, & Zivian, 1999), and as a result the idealised body types for women and men as portrayed by the media are becoming less representative of society.

Social comparison theory (Festinger, 1954) provides a theoretical explanation for how exposure to idealised ultra-thin and muscular models may affect women's and men's body image. In this context, social comparison theory proposes that people will compare themselves to others in order to evaluate their own appearance. An *upward* comparison will occur if the comparison target is someone who is thought to be superior in appearance. Upward comparisons may result in negative self-evaluation if the individual feels inferior to the comparison target (Morse & Gergen, 1970). Alternatively, if an individual feels similar to the superior target, the comparison may result in improved self-image, as the individual is able to feel part of the superior group (Collins, 1996). This process is known as assimilation.

Fashion models and celebrities depicted in media images are assumed to embody current ideals of beauty and success, and therefore provide likely targets for upward appearance comparisons (Englis, Solomon, & Ashmore, 1994). Because their body sizes and appearances are often not representative of the general population (Fouts & Burggraf, 1999; Fouts & Vaughan, 2002; Spitzer, et al., 1999), upward appearance comparisons to media figures are likely to result in feelings of inadequacy and negative self-evaluation.

Furthermore, media images are often digitally airbrushed, so that the models portrayed in these images become removed from biological reality and do not provide achievable standards for appearance comparison (Reaves, Hitchon, Park, & Yun, 2004).

Consistent with these arguments, research investigating the impact of exposure to ultra-thin and muscular media images on women's and men's body image suggests that media exposure is associated with increased body dissatisfaction. A meta-analysis of 77 experimental and correlational studies found that exposure to media images of ultra-thin female models was associated with increased body dissatisfaction and disordered eating behaviours among women (Grabe, et al., 2008). Furthermore, there is some evidence that men also become dissatisfied with their appearance after exposure to media images of ultra-thin women (Aubrey & Taylor, 2009; Lavine, Sweeney, & Wagner, 1999).

Relatively little research has investigated the impact of exposure to muscular male media images on men, and none has examined their impact on women. While some studies have found no effect on young men's weight satisfaction (Hargreaves & Tiggemann, 2009), drive for muscularity (Johnson, McCreary, & Mills, 2007) or body self-conciousness (Kalodner, 1997), a recent meta-analysis of 25 correlational and experimental studies found that, on average, exposure to muscular models is associated with lower body satisfaction and body esteem among young men (Barlett, et al., 2008).

Promoting Size Diversity in Media Imagery

Governments and politicians in Australia, France and the United Kingdom have recently called for changes in media imagery to promote positive body image (Australian Federal Office for Youth, 2008; Boyer et al., 2009; Liberal Democrats, 2009). The recommended changes include providing notification of, and a reduction in, digital airbrushing, and greater body size and shape diversity in media imagery. Underlying these recommendations is the assumption that more realistic and representative depictions of men

and women will result in more positive body image. Research in the United Kingdom (Dittmar & Howard, 2004a, 2004b; Halliwell & Dittmar, 2004; Halliwell, et al., 2005) and Australia (Diedrichs & Lee, 2010) supports this assumption, with findings that young women and men who view print advertisements featuring attractive, average-size female fashion models report more positive body image, compared with those who view attractive, ultra-thin fashion models. In line with SCT (Festinger, 1954), this would suggest that when consumers view media images of average-size fashion models, they are able to assimilate with the superior group and, therefore, report more positive self-evaluations. A recent study, however, found that exposure to average-size models in Dove® television commercials resulted in negative mood and restricted eating amongst young Dutch women (Anschutz, Engels, Becker, & Van Strien, 2009). It was suggested, however, that this negative effect was due to these commercials making their use of more realistically sized models a highlighted point of difference in the campaign, and therefore emphasising that average-size women are different from the current, idealised thin ideal.

Consistent with research exploring the impact of exposure to ultra-thin female models (e.g., Brown & Dittmar, 2005; Yamamiya, Cash, Melnyk, Posavac, & Posavac, 2005), studies examining print advertisements also found that the effect for model exposure on body image was moderated by level of internalisation of current cultural beauty ideals (Diedrichs & Lee, 2010; Dittmar & Howard, 2004a, 2004b; Halliwell & Dittmar, 2004; Halliwell, et al., 2005). That is, only women and men who internalised beauty standards portrayed in the media were affected by exposure to female fashion models, regardless of size. However, there was no moderation effect for internalisation in the study examining television commercials (Anschutz, et al., 2009). Nevertheless, these findings provide promising evidence for the potential health benefits of using average-size female models in media imagery.

The fashion, advertising and media industries have suggested that average-size models have been excluded from media imagery because they do not appeal to consumers (e.g., Connolly, 2009). To address this, average-size model researchers (Anschutz, et al., 2009; Diedrichs & Lee, 2010; Dittmar & Howard, 2004a; Halliwell & Dittmar, 2004; Halliwell, et al., 2005) have also assessed the perceived effectiveness of advertisements featuring average-size and ultra-thin female models, and those with no models. Contrary to industry concern, advertisements featuring attractive, average-size female models were rated, by both female and male consumers, as equally effective as advertisements featuring attractive, ultra-thin models and no models across all studies. Although research into the health and advertising benefits of average-size female models is burgeoning, the potential for using average-size male fashion models has not been well examined until now.

While some studies (e.g., Agliata & Tantleff-Dunn, 2004; Hargreaves & Tiggemann, 2009; Kalodner, 1997; Ogden & Mundray, 1996) have compared the effect of exposure to images of muscular men with images of more 'average' men on young men's body image, they often confounded models' body size and level of muscularity with other characteristics of the models and the advertisements. Models used in the muscular and in the 'average' conditions often differed in clothing style, age, or perceived attractiveness. The advertisements also varied in the type of products being advertised and in the style or design of the image. These variations make it difficult to establish whether any post-exposure differences in body image -- whereby exposure to average men was generally associated with more positive body image -- were due to the models' body size and level of muscularity, or some other characteristic of the images. Further, no research has compared the perceived advertising effectiveness of advertisements featuring average-size and muscular male models. Therefore, there is little evidence to address the questions raised by the fashion, advertising and media industries, who currently have the greatest capacity to effect change in media

imagery, as to whether average-size male fashion models are an effective alternative to muscular models.

The Current Study

We investigated the impact of exposure to average-size male fashion models on young men's and women's body image and perceptions of advertisement effectiveness. Specifically, we compared the impact of exposure to advertisements featuring average-size male models, with advertisements featuring muscular male models and with no models. To improve on past research, we attempted to control for model attractiveness and clothing style, and advertisement type and style, across conditions. Furthermore, to allow for a more comprehensive investigation of the impact of average-size male models in advertisements, we used two average-size male model advertisement conditions. Men can deviate from the current mesomorphic, muscular body ideal by being slimmer and less muscular (i.e., more ectomorphic in body type), or larger and less muscular (i.e., more endomorphic in body type). Consequently, we included an average-slim and an average-large male model advertisement condition, and compared both average-size conditions to a muscular model and a no model (control) condition. We were also interested in investigating the impact of exposure to male models of differing body sizes on women's body image, as no research has examined this, and past studies have found that exposure to average-size and ultra-thin female models can affect men's body image (Aubrey & Taylor, 2009; Diedrichs & Lee, 2010; Lavine, et al., 1999).

Based upon previous research, we predicted that advertisements featuring average-size male models would be rated by men and women as equally effective as advertisements featuring muscular male models and no models. Furthermore, based upon SCT and past research, we predicted that exposure to average-size male models would be associated with a more positive body image state among men and women, but that this effect would be

moderated by level of internalisation of current cultural beauty ideals. Specifically, men and women with high levels of internalisation would report a more positive body image state after exposure to average-size male models, but no effect would be present for those with low levels of internalisation.

<div align="center">Method</div>

Participants and Design

A total of 619 men ($n = 330$) and women ($n = 289$), aged 17-25 years, took part in this study. Although they were from diverse academic programs, all were enrolled in a first-year psychology course and received course credit for participation. The mean age and body mass index (BMI) for men were 18.62 years ($SD = 1.60$) and 22.81 ($SD = 3.08$), and for women were 18.82 years ($SD = 1.63$) and 21.63 ($SD = 3.21$). While the majority of the sample described themselves as "White Australian" (80% men; 82.7% women), 13.3% of men and 11.1% of women identified as "Asian Australian", and a smaller proportion of the sample as "other" (6.7% men; 6.2% women). This was a convenience sample; however, it also reflects the age group most likely to purchase Australian fashion, lifestyle and fitness magazines (e.g., Vogue, GQ, Cosmopolitan; Roy Morgan Research, 2007, 2008, 2009). Indeed, 37% of men and 77% of women reported that they "frequently" read these types of magazines.

Participants were assigned to one of four advertisement exposure conditions. In the no-model condition (85 men, 66 women), participants viewed advertisements featuring no models, and in the muscular condition (76 men, 71 women) they viewed advertisements featuring muscular fashion models. In the average-slim condition (83 men, 73 women), participants viewed models who were slimmer and less muscular than the muscular models, and in the average-large condition (86 men, 79 women) they viewed models who were larger and less muscular than the muscular models. In an attempt to balance the number of participants in each condition, a restricted randomisation procedure with minimisation was

used. The first participant was randomly assigned to a condition, and subsequent participants were assigned to the condition that had the least number of participants at the time of assignment. This method ensures moderately equal cell sizes and is considered methodologically equivalent to randomisation (Moher, Schulz, & Altman, 2001).

Materials

For each condition, a set of eight advertisements was constructed using photo editing software (Photoshop CS3). The advertisements were for products commonly featured in men's fashion and lifestyle magazines, with four advertisements for clothing and accessories (e.g., jeans and belts) and four advertisements for skincare and fragrance products (e.g., moisturiser and cologne). Eight basic templates of product position, logo and background were used across all conditions. Photographs of products (e.g., cologne bottles, items of clothing) were superimposed onto the templates for the no-model condition, and photographs of male models were superimposed onto the templates for the remaining conditions.

For the muscular condition, photographs of professional, male fashion models were superimposed onto the templates. These photographs were sourced from the websites of several leading Australian modelling agencies (e.g., *Chadwick Models* and *Chic Model Management*). The average measurements of the models in the muscular condition (Australian shirt size = medium, chest = 102cm/40 inches; waist = 81cm/32 inches), as listed on the agency websites, were comparable to those of the average Australian male fashion model[1].

As we were unable to find professional fashion models with average-slim and average-large body shapes, we took photographs of average-slim and average-large men for the purpose of this study. When styling these photographs, an effort was made to match the

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[1] Following Halliwell and Dittmar (2004), measurements of the average Australian male fashion model were calculated by averaging the chest and waist measurements of the first twenty male models featured on the website of a leading Australian modelling agency, *Chadwick Models*. The average measurements were; Australian shirt size = medium, chest = 100cm/39 inches, waist = 81cm/32inches.

models' pose and clothing to the images in the muscular model advertisements. The average

measurements of the men photographed for the average-slim condition were Australian shirt

size = small, chest = 93cm/37 inches, waist = 81cm/32 inches, while the average

measurements for the men in the average-large condition were Australian shirt size = large,

chest = 107cm/42 inches, waist = 91cm/36 inches. Figure 1 provides an example of the body

shape and size of the men included in the average-size model conditions.

In past average-size female model studies, some researchers (e.g., Halliwell &

Dittmar, 2004) attempted to control for attractiveness and facial expression by digitally

stretching the bodies of ultra-thin, professional female models to create images of average-

size models. Using this technique with male models was unsuitable, as simply stretching or

reducing the model's body size would not have allowed for a realistic reduction in muscle

tone and definition. Consequently, in an attempt to control for attractiveness and facial

expression, we employed a professional graphic designer to superimpose the heads of the

professional muscular fashion models onto the bodies of the average-size men. This

technique is similar to the airbrushing and digital retouching techniques often used on models

in genuine fashion magazines (e.g., Robinson, 2009). Copies of the advertisements created

for this study can be obtained by contacting the first author.

Pilot Study. We conducted an online pilot study to check the manipulation of model

body size and muscularity, the similarity of advertisements to real magazine advertisements,

the control of model attractiveness across conditions, and whether participants believed that

the images had been digitally altered. A sample of 138 (men = 22; women = 116)

postgraduate and undergraduate psychology students, aged 17-25 years, were assigned, using

restricted randomisation with minimisation, to view one of the three model advertisement sets

featuring muscular, average-slim or average-large male models. For each advertisement, we

asked participants to complete the following four items on a 6-point Likert scale, "How

would you rate the body size of the model in the advertisement?" (1 = very thin, 6 = very large); "How would you rate the muscularity of the model in the advertisement?" (1 = not muscular, 6 = very muscular); "How similar is this advertisement to those you would find in magazines?" (1 = very dissimilar, 6 = very similar); and "How would you rate the attractiveness of the model in the advertisement?" (1 = very unattractive, 6 = very attractive). We also asked participants if they had noticed any digital alteration of the models in the images ("yes" or "no") and, if so, to describe what they had noticed. Mean ratings of body size, muscularity, ecological validity, and attractiveness were calculated for each advertisement set.

A between-groups multivariate analysis of variance showed a significant difference between the muscular and average-size model advertisements on the combined dependent variables $Wilks'$ $\lambda = 0.50$, $F(8, 264) = 13.78$, $p<.001$, partial $\eta^2 = 0.30$. Confirming the successful manipulation of body size, there was a significant univariate main effect for condition on body size, $F(2, 135) = 29.30$, $p<.001$, partial $\eta^2 = 0.30$, whereby the muscular ($M_{dif} = .59$, $p<.001$) and average-large models ($M_{dif} = .74$, $p<.001$) were rated as significantly larger than the average-slim models, but not different from each other (see Table 1 for mean scores). Also indicating the successful manipulation of muscularity between the model conditions, there was a significant main effect for model muscularity, $F(2, 135) = 37.86$, $p<.001$, partial $\eta^2 = 0.36$, with the muscular models rated as significantly more muscular than the average-slim ($M_{dif} = 1.12$, $p<.001$) and average-large models ($M_{dif} = .49$, $p<.001$). The average-large models were also perceived as more muscular than the average-slim models ($M_{dif} = .63$, $p<.001$). While all of the advertisements were rated as moderately similar to real advertisements, there was also a significant univariate main effect for similarity, $F(2, 138) = 10.23$, $p<.001$, partial $\eta^2 = 0.13$, whereby advertisements featuring muscular models were rated as more similar to real magazine advertisements than those

featuring average-slim (M_{dif} = .64, $p<.001$) and average-large models (M_{dif} = .48, $p<.01$), with no difference between the average-size model conditions. Our attempt to control for attractiveness, however, was not entirely successful; there was a significant difference between the advertisement conditions on ratings of model attractiveness, $F(2, 135) = 9.16$, $p<.001$, partial $\eta^2 = 0.12$. Specifically, the muscular models were rated as significantly more attractive than the average-slim (M_{dif} = .47, $p<.001$) and average-large models (M_{dif} = .49, $p<.001$). However, there was no significant difference in attractiveness ratings between the average-size model conditions.

A potential explanation for the difference in attractiveness ratings could be that the average-size models had heads that had been digitally superimposed onto their bodies, whereas the muscular models did not. Indeed, participants in all three conditions reported that they thought the models had been digitally altered (average-slim 76.1%; average-large 59.1%; ultra-muscular 37.5%). More specifically, 69.6% of the average-slim and 30.0% of the average-large participants reported that the models' heads had been digitally altered, compared with only 2.1% of participants in the muscular condition. However, there was no significant difference in the attractiveness ratings of those who did and did not believe the images had been digitally altered, nor between those who did and did not mention the alteration of the models' heads (results not shown). This suggests that the difference in attractiveness was not due to the digital alteration of the average-size models' heads, but rather that the difference in muscularity and body size of the models may provide a better explanation. Nevertheless, in the final study we controlled for individual ratings of model attractiveness.

Measures

Advertising effectiveness. Participants completed a 5-item Likert response measure (Halliwell & Dittmar, 2004) of their reactions to the advertisements and intention to purchase

the products advertised after exposure to each advertisement (e.g., "If this brand cost the same as the brand(s) of clothing that you normally buy, how likely would you be to purchase it on your next shopping trip?"; 1 = "unlikely" to 5 = "likely"). An overall advertising effectiveness score (men $\alpha = .92$; women $\alpha = .90$) was calculated by averaging scores for the 5 items across the eight advertisements, with higher scores reflecting greater perceived effectiveness.

Model attractiveness. To measure perceived attractiveness of the models in the advertisements, participants assigned to the muscular or average-size model conditions completed one item with a Likert response scale ("How would you rate the attractiveness of the model in the advertisement?"; 1 = "very unattractive" to 6 "very attractive"). An overall model attractiveness score (men $\alpha = .78$; women $\alpha = .67$) was calculated by averaging scores across the eight advertisements, with higher scores indicating greater perceived model attractiveness.

Body image state. To assess body image state after exposure to the advertisements, the Body Image States Scale (BISS; Cash, Fleming, Alindogan, Steadman, & Whitehead, 2002) was administered. The BISS (men $\alpha = .79$; women $\alpha = .79$; 6 items; e.g., "Right now I feel..."; 1 = "extremely dissatisfied with my appearance" to 9 = "extremely satisfied with my appearance") is suitable for research with women and men. Higher scores indicate a more positive body image state.

Internalisation of cultural beauty ideals. To assess participants' level of internalisation of the current cultural ideals of beauty, the internalisation-general subscale of the Sociocultural Attitudes Towards Appearance Scale-3 (SATAQ-3; Thompson, van den Berg, Roehrig, Guarda, & Heinberg, 2004) was administered. This subscale (men $\alpha = .91$; women $\alpha = .93$; 9 items; e.g., "I compare my appearance to the appearance of TV and movie stars"; 1 = "definitely disagree" to 5 "definitely agree") measures how much an individual

compares their own body to, and wishes to look like, people in the media. It does not contain

gender specific questions, and has suitable psychometric properties for women and men

(Karazsia & Crowther, 2008), with higher scores indicating greater internalisation of current

beauty ideals.

     Demographic questions. Participants recorded their age, height, weight, and self-

identified ethnic group. Two questions regarding exposure to of magazines were also

included ("What types of magazines do you frequently read each month? Tick as many boxes

as required"; e.g., women's lifestyle/fashion, music, fitness; "How much time do you

spending reading magazines each month"; 1 = "none" to 5 = "5+ hours").

     Open-ended questions. Participants were also invited to respond to open-ended

questions about media images and average-size models; a qualitative analysis of responses to

these questions is being prepared for separate publication.

Procedure

     Participants were recruited to an online study called "Models, Advertising and the

Media", and were informed that the study investigated consumers' opinions on

advertisements. Upon entering the study website, participants were assigned to one of the

four advertisement conditions (no-model, muscular model, average-slim model, average-

large model). Each advertisement was displayed for 30 seconds, and participants were asked

to view the advertisement carefully. After this time, participants were asked to complete four

open ended questions to ensure that they had attended to the advertisement (e.g., "please

describe the advertisement", "please describe the model in the advertisement"). They then

completed the advertising effectiveness scale and, if applicable, the model attractiveness

measures. Immediately after viewing and rating all eight advertisements, participants

completed the body image state and internalisation measures, and entered their demographic

information.

Results

Impact of Models' Body Size and Muscularity on Men's Ratings of Advertisement

Effectiveness

A one-way analysis of covariance was conducted to explore the impact of models'

body size and muscularity on men's ratings of advertising effectiveness, after controlling for

BMI. Contrary to prediction, there was a significant difference between advertisement

conditions on ratings of advertising effectiveness; $F(3, 274) = 3.79$, $p<.01$, $\eta^2 = .04$. Follow-

up pairwise comparisons with Bonferonni adjustments indicated that men rated

advertisements featuring no models ($M = 15.86$, $SD = 2.42$) as significantly more effective

than advertisements featuring muscular male models ($M = 14.40$, $SD = 2.88$, $M_{dif} = 1.46$,

$p<.01$). However, ratings of advertising effectiveness for advertisements featuring average-

slim ($M = 15.00$, $SD = 2.70$) and average-large ($M = 14.80$, $SD = 2.69$) models did not differ

from each other or from the other conditions.

Impact of Models' Body Size and Muscularity on Men's Body Image State.

Regression Analysis Overview. To investigate the impact of advertisement condition

on body image state, and the potential moderating effects of internalisation of the current

beauty ideals, three hierarchical moderated multiple regression analyses were conducted.

Because BMI was significantly correlated with body image state, mean-centered BMI scores

were entered as a covariate at Step 1. Advertisement condition was dummy coded into

orthogonal contrasts and entered at Step 2, followed by mean-centered scores for

internalisation at Step 3. Finally, interaction terms between each of the advertisement

condition contrasts and internalisation were entered at Step 4.

Each of the regression analyses was structured in the same way, but differed at Steps

2 and 4, with different advertisement contrasts and corresponding interaction terms entered to

allow for comparisons between all of the advertisement conditions. In the first regression

analysis, the average-slim model condition was nominated as the comparison group for the contrasts, to allow for the examination of differences between exposure to average-slim models and exposure to no models, muscular models and average-large models on men's body image state. Similarly, in the second regression analysis, the contrasts were restructured with the average-large condition as the comparison condition, and in the third, the contrasts were structured with the muscular condition as the comparison condition.

The first regression is reported in full below[2]. Only results pertaining to the coefficients and corresponding interaction terms of the additional, unique contrasts in the second and third regression analyses are reported, as the remaining results were identical for each analysis. Using G*Power 3 (Faul, Erdfelder, Lang, & Buchner, 2007) we also conducted a post-hoc power analysis, with a sample size of 314, an eight predictor variable equation, and an alpha level of $p < .05$. This analysis indicated that the statistical power was .36 for detecting a small effect ($f^2 = .02$), and .99 for detecting moderate ($f^2 = .15$) and large ($f^2 = .35$) effects (Cohen, 1992). Thus, there was sufficient power in the regression analyses to detect moderate and large effects, but insufficient power to detect small effects.

Results of the Regression Analyses. Table 2 presents a summary of the regression analyses, including change statistics for each step, and beta coefficients for each predictor in the final model. As predicted, BMI accounted for a significant portion of the variance in men's body image state. After controlling for BMI, exposure to the advertisements added to the variance in body image state, however, the proportion of additional variance accounted for fell short of significance (*p=.058*). Internalisation of cultural beauty ideals significantly

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[2] We also re-ran the analyses for men and women controlling for ratings of model attractiveness, by entering mean-centered model attractiveness ratings in an additional step after BMI. These analyses only involved participants in the muscular and average-size model conditions, as there were no attractiveness scores for those in the control condition. Model attractiveness did not account for further variance in body image after entering BMI for either men or women, and there were no other substantive changes in the results of the regression analyses. This suggests that any significant difference between the advertisement conditions can be attributed to variation in the model's body size and muscularity, rather than perceived model attractiveness.

accounted for further variance in men's body image state, but the addition of the interaction terms between the advertisement contrasts and internalisation did not. The final model with all predictors and interaction terms included accounted for a significant proportion of the total variation in men's body image state ($R^2 = .13$, *adjusted $R^2 = .11$*, $F(8, 305) = 5.77$, $p<.001$).

In the final model, BMI remained significantly associated with body image state after controlling for all other variables, such that increasing BMI was associated with poorer body image state. Internalisation of cultural beauty ideals was no longer a significant contributor to the variance in the final model. The significant coefficients for the average-slim vs. no model and average-large vs. no model contrasts indicated that there was a significant difference in body image state between men in the average-size model conditions and those in the no-model condition. Specifically, men exposed to advertisements featuring average-slim ($M = 6.06$) and average-large models ($M = 5.91$) reported a significantly more positive body image state in comparison to men who viewed advertisements with no models ($M = 5.49$). However, the nonsignificant coefficient for the muscular vs. no model contrast showed that this "relief effect" was not present for men in the muscular condition ($M = 5.75$). Contrary to prediction, the nonsignificant coefficients for the average-slim vs. muscular model, and average-large vs. muscular model contrasts indicated that there was no difference in body image state between men exposed to advertisements featuring average-size and muscular models. Finally, none of the interaction terms were significant, indicating that these effects were not moderated by internalisation.

Impact of Models' Body Size and Muscularity on Women's Ratings of Advertisement Effectiveness

To investigate the impact of models' body size and muscularity on women's perceptions of advertisement effectiveness, a one-way analysis of covariance was conducted,

with BMI as a covariate. In contrast to the findings for men, there was no difference between advertisement conditions on ratings of advertising effectiveness ($F(3, 220) = 1.44, p = .23$).

Impact of Models' Body Size and Muscularity on Women's Body Image State

Regression Analysis Overview. To investigate the impact of models' body size and muscularity on women's body image state, and the potential moderating effects of internalisation of current beauty ideals, another set of hierarchical moderated multiple regression analyses was conducted. The regression models were structured in the same way as the analyses for men, and included the same predictors. A post-hoc power analysis was again conducted with a sample size of 272, an eight predictor variable equation, and an alpha level of $p < .05$. This analysis indicated that the statistical power was .31 for detecting a small effect ($f^2 = .02$), and .99 for detecting moderate ($f^2 = .15$) and large ($f^2 = .35$) effects (Cohen, 1992). Again, there was sufficient power to detect moderate and large effects, but insufficient power to detect small effects.

Results of the Regression Analyses. Table 3 provides a summary of the regression analyses, including change statistics for each step, and beta coefficients for each predictor in the final model. As predicted, BMI was significantly associated with women's body image state. After controlling for BMI, exposure to the advertisements did not significantly add to the variance accounted for in body image state, but internalisation did. Finally, the addition of the interaction terms between the advertisement contrasts and internalisation did not significantly add to the variance explained in body image. The final model accounted for a significant proportion of the total variation in women's body image state ($R^2 = .32$, *adjusted $R^2 = .30$,* $F(8, 263) = 15.69, p<.001$).

In the final model, BMI and internalisation continued to explain significant proportions of the variance in body image state, such that increasing BMI and internalisation of cultural beauty ideals were associated with a poorer body image state. The significant

coefficients for the average-slim vs. no model, and the muscular vs. no model contrasts, indicated that women who were exposed to advertisements featuring average-slim ($M = 5.36$) and muscular ($M = 5.37$) models reported a significantly more positive body image state than those exposed to no models ($M = 4.84$). Women in the average-large condition ($M = 5.20$) also reported a marginally more positive body image state than those in the no-model condition, but this effect was not significant ($p = .059$). Contrary to our predictions, the coefficients for the average-slim vs. muscular model and average-large vs. muscular model contrast were not significant; there was no significant difference in body image state between women exposed to the average-size and muscular model conditions. None of the coefficients for the interaction terms were significant, suggesting that internalisation did not moderate these effects.

Discussion

This study aimed to extend the evidence base for the effects of size diversity in media imagery, by investigating the potential for using average-size male fashion models to promote positive body image among men and women, while still appealing to consumers. As hypothesised, advertisements featuring average-size male fashion models were rated by men and women as equally effective as those featuring muscular male models and no models. This finding is consistent with past research, which has found that average-size female fashion models are perceived by consumers as equally effective in advertisements as ultra-thin fashion models (Anschutz, et al., 2009; Diedrichs & Lee, 2010; Dittmar & Howard, 2004a; Halliwell & Dittmar, 2004; Halliwell, et al., 2005).

An unexpected finding, however, was that the advertisements featuring muscular models were rated by men as *less* effective than the advertisements featuring no models. Focus groups with young men have found that some men attribute male models' muscularity to an over-concern with appearance – a trait which is commonly perceived to be feminine or

homosexual, and therefore unappealing to men who subscribe to hegemonic conceptions of

masculinity (Bottamini, 2006; De Visser, Smith, & McDonnell, 2009). Thus, the young men

in this study may have attributed the models' muscularity to vanity or homosexuality,

characteristics which they may have found unpleasant or discomforting. The average-size

male models, on the other hand, may have appeared to be less concerned with their

appearance. Indeed, there was a trend for ratings of advertising effectiveness to increase with

decreasing muscularity of the models presented. These findings directly challenge industry

concerns that average-size models do not appeal to consumers, and suggest that average-size

male models can provide effective alternatives to muscular models.

Contrary to prediction, among men, exposure to average-size male models did not

result in a more positive body image state than exposure to muscular models. Furthermore,

there was no significant difference in body image state between men exposed to

advertisements featuring muscular models and men exposed to advertisements featuring no

models. While some studies have found similar null effects (e.g., Johnson, et al., 2007;

Kalodner, 1997), these findings are in contrast to the conclusions of recent meta-analyses

which found that men felt worse about their bodies after exposure to muscular images

(Barlett, et al., 2008). We propose several possible explanations for these unexpected

findings.

Firstly, the young men in this study may not have viewed the muscular fashion

models as suitable targets for upward appearance comparison. Rather, they may have

associated the muscular models with vanity, femininity and homosexuality, and dismissed

them as suitable comparison targets. To explore this further, future research could compare

the perceived suitability of different representations of men in the media (e.g., sportsmen,

whose muscularity might be attributed to more traditionally masculine characteristics) as

targets for appearance comparisons. Secondly, the level of muscularity presented by the

muscular models may not have been great enough, or their bodies not sufficiently exposed, for the young men may to experience the expected feelings of inferiority associated with the upward appearance comparison process. Indeed, the abovementioned meta-analysis, for experimental studies specifically, found that only exposure to extremely muscular bodies, judged as achievable only through steroid use, was associated with increased body image concerns (Barlett, et al., 2008). In future, studies could compare average-size models with traditional models of varying levels of muscularity, and increase the visibility of models' muscularity and body shape by using images of bare-chested men across all conditions. Alternatively, our lack of findings may have arisen from the fact that we assessed body image state globally, while other research has focused on specific body image concerns, such as muscle and body satisfaction, which may be uniquely affected by exposure to male models.

Although, among men, exposure to average-size models did not result in a more positive body image state than did exposure to muscular models, viewing average-size male models was associated with a more positive body image state than viewing no models at all. This "relief effect" is consistent with studies that have found that, for some women, exposure to average-size *female* models was associated with more positive body image than exposure to no models at all (Diedrichs & Lee, 2010; Dittmar & Howard, 2004a, 2004b; Halliwell & Dittmar, 2004; Halliwell, et al., 2005). Further research is needed to determine the underlying mechanisms for this effect; however, an explanation consistent with SCT is that men who view average-size male models in advertisements will feel similar in appearance to the models, and therefore may feel part of a group that is regarded highly for their appearance. The finding of a "relief effect" for young men provides some evidence that increasing size diversity in media imagery can promote positive body image for young men.

In contrast to our predictions, level of internalisation of cultural beauty ideals did not moderate the effect of exposure to average-size models on body image, among either men or

women. This is in contrast to similar research (e.g., Diedrichs & Lee, 2010), which found that the effect of exposure to average-size female models was moderated by internalisation among both men and women. Research into factors that moderate the impact of media exposure on men's body image is in its infancy (Hargreaves & Tiggemann, 2009), while the impact of exposure to male media images on women's body image has not been previously examined. More research, with a wider range of stimuli and respondents, may clarify this inconsistency.

To our knowledge, this is the first study to examine the effects of exposure to male fashion models on women's body image. Previous research has found that when men are exposed to ultra-thin female fashion models they experience poor body image (Aubrey & Taylor, 2009; Lavine, et al., 1999), and that, for some men, exposure to average-size female models is associated with more positive body image (Diedrichs & Lee, 2010). In the current study, however, we found no difference in body image state between women who were exposed to average-size and muscular male fashion models. Unexpectedly, however, in comparison to viewing advertisements with no models, women reported a more positive body image state after exposure to male models, regardless of their body size or muscularity, although this effect was not significant for the average-large condition. As previously mentioned, level of internalisation of cultural beauty ideals did not moderate these effects.

Past research (e.g., Hazlett & Hoehn-Saric, 2000) has shown that when women view pictures of attractive males they report increased pleasure and positive affect. Thus, one possible explanation for the "relief effect" experienced by women after exposure to male fashion models could be that viewing attractive men, regardless of size, resulted in positive feelings, which then induced positive self-evaluations of the women's own appearance. Alternatively, it could be that male fashion models do not provide appropriate appearance comparison targets for women. Indeed, SCT suggests that comparisons will have a stronger impact if the target comparison is similar (e.g., same sex) to the person making the

comparison (Festinger, 1954). While the exact mechanisms underlying this effect are not clear, it is evident that promoting size diversity in media imagery is associated with positive body image for men and women.

A major strength of this study is that it took an ecological approach to addressing mass media influence on body image. Rather than addressing this issue at the individual level by equipping consumers with the skills to resist media images, we focused on the potential effects of changing media images themselves. It has been suggested that the scope for individual-level media interventions to have a substantive and lasting impact on body image will remain limited while media images continue to reinforce a narrow and mostly unattainable ideal of beauty for men and women (Neumark-Sztainer et al., 2006). This highlights the importance of the current research, which has the capacity to provide an evidence base for recommendations for changes to media imagery.

There are some aspects of this study, however, which may prevent these findings from translating into more naturalistic settings. While we measured perceptions of advertising effectiveness with methods often used by market researchers to evaluate advertising campaigns (Joyce, 1998), it remains unclear as to whether this would translate into purchasing behaviour. Further, the average-size male model images were digitally created by merging photographs of different heads and bodies. While this allowed for greater control of facial appearance and expression between conditions, and digital manipulation is common practice in media imagery, future studies may produce more ecologically valid findings by using real, unaltered images of ultra-muscular and average-size men. It must also be noted that while our sample reflects the target age range of major Australian fashion and lifestyle magazines, it primarily consists of White Australian undergraduate psychology students and future research would benefit from recruiting a more diverse sample. Finally, our sample size, while sufficient to detect moderate and large effects, was too small to detect small effects and thus some of our non-significant findings could have changed with a larger sample.

Overall, however, this study presents the first systematic study of the impact of average-size male fashion models on men's and women's body image and advertising effectiveness. The current findings contribute to a growing evidence base for the health and advertising benefits of using average-size models in advertisements. Furthermore, the current findings provide support for calls for increased size diversity in media imagery.

Acknowledgement

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Table 1

Pilot Study: Mean scores and standard deviations for ratings of models' body size, muscularity, attractiveness and advertisement similarity to real magazine advertisements (N=138).

	Body Size		Muscularity		Similarity		Attractiveness	
	Mean	*SD*	Mean	*SD*	Mean	*SD*	M	*SD*
Muscular	3.46	0.58	4.02	0.57	4.33	0.73	4.04	0.63
Average-slim	2.87	0.39	2.90	0.55	3.69	0.62	3.57	0.63
Average-large	3.61	0.47	3.53	0.73	3.86	0.78	3.56	0.61

Table 2

Men: Hierarchical moderated regression analyses examining the impact of model size and internalisation on men's body image state.

Step and variable	b	β	t	95% Confidence Interval for b		sr^2	R^2	$AdjR^2$	ΔR	df	ΔF
				Lower	Upper						
Step 1							.06	.05	.06	1,312	18.99***
Body Mass Index	-.09	-.23	-4.26***	-.14	-.05	.05					
Step 2							.08	.07	.02	3, 309	2.52
Average-slim vs. No Model Contrast (ASNC)	-.57	-.20	-3.01**	-.94	-.20	.03					
Average-slim vs. Muscular Contrast (ASMC)	-.31	-.10	-1.57	-.69	-.08	.01					
Average-slim vs. Average-larger Contrast (ASALC)	-.15	-.05	-.79	-.52	.22	.00					
Average-larger vs. No Model Contrast (ALNC)	-.42	-.15	-2.25*	-.78	-.05	.01					
Average-larger vs. Muscular Contrast (ALMC)	-.16	-.05	-.82	-.53	.22	.00					
Muscular vs. No Model Contrast (MNC)	-.26	-.09	-1.38	-.64	.11	.01					
Step 3							.12	.10	.04	1, 308	12.21***
Internalisation (Int)	-.20	-.15	-1.33	-.48	.09	.01			.		
Step 4							.13	.11	.02	3,305	1.93
ASNC x Int	-.29	-.12	-1.46	-.67	.10	.01					
ASMC x Int	.20	.07	.93	-.23	.63	.00					
ASALC x Int	-.05	-.02	-.25	-.45	.35	.00					
ALNC x Int	-.24	-.10	-1.22	-.62	.15	.00					
ALMC x Int	.25	.08	1.18	-.17	.68	.00					
MNC x Int	-.26	-.09	-1.38	-.90	-.08	.01					

*p<.05 **p<.01 ***p<.001.
[a]Reported B, β, t, sr^2 are from the final model.

[b]ALNC, ALMC and MNC contrasts and their interaction terms are from separate but identically structured regression analyses, with corresponding dummy codes entered at Step 2 and 4.

Table 3

Women: Hierarchical moderated regression analyses examining the impact of model size and internalisation on women's body image state.

Step and variable	b	β	t	95% Confidence Interval for b		sr^2	R^2	$AdjR^2$	ΔR	df	ΔF
				Lower	Upper						
Step 1							.13	.13	.13	1,270	39.98***
Body Mass Index	-.15	-.35	-6.73***	-.19	-.10	.12					
Step 2							.15	.13	.02	3, 267	1.79
Average-slim vs. No Model Contrast (ASNC)	-.52	-.17	-2.65**	-.91	-.14	.02					
Average-slim vs. Muscular Contrast (ASMC)	.01	.00	.03	-.38	.39	.00					
Average-slim vs. Average-larger Contrast (ASALC)	-.16	-.06	-.87	-.53	.21	.00					
Average-larger vs. No Model Contrast (ALNC)	-.36	-.11	-1.90	-.74	.01	.01					
Average-larger vs. Muscular Contrast (ALMC)	.17	.05	.89	-.20	.54	.00					
Muscular vs. No Model Contrast (MNC)	-.53	-.17	-2.66**	-.92	-.14	.02					
Step 3							.32	.31	.18	1, 266	68.92***
Internalisation (Int)	-.63	-.44	-4.23***	-.92	-.34	.05			.		
Step 4							.32	.30	.00	3,263	.16
ASNC x Int	-.01	-.01	-.07	-.42	.40	.00					
ASMC x Int	.12	.04	.57	-.30	.55	.00					
ASALC x Int	.02	.01	.10	-.38	.42	.00					
ALNC x Int	-.03	-.01	-.17	-.43	.36	.00					
ALMC x Int	.10	.03	.50	-.30	.51	.00					
MNC x Int	-.14	-.05	-.64	-.51	.30	.00					

**p<.01 ***p<.001

[a]Reported B, β, t , sr^2 are from the final model.
[b]ALMC, ALMC and MNC contrasts and their interaction terms are from separate but identically structured regression analyses, with corresponding dummy codes entered at Step 2 and 4.