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The Effect of Aesthetic Versus Process Images on Men’s Body Satisfaction

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Abstract

Media research has found that brief exposure to idealized images can negatively affect men’s body satisfaction. However, there has been little variation in the types of images previously used in research. This study aimed to test the predictions of body conceptualization theory by comparing the effects of idealized images that focus on aesthetic (‘body-as-object’; BAO) or functional (‘body-as-process’; BAP) dimensions. It was expected that BAO images would have greater negative effects than BAP or neutral images. Men \((N = 125)\) were randomly assigned to view images representing BAP, BAO, or scenery. They completed pre- and multiple post-test measures of state mood and body satisfaction as well as trait measures of body image. The results showed that exposure to the BAP images resulted in lower levels of fitness and overall appearance satisfaction than the other conditions, with the differences in fitness satisfaction sustaining 5 minutes post-exposure. Furthermore, of the trait measures, fitness orientation and drive for muscularity emerged as important predictors in the BAP condition. These results suggest that men may find images of male models engaged in sports more natural or desirable than posed models, which in turn elicits greater negative self-evaluations. Additionally, investment in fitness may serve as a protective factor against negative media effects.

Keywords: body-as-process, body-as-object, men, media, body image
The Effect of Aesthetic Versus Process Images on Men’s Body Satisfaction

Sociocultural theory identifies the media as an important factor in contributing to an individual’s body satisfaction (Fallon, 1990). The media often presents an ideal body shape for men that is lean but characterized by high muscle definition, with a well-developed upper body and a slim waist, hips, and buttocks (Hargreaves & Tiggemann, 2006, 2009; Morrison, Morrison, & Hopkins, 2003). The pervasiveness of these images may foster an expectation that this body shape is normative, desirable, and masculine. However, the media-prescribed idealized body shape can be difficult to achieve for most men (Leit, Gray, & Pope, 2002) and has been suggested to trigger a range of negative outcomes such as body dissatisfaction, muscle dysmorphia (Olivardia, Pope, & Hudson, 2000) and eating disorders (Botta, 2003).

A muscular body shape is considered desirable by men as it is often believed that “muscularity reflects masculinity” (Nikkelen, Anschutz, Ha, & Engels, 2012, pg. 308-309). In a qualitative analysis, men claimed that muscularity was associated with a range of social benefits (such as being attractive to women and being a sign of success), mental and physical health benefits, and was a way of demonstrating masculinity (Morrison et al., 2003). In addition to a drive for muscularity, men’s body image is recognized to consist of other independent components such as weight dissatisfaction and height dissatisfaction (e.g., Bergeron & Tylka, 2007). Men may therefore experience multiple forms of body dissatisfaction. For example, Cafri, Strauss, and Thompson (2002) reported that their male sample on average desired an additional 14.96 pounds of muscle mass and to either lose 8% or gain 5.33% more body fat. Muscularity dissatisfaction in turn was associated with more depressive symptoms, lower life satisfaction, and lower self-esteem. As such, a greater understanding of the factors that trigger male body dissatisfaction is warranted.

Idealized images in the media are recognized as an important external trigger of body dissatisfaction (Mulgrew, Volcevski-Kostas, & Rendell, 2013). The typical methodology
used in media research is to briefly present idealized images to participants and measure changes in body satisfaction from pre- to post-exposure or compare post-exposure responses across muscular, average, and/or non-appearance conditions. Using this methodology, research has shown that exposure to muscular and attractive male models negatively affects various dimensions of body satisfaction (Bartlett, Vowels, & Saucier, 2008; Blond, 2008). Experimental studies have found these effects across multiple mediums, including print ads (Diedrichs & Lee, 2010; Hobza & Rochlen, 2009), television commercials (Agliata & Tantleff-Dunn, 2004; Hargreaves & Tiggemann, 2009), and music video clips (Mulgrew & Volcevski-Kostas, 2012). Although these variations in medium have not produced great differences in results (Bartlett et al., 2008), it is less clear how variations within these media types affect outcomes. Most research to date has used images that focus on the aesthetic qualities of the model. However, Franzoi (1995) proposed that people can conceptualize the body in two ways: body-as-process (BAP) or body-as-object (BAO). Those with a BAP orientation would focus on the instrumentality of muscles, such as for strength or healthy functioning. Those with a BAO orientation would focus on the aesthetic value of their body’s elements, such as the level of attractiveness or shape of certain features. Franzoi argued that evolution has favoured men who attend to instrumental functions of the body, such as agility or muscular strength. However, more recently, Farquhar and Wasylkiw (2007) showed that male models were being increasingly presented in a BAO fashion in the popular men’s magazine Sports Illustrated. They highlighted that this increased focus on the aesthetic features of male models has coincided with rising men’s body image concerns.

It is important to consider the differences between aesthetic versus process media representations as they may differentially affect body satisfaction in viewers (Wasylkiw, Currie, Meuse, & Pardoe, 2010). Although body conceptualization theory was designed to explain the changing nature of masculine representations, the differential effects of viewing
aesthetic versus process images has only been tested in early adolescent boys ($N = 107$, age $M = 12.51$ years, $SD = 1.04$; Farquhar & Wasylkiw, 2007). In their study, BAO images were defined as those where the male body was shown with lower levels of activity and eye contact, and higher levels of posing, nudity, fragmentation (e.g., when head is excluded), and object representation (e.g., taking the form of an advertised product). BAP images were defined as those with higher levels of activity and eye contact, and lower levels of posing, nudity, fragmentation, and object representation. Boys who were exposed to BAO images had lower performance and appearance self-esteem and more depressive symptoms compared with those exposed to the BAP or neutral images. That is, boys who viewed images of models with a focus on the aesthetic qualities reported the most negative effects. Boys who viewed the BAP images actually had higher social self-esteem and fewer depressive symptoms than those who viewed the neutral images. Farquhar and Wasylkiw suggested that the BAP images could distract viewers from making appearance comparisons, thus mitigating a drop in body satisfaction. These findings suggest that negative effects after viewing media images may stem from the way in which the models are presented rather than mere exposure to attractive and muscular images. To date, there has been no test of body conceptualization theory in adult men and therefore the present study’s aim was to expand the literature in this area.

Research has pointed to the importance of considering preexisting body image concerns in determining whether males will show reduced body satisfaction after exposure to idealized images (e.g., Arbour & Martin Ginis, 2006). In her 2008 meta-analysis, Blond noted that moderation effects were found in four of the six experimental studies that examined the effects of the media (i.e., Arbour & Martin Ginis, 2006; Halliwell, Dittmar, & Orsborn, 2007; Hausenblas, Janelle, Gardner, & Hagan, 2003; Humphreys & Paxton, 2004). Men who reported higher body or muscle dissatisfaction, greater muscular ideal internalization, and poor exercise habits were at the greatest risk for body dissatisfaction.
This study therefore examined whether the constructs of muscle dissatisfaction, internalization, and importance of fitness would predict post-test exposure scores.

A final contribution of this study is the consideration of short-term sustained effects of image exposure. Most previous research has focused on immediate changes to body satisfaction and therefore little is known about the temporal stability of the effects (Lorenzen, Grieve, & Thomas, 2004). In one of the few studies to include multiple post-test measures, Hargreaves and Tiggemann (2003) found that body dissatisfaction was still evident 15-minutes later in adolescent girls who had viewed commercials emphasizing the thin ideal. More research is needed to establish whether males show sustained negative effects after viewing idealized images and in particular, images that focus on aesthetic versus performance components (Farquhar & Wasylkiw, 2007). This study therefore included an immediate and a second, short term post-test measure.

In sum, there is now reasonable evidence to suggest that exposure to muscular and attractive models in the media can have detrimental outcomes to viewers’ body satisfaction and mood. However, there is limited research that has considered how body conceptualization can alter these outcomes (Farquhar & Wasylkiw, 2007), and the longevity of any effects (Lorenzen et al., 2004). This study aimed to contribute to the literature by examining the immediate and short-term effects (i.e., 5-minutes post-exposure) of aesthetic (i.e., BAO) versus process (i.e., BAP) media representations on body satisfaction and mood. In addition, we tested whether drive for muscularity, athletic internalization, and importance of fitness were predictive of negative outcomes. The first hypothesis predicted that men exposed to the BAO images would report poorer body satisfaction and poorer mood than men exposed to BAP or neutral images. The second hypothesis predicted that these effects would be sustained at five minutes post-exposure. The third hypothesis predicted that higher levels
of drive for muscularity, fitness importance, and athletic internalization would predict greater post-test body dissatisfaction and poorer mood in both the BAP and BAO conditions.

Method

Participants

A convenience sample of men \( N = 125 \) was recruited from an Australian regional university via an all-student email containing a link to the study. An a priori power analysis showed that a minimum sample size of 51 was needed to detect a medium effect size with an alpha of .05 and power of 0.95 using a MANOVA-based design, and therefore the current sample size is considered sufficient. We chose to focus on adult men in general rather than a particular age range given the exploratory nature of the study and to maximise sample size. The age range was broad and varied from 18 to 64 years \( (M = 29.51 \text{ years}, SD = 11.74) \), with 48% of the sample being 23 years old or younger. Body Mass Index (BMI) ranged between 18.10 and 36.80 \( (M = 25.87, SD = 3.40) \). Most participants were Caucasian (93.6%).

Materials

Visual stimulus material. The media images were gathered from current editions of Australian men’s health magazines (e.g., Men’s Health, Exercise Health). Image selection was guided by the criteria for BAP and BAO images outlined in previous research (Farquhar & Wasylkiw, 2007). Criteria for images in the BAO condition included fragmentation of the image (i.e., a focus on a particular body area), high levels of bare body exposure, low levels of activity, and high levels of posing. That is, the aesthetic quality of the body was emphasized. BAP images were sought according to the follow criteria: male models demonstrating function of the body, appearing agile and healthy, engaged in activity, with a focus on strength and fitness, and lower fragmentation and body exposure. Advertisements were not included in the images. Images in the neutral condition were of landscapes with no humans present in the frame.
Two members of the research team initially selected a set of 30 images that were then
crated by four participants blind to the study’s purpose. Using a 1-5 scale, participants rated
each image on the level of musculature and attractiveness. Additionally, the raters were
provided with a brief description of the criteria for BAP and BAO conditions and asked to
rate how well the image matched the description. The seven images that received the highest
ratings on attractiveness, musculature, and consistency with the criteria were included in the
final experiment. Significant inter-class correlations demonstrated consistency in the four
raters’ responses across the BAO and BAP conditions for match to criteria (.72, .93),
musculature (.84, .90), and attractiveness (.97, .98).

**State mood and body dissatisfaction.** Six visual analogue scales (VAS; Heinberg &
Thompson, 1995) were used to assess participants’ state level of mood and body satisfaction
(anger, depression, confidence, physical fitness satisfaction, musculature satisfaction, and
overall appearance satisfaction). Participants were asked to rate their current mood and
satisfaction with each dimension of body image on a 100 millimetre line with two polar
statements placed on each end of the line, for example *unsatisfied* and *satisfied*. Participants
were asked to place a tick along the line that best indicated how they currently felt regarding
each question, with higher scores indicating greater body satisfaction and higher negative
affect. VAS measures are commonly used in media research and are quick to complete while
being sensitive to small changes in body satisfaction and mood states (Hargreaves &
Tiggemann, 2002). They have been shown to correlate significantly with longer, more
comprehensive measures of mood and body satisfaction (Heinberg & Thompson, 1995).

**Trait body image.** The Fitness Orientation subscale of the Multidimensional Body-
Self Relations Questionnaire (MBSRQ; Cash, 2000) was used to assess the importance of
fitness. Participants responded to the 13 questions on a 5-point Likert scale ranging from
definitely disagree to definitely agree. High scores indicate a greater value placed on fitness
and involvement in fitness-promoting activities. The MBSRQ has been validated for use in male samples. The Fitness Orientation subscale has a Cronbach’s alpha of .91 indicating high internal consistency (Cash, 2000). The MBSRQ has been used extensively in past research and has strong psychometric properties. In the current study, the subscale had a Cronbach’s alpha of .91.

The Athletic Internalization subscale from The Sociocultural Attitudes Towards Appearance Questionnaire–3 (SATAQ-3; Thompson, Van den Berg, Roehrig, Guarda, & Heinberg, 2004) served as a measure participants’ acceptance of cultural ideals surrounding attractiveness. In particular, the 5-item subscale assesses endorsement and acceptance of an athletic body ideal. Recent research has suggested that the internalization-athletic and internalization-general are separate constructs (Karazsia & Crowther, 2008) and that internalization of the athletic ideal may be a stronger predictor of muscularity concerns than general internalization (Karazsia & Crowther, 2009). Therefore, only the athletic internalization subscale was used. Questions were assessed on a 5-point Likert scale ranging from definitely agree to definitely disagree where higher scores indicate a greater internalization of the sociocultural stereotype of attractiveness and ideals of muscularity. The Cronbach’s alpha for this subscale have been reported as appropriate at .85 when used in male samples (Karazsia & Crowther, 2008) and was .90 in the current study.

The 15-item Drive for Muscularity scale (DMS; McCreary & Sasse, 2000) was used to assess participants’ attitudes, motivations and behaviours associated with increasing muscularity. All of the DMS items are scored on a 6-point scale, ranging from never to always. Higher total scores indicate a greater preoccupation or drive for muscularity. DMS scores have been found to be positively associated with other indices of masculinity (McCreary, Saucier, & Courtenay, 2005), and studies have produced Cronbach’s alphas of
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.91 and .87 (Duggan & McCreary, 2004; Hobza & Rochlen, 2009). A Cronbach’s alpha of .90 was found in the current study.

**Demographic form.** Participants provided self-reported information on current age, height, weight, and ethnicity.

**Distracter tasks.** The first distracter was a word-stem completion task (Tiggemann, Hargreaves, Polivy, & McFarlane, 2004) which was presented after the first post-test VAS ratings. The task consisted of 20, three letter word stems that participants were asked to complete (results not reported here). This task was self-paced and took approximately 5 minutes. The second distracter task was presented to participants immediately after the second post-test VAS. Participants were given a list of 34 magazine titles (e.g., *Australian Men’s Health, Readers Digest*) and were asked to indicate how often they read that magazine using a 4-point scale (*not familiar with to read regularly*) for each magazine title. This task also took about 5 minutes to complete and served to briefly distract participants before receiving the trait questionnaires. The time frame for the distracter tasks was chosen with the aim of being long enough to distract participants from further processing of the images but short enough to minimise total participation time.

**Procedure**

Ethical approval for this study was granted from the Human Research Ethics Committee at the home institution. Participants were invited to take part in an online study examining men’s health but were not informed of the full nature of the study in order to reduce demand characteristics, where participants may guess the study’s purpose and modify their responses accordingly to appear more or less affected by the images. A randomized controlled design was used wherein participants were randomly assigned to either of the experimental conditions (BAO or BAP) or the control condition (scenery). Participants’ experience across all other stages of the study was identical. The online data collection tool
(Survey Monkey) allowed for random and equal allocation of participants into the three image conditions. Upon entering the survey, each participant had a 33.33% chance of being assigned to each of the three conditions and were unaware of their allocation. Participants first completed the pre-test VAS followed by a slideshow presentation of the images. The seven images in each condition were presented for 30 seconds, giving a total exposure time of 3.5 minutes. To ensure participants viewed the entire video, they were instructed to remember a single-digit number that was briefly presented toward the end of the video. Participants who failed to recall the number were excluded from the final analyses.

Immediately following the presentation, participants were asked to complete the first of the post-test VAS. Participants then completed a filler task followed by the second post-test VAS, approximately 5 minutes after image exposure. A second distracter task was then used to shift participants’ focus away from the visual stimuli before they completed the trait scales (Fitness Orientation, Drive for Muscularity, and Athletic Internalization) and the demographics form. Total participation time was approximately 30 minutes.

**Results**

**Preliminary Analyses**

All variables were relatively normally distributed (assessed visually and statistically) apart from the mood VAS scores. A variety of transformations were applied however these did not change the outcome of the analyses so the original scores were retained for ease of interpretation (Tabachnick & Fidell, 2001). All cases with missing data were removed and no univariate or multivariate outliers were noted. Additional assumptions required for the MANCOVA were examined and revealed no breaches to multicollinearity or homogeneity of variance. Box’s $M$ test was significant for the immediate and delayed body satisfaction variables indicating a breach of the homogeneity of covariances assumption. Given that the sample sizes were approximately equal between groups ($n = 43, 43, and 39$), and the Box’s $M$
test is notoriously sensitive, MANCOVA is considered robust to the violations of this assumption (Tabachnick & Fidell, 2001). All assumptions for the hierarchical multiple regression were met (linearity, normality, and homoscedasticity).

A series of analyses of variance (ANOVA) showed that the three conditions did not differ significantly on BMI or any of the pre-test measures of mood, confidence, or body satisfaction (all $p > .05$). The groups were therefore considered equivalent prior to image exposure.

**Immediate Effects on Body Image and Mood**

Two multivariate analyses of covariance (MANCOVA) were used to test for differences between the three groups on post-test body satisfaction and mood. The independent variable was the image condition (BAO, BAP, and neutral), the dependent variables were the post-test VAS scores, and the covariates were the respective pre-test VAS scores. Significant univariate effects were followed up by pairwise comparisons with a Bonferroni adjustment ($.05/3 = .017$) to control for the family wise error rate. Cohen’s $f$, calculated using G*Power, was used as a measure of effect size where values of 0.1, 0.25, and 0.40 are considered small, medium, and large effect sizes respectively (Faul, Erdfelder, Lang, & Buchner, 2007). Table 1 shows the covariate-adjusted post-test means.

The four body image variables of confidence and satisfaction with overall appearance, muscle tone, and fitness were entered as multiple dependent variables. The overall MANCOVA was significant, $F(4, 116) = 4.10, p = .004, \eta^2 = .12$, indicating that the groups differed on the linear combination of dependent variables. Inspection of the univariate effects showed that the groups differed on satisfaction with overall appearance, $F(2, 118) = 4.32, p = .01, f = .26$, with pairwise comparisons showing that participants in the BAP condition reporting lower levels of overall appearance satisfaction than the participants in the neutral condition ($p = .005$). A significant univariate effect was found for satisfaction with fitness,
F(2, 118) = 6.44, p = .002, f = .32, wherein the BAP group had significantly lower fitness satisfaction scores than both the BAO (p = .004) and neutral (p = .002) conditions. No significant group differences were found for confidence, F(2, 118) = 1.60, p = .20, or satisfaction with muscle tone, F(2, 118) = 1.55, p = .21.

The mood variables of depression and anger were entered as multiple dependent variables into a second MANCOVA, which was not significant, F(2, 120) = 2.89, p = .06, η² = .03. This result suggests that the three groups did not differ on post-exposure mood.

**Delayed Effects on Body Image and Mood**

To determine the longevity of the exposure effects, a second set of MANCOVAs were conducted on the post-test VAS scores, which were collected approximately 5 minutes after viewing the images. As per the previous set of analyses, the independent variable was the image condition (BAO, BAP, and neutral), the dependent variables were the 5-minute post-test VAS scores, and the covariates were the respective pre-test VAS scores.

For the body image variables, the overall MANCOVA was significant, F(4, 116) = 2.49, p = .04, η² = .08. A significant univariate effect was noted for fitness satisfaction, F(2, 118) = 3.96, p = .02, f = .26, with the BAP group reporting significantly lower fitness satisfaction compared to the neutral group (p = .014). No significant group differences were found for overall appearance satisfaction, F(2, 118) = 0.62, p = .53, confidence, F(2, 118) = 1.10, p = .33, or muscle tone satisfaction, F(2, 118) = 1.21, p = .29. For the mood variables, the overall MANCOVA was not significant, F(2, 120) = 1.25, p = .32, η² = .01.

**Predictors of Post-Test Body Satisfaction**

A series of hierarchical multiple regressions were conducted to test whether the trait body image variables could account for variability in the post-test body satisfaction and mood VAS scores. Analyses were conducted separately for the BAO and BAP conditions across the
four body image and two mood VAS. In each analysis, the pre-test VAS was entered in Step 1 followed by the trait measures (fitness orientation, drive for muscularity, and internalization of athletic ideal) in Step 2. Table 2 provides the standardized and unstandardized beta coefficients.

**Body-as-object.** For all of the body image dimensions, the pre-test VAS scores were significant predictors of their respective post-test VAS scores. However, the addition of the trait variables in Step 2 did not add any additional predictive ability in post-test fitness satisfaction ($R^2 = .68, F_{change} (3, 38) = 1.86, p = .15$), confidence ($R^2 = .24, F_{change} (3, 38) = 1.14, p = .34$), overall appearance satisfaction ($R^2 = .53, F_{change} (3, 38) = 0.58, p = .63$), or muscle satisfaction ($R^2 = .55, F_{change} (3, 38) = 0.28, p = .83$).

For the mood dimensions, the pre-test scores were also significant predictors of their respective post-test scores. The addition of the trait measures in Step 2 did not add significant predictive ability to post-test anger ($R^2 = .69, F_{change} (3, 38) = 1.90, p = .14$) but added a significant 7.80% for depression ($R^2 = .72, F_{change} (3, 38) = 3.59, p = .02$). A greater drive for muscularity and lower athletic internalization were associated with higher post-test depression scores after viewing the BAO images.

**Body-as-process.** Again, all pre-test VAS scores were significant predictors of their respective post-test VAS scores in Step 1. The addition of the trait variables in Step 2 added significant predictive ability to the model for all of the body image dimensions.

Post-exposure satisfaction with fitness was significantly predicted by the combination of trait measures in Step 2, $R^2=.74, F_{change} (3, 38) = 8.33, p =.001$, accounting for an additional 16.50% of the variability. Greater fitness orientation and lower drive for muscularity were significant unique predictors of higher satisfaction with fitness after exposure to the BAP images.
For confidence, the addition of the trait measures in Step 2 added a significant 19.50% to the prediction of post-exposure confidence, $R^2 = .45$, $F_{change} (3, 38) = 4.55$, $p = .008$. A greater importance placed on fitness was predictive of higher confidence scores after viewing the BAP images.

When predicting post-exposure overall appearance satisfaction scores, the combination of trait measures added an additional 18.10% variability at Step 2, which was significant, $R^2 = .68$, $F_{change} (3, 38) = 7.23$, $p = .001$. Greater fitness orientation was predictive of higher post-VAS body satisfaction.

Finally, when predicting post-exposure muscle tone satisfaction, the combination of trait measures added an additional 15.80% variability at Step 2, which was significant, $R^2 = .64$, $F_{change} (3, 38) = 5.62$, $p = .003$. Both fitness orientation and drive for muscularity were significant unique predictors, meaning that greater importance placed on fitness but lower dissatisfaction with muscularity were predictive of higher satisfaction with muscle tone after viewing the BAP images.

For the two mood dimensions, the Step 1 pre-test VAS and the Step 2 trait measures were significant. For depression, the trait measures added an extra 24.40%, which was significant, $R^2 = .51$, $F_{change} (3, 38) = 3.59$, $p = .02$. For anger, the trait measures added an extra 15.20% predictive ability, which was significant, $R^2 = .42$, $F_{change} (3, 38) = 3.32$, $p = .03$. A lower fitness orientation was predictive of greater anger and depressive feelings after viewing the BAP images.

**Discussion**

Although it has been shown that the media exerts a fairly reliable effect on men’s body image (Bartlett et al., 2008; Blond, 2008), previous research has been limited in the type of images used. There is an increasing focus on the aesthetic components of male models.
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(Morrison et al., 2003), or what Farquhar and Wasylkiw (2007, p. 148) termed the “growing commercial value of man’s aesthetic appeal”. Therefore, we sought to directly test the immediate and short-term effects of idealized images that focus on the aesthetic (BAO) versus process (BAP) dimensions of the model’s body, in accordance Franzoi (1995) and Farquhar and Wasylkiw’s (2007) frameworks. Collectively, the results suggest that the two bodily representations have different outcomes for male viewers.

The first hypothesis examined whether post-test mood and body satisfaction would be lower in men who viewed the BAO images compared to men who viewed the BAP or neutral images. This hypothesis was not supported as participants who viewed the performance-focused images actually reported poorer overall appearance satisfaction and poorer fitness satisfaction than participants who were exposed to the aesthetic-focused images or scenery. That is, the results were opposite than expected. There were no group differences in level of confidence, muscle tone satisfaction, or mood. A number of explanations for these findings are possible. First, the experimental manipulation of BAO / BAP images has only been previously conducted with adolescent boys (Farquhar & Wasylkiw, 2007). In this study, boys who viewed the BAP images had higher social, performance, and appearance self-esteem than boys who viewed the BAO images. The difference in results may therefore reflect some type of developmental-related shift in image processing, as the age difference between the two studies was quite large (mean ages = 12.51 vs 29.51 years). Indeed, previous research has found that effects of the media are stronger for older versus younger males (Bartlett et al., 2008), perhaps because young boys anticipate an increase in body size that accompanies puberty (Hargreaves & Tiggemann, 2006). It would be of value to directly test age-related changes in the processing of aesthetic and process oriented images. Second, we included a VAS measure of fitness satisfaction which has not been used previously in such studies with men. Given that the BAP images were specifically focused on models engaged in active
stances, the inclusion of the fitness satisfaction measure directly relates to one of the key themes in the image. Third, it is interesting to note that effects were found for the global body satisfaction measure but not the specific measure of muscle tone satisfaction. It is possible that BAP images elicit more holistic processing. Franzoi (1995) argued that BAO orientations involve evaluating the body in parts whereas BAP orientations involve considering the body as a whole. It could be that BAP images distract men from making specific comparisons (to muscularity) and instead focus on the global level of the models’ appearance. A final explanation is that BAP images may present as more ‘real’ or relatable than BAO images. For some, posing in BAO images may appear vain or unnatural regardless of how much the image represents the ideal physique. In comparison, process-oriented images focus on males performing traditionally masculine activities that viewers themselves may consider undertaking. This explanation could be taken to support social comparison theory in that individuals are most affected by comparisons with similar others (Festinger, 1954).

Hypothesis two regarding the short-term effects of exposure was partially supported. Approximately five minutes after viewing the images, the levels of fitness satisfaction in the BAP group were still significantly lower than in the scenery condition. However, the difference between the conditions on overall appearance satisfaction that was found at the immediate follow up, was not observed at the 5-minute follow up. These findings indicate that negative effects for some body image dimensions are not transient and may persist for at least a few minutes post-exposure. This finding provides a useful contribution to the existing literature as previous research has only examined the immediate effects of media images on men’s body satisfaction. Research on the effects of thin-ideal commercials on adolescent girls has found that negative effects can persist for up to 15 minutes post-exposure (Hargreaves & Tiggemann, 2003); therefore it may be useful for future research to extend the timeframe of post-test measures. The inclusion of a second post-test measure serves as a preliminary step.
in addressing the longevity of exposure effects (Lorenzen et al., 2004). It would also be useful for future research to examine the effects of repeated exposure to idealized images. Media research typically only presents images for a short period of time (a few minutes) in one sitting despite calls for more research into long-term effects of media exposure (e.g., Agliata & Tantleff-Dunn, 2004). It could be argued that daily exposure over a number of years could compound any negative outcomes and create an expectation that high levels of muscularity and attractiveness are normative (e.g., Grabe, Ward, & Hyde, 2008). Indeed, correlational studies have shown that greater exposure to the media is associated with a range of negative psychological and behavioral outcomes in men (Barlett et al., 2008) and both direct and indirect effects on eating disorder symptoms in women (Stice, Schupak-Neuberg, Shaw, & Stein, 1994). Greater use of longitudinal and laboratory methods could ascertain whether regular exposure leads to greater body dissatisfaction.

The third hypothesis, that drive for muscularity, internalization, and fitness orientation would predict post-test exposure scores, was partially supported. The only relationship to emerge in the BAO condition was for depression, wherein a stronger drive for muscularity and lower athletic internalization was associated with greater depression after viewing the posed models. A number of patterns emerged in the BAP condition. For all of the body satisfaction, confidence, and mood measures, the combination of the trait measures significantly predicted post-test VAS scores. In particular, fitness orientation emerged as the most important protective factor for all VAS dimensions. That is, greater feelings of and importance placed on fitness were associated with higher fitness satisfaction, higher confidence, higher overall body satisfaction, higher muscle tone satisfaction, less anger and less depression after viewing the process-oriented images. It may be that men who place importance on fitness take inspiration from seeing images of active, muscular males and view the images as an attainable goal to work towards (Schooler & Ward, 2006). A higher drive
for muscularity emerged as a significant vulnerability factor and was associated with lower post-test feelings of fitness satisfaction and lower muscle tone satisfaction. This finding converges with previous research that shows that a greater desire for muscularity is associated with poorer body image outcomes (e.g., Arbour & Martin Ginis, 2006; Hausenblas et al., 2003; Humphreys & Paxton, 2004). Future research may want to consider the inter-relationship between desire for muscularity and importance placed on fitness and in particular, test the role of fitness orientation as a protective factor. Australian research (Paxton & Phythian, 1999) has found that fitness orientation was positively correlated to self-esteem in middle-aged and older males (but interestingly, not females) alluding to the importance of health promotion variables to men’s sense of self.

A number of limitations should be acknowledged. The control condition included neutral images (scenery) rather than images containing males with low muscularity or average appearance. Ferguson (2013) argued that this approach has less internal validity as fewer factors are controlled between conditions (i.e., the presence of a human figure). However, our primary comparison of interest was the body representation (i.e., BAP and BAO) rather than idealized versus non-idealized representations. Another potential limitation is that only a five-minute distractor task was included between the image exposure and the completion of the trait questionnaires. Although this procedure has been used previously (Hargreaves & Tiggemann, 2009), it would have been ideal to collect the trait measures independently from the state measures. Another limitation, as Farquhar and Wasylkiw (2007) acknowledged, is that different models were used in the BAP and BAO conditions. Although the two conditions were rated as being similar on attractiveness and muscularity of the models, the use of the same models in both conditions would serve as a stronger control. Finally, it should be noted that the images were selected to meet most but not all of the body conceptualization criteria Farquhar and Wasylkiw (2007) identified. For example, we did not
include advertisements for products in any image as it has been recently suggested that a focus on the advertisement effectiveness may detract viewers from focusing on the appearance content of the images (Mulgrew et al., 2013). Finally, the small sample size of the study \((N = 125)\) and in particular the pilot study \((N = 4)\) may reduce the generalizability of the findings. Repetition of the study with a larger sample size is recommended.

Despite these limitations, this study provides a useful preliminary examination of body conceptualization theory in adult men. Although more research is needed, these findings add to the evidence-base which shows that idealized images in the media can produce negative outcomes for men. In particular, the findings suggest that exposure to males with idealized bodies engaged in traditionally masculine pursuits may elicit the most negative self-evaluations. An increased understanding of the triggers of male body dissatisfaction can inform public health interventions aimed to reduce such negative effects. For example, recent research on women has examined the effectiveness of warning labels that draw attention to the photographic modifications in magazine images (Slater, Tiggemann, Firth, & Hawkins, 2012; Tiggemann, Slater, Bury, Hawkins, & Firth, 2013). While the findings have been mixed, this research still presents a useful examination of the mechanisms through which the harmful effects of idealized image exposure can be reduced. As idealized images of men become more common and, importantly, the focus shifts to presenting the body as an object, researchers and clinicians may need to consider implications for men’s health and views of masculinity. The dominant and glorified representation of a male body shape that is lean yet muscular may contribute to the idea that muscularity equates masculinity. If muscularity is seen as having a number of beneficial outcomes (e.g., Morrison et al., 2003) and is closely associated with concepts of masculinity (e.g., Nikkelen et al., 2012), then researchers and clinicians need to be mindful of the potential negative psychological and physical outcomes that may be associated with muscle dissatisfaction (see Parent, 2013).
In summary, the results suggest that not all male idealized images are processed in the same manner and that important differences exist between aesthetic and process-oriented representations. Future research is needed to replicate these findings in men and specifically explore age-related differences.
References


Table 1

*Mean Levels of Immediate and Delayed Post-Test Body Image and Mood VAS Scores Across Image Conditions.*

<table>
<thead>
<tr>
<th>Condition</th>
<th>BAO (n = 43)</th>
<th>BAP (n = 43)</th>
<th>Neutral (n = 39)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SE</td>
<td>M</td>
</tr>
<tr>
<td>Overall appearance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post 1</td>
<td>60.75</td>
<td>2.53</td>
<td>56.88\textsubscript{a}</td>
</tr>
<tr>
<td>Post 2</td>
<td>65.45</td>
<td>2.48</td>
<td>61.84\textsubscript{a}</td>
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<td>Fitness</td>
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<td></td>
<td></td>
</tr>
<tr>
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<td>59.10\textsubscript{b}</td>
<td>2.28</td>
<td>49.64\textsubscript{a}</td>
</tr>
<tr>
<td>Post 2</td>
<td>59.64</td>
<td>2.31</td>
<td>51.91\textsubscript{a}</td>
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<tr>
<td>Confidence</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post 1</td>
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<td>2.62</td>
<td>65.18\textsubscript{a}</td>
</tr>
<tr>
<td>Post 2</td>
<td>69.21</td>
<td>2.51</td>
<td>64.83\textsubscript{a}</td>
</tr>
<tr>
<td>Muscle tone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post 1</td>
<td>52.46</td>
<td>2.49</td>
<td>49.71\textsubscript{a}</td>
</tr>
<tr>
<td>Post 2</td>
<td>54.31</td>
<td>2.54</td>
<td>50.45\textsubscript{a}</td>
</tr>
<tr>
<td>Anger</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>2.18</td>
<td>26.70\textsubscript{a}</td>
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<tr>
<td>Post 2</td>
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<td>26.94\textsubscript{a}</td>
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<tr>
<td>Depression</td>
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<td></td>
<td></td>
</tr>
<tr>
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<td>2.22</td>
<td>30.77\textsubscript{a}</td>
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<tr>
<td>Post 2</td>
<td>27.51</td>
<td>2.33</td>
<td>28.90\textsubscript{a}</td>
</tr>
</tbody>
</table>

*Note.* Means are covariate adjusted. Subscripts are used to denote significant group differences. Means in the same row with different subscripts differ at the Bonferroni-adjusted significance level of $p < .017$, while means with the same subscripts do not differ significantly, $p > .017$. 
Table 2

*Prediction of Post-Test Body Image and Mood VAS Across Body-As-Object and Body-As-Process Conditions.*

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Confidence</th>
<th>Fitness satisfaction</th>
<th>Overall appearance satisfaction</th>
<th>Muscle satisfaction</th>
<th>Anger</th>
<th>Depression</th>
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</thead>
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<tr>
<td></td>
<td>B</td>
<td>SE B</td>
<td>β</td>
<td>B</td>
<td>SE B</td>
<td>β</td>
</tr>
<tr>
<td><strong>Step 1</strong> Pre-VAS</td>
<td>0.47</td>
<td>0.15</td>
<td>.42**</td>
<td>0.83</td>
<td>0.09</td>
<td>.79**</td>
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<td>0.15</td>
<td>.43**</td>
<td>0.79</td>
<td>0.10</td>
<td>.75**</td>
</tr>
<tr>
<td></td>
<td>0.29</td>
<td>0.42</td>
<td>.13</td>
<td>0.51</td>
<td>0.33</td>
<td>.19</td>
</tr>
<tr>
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<td>-0.51</td>
<td>0.35</td>
<td>-.27</td>
<td>0.15</td>
<td>0.27</td>
<td>.07</td>
</tr>
<tr>
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<td>0.06</td>
<td>-.08</td>
<td>-0.09</td>
<td>0.04</td>
<td>-.21</td>
</tr>
<tr>
<td><strong>Step 2</strong> Pre-VAS</td>
<td>0.53</td>
<td>0.14</td>
<td>.51**</td>
<td>0.87</td>
<td>0.11</td>
<td>.76**</td>
</tr>
<tr>
<td></td>
<td>0.34</td>
<td>0.14</td>
<td>.32*</td>
<td>0.63</td>
<td>0.11</td>
<td>.55**</td>
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<tr>
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<td>0.34</td>
<td>.45**</td>
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<td>.46**</td>
</tr>
<tr>
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<td>0.38</td>
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<td>-0.79</td>
<td>0.30</td>
<td>-.27*</td>
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<tr>
<td></td>
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<td>0.07</td>
<td>-.30</td>
<td>-0.07</td>
<td>0.05</td>
<td>-.12</td>
</tr>
</tbody>
</table>

Note: Fit orient = Fitness Orientation, Muscularity = Drive for Muscularity, Ath. internal = Athletic Internalization.

**p < .01, * p < .05