

Self-Enhancement Following Exposure to Idealized Body Portrayals in Ethnically Diverse Men: A Fantasy Effect of Advertising

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Abstract Viewing idealized body portrayals of men and women in advertising is known to have negative effects on men's self-esteem and body dissatisfaction, but little research investigates these effects across race/ethnicity. Racial minorities tend to idealize larger bodies than Whites and so might respond differently to advertising influences. We investigated whether exposure to idealized portrayals of male and female bodies in TV advertisements has different effects on men of different race/ethnicity. Additionally, we investigated whether implicit methods reveal different results than self-reports. One hundred and sixty Asian, Hispanic, and White American male undergraduates from a university in California (USA) were randomly assigned to watch TV advertisements portraying thin women, muscular men, or watched no ads. Their implicit self-esteem was measured using the Implicit Association Test, and a questionnaire assessed explicit self-esteem, actual-ideal body discrepancy, and perception of weight-related health-risks. Exposure to portrayals of muscular men decreased actual-ideal body discrepancy in all men. Exposure to portrayals of thin women increased men's implicit but not explicit self-esteem in Asian and Hispanic men only. Both these findings are consistent with a self-enhancing

role of exposure to idealized male and female bodies in advertising, which is often referred to as a "fantasy effect". This study provides evidence that media exposure interacts with culturally local body ideals and so can produce varying effects in different racial/ethnic groups. This result could have important implications for interventions.

Keywords Advertising exposure · Self-enhancement · Fantasy effect · Men · Implicit self-esteem · Asian · Hispanic · White

Introduction

We live in a media-saturated world, exposed to vast amounts of media imagery each and every day. The average American is exposed to 70 television advertisements per day, amounting to approximately 25,500 over the average year (Desrochers and Holt 2007). During the last decade, significant attention has been devoted to understanding how such heavy exposure shapes people's perceptions of their selves and, most notably, their bodies (for a review of the international literature see Levine and Murnen 2009). In what follows, we review the literature on these exposure effects, with a focus on work conducted among American and Canadian samples, which represents the bulk of the available research; however, we also review evidence suggesting that the general pattern of results is not unique to North American samples.

Prior research has predominantly focused on women, demonstrating that mass media portraying unrealistic and unattainable ideals of beauty can have a negative effect on women's self-image (for a review see Grabe et al. 2008;

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Groesz et al. 2002; Levine and Murnen 2009). The most frequently proposed explanation for a mechanism through which the negative effects of exposure to media images occur is derived from Festinger's (1954) Social Comparison Theory (SCT; for examples from the U.S., Belgium, and the U.K., see Bessenoff 2006; Dens et al. 2009; Grogan et al. 1996). SCT argues that people routinely compare themselves to others and when such comparisons are upward, that is to superior others, negative emotions and lowered self-esteem result (Festinger 1954). Therefore, if media models are perceived as superior and thus invoke upward comparisons, this could cause the negative consequences that have often been observed.

Despite the influence of SCT on contemporary accounts of media influence, a growing body of literature has demonstrated an opposite pattern of results. Several experimental studies with North American samples found that women exposed to idealized female portrayals experienced increased body satisfaction (Coolican 1999), increased appearance self-esteem (Mills et al. 2002), and decreased levels of depression (Myers and Biocca 1992). One explanation for this divergent pattern of findings is that not all types of upward comparisons have to result in negative self-evaluation (Collins 1996; Lockwood and Kunda 1997; 1999). In particular, for Australian and American women, individuals who do not see idealized images as unattainable and who instead see themselves as close to the ideal, viewing thin and highly attractive models may have an inspirational (Collins 1996) or "fantasy effect" (Myers and Biocca 1992; Tiggemann et al. 2009), which may bolster their self-esteem and body image. In other words, assimilating the self with the media image redefines upward comparisons as comparisons with similar others (Collins 1996). This may produce *motivation* rather than *discouragement* (Roberts and Good 2010). This fantasy effect has been used to explain the fact that restrained eaters show higher body esteem after viewing idealized images (Mills et al. 2002), that women high in conscientiousness who embody self-confidence had higher body esteem following exposure to idealized images (Roberts and Good 2010), and that fantasy instructions led to greater positive mood than social comparison instructions following exposure to idealized portrayals (Tiggemann et al. 2009).

Still, women are in some cases negatively affected by advertising when media images prompt them to make upward social comparisons (Grabe et al. 2008). But what about men? Do they show similar negative effects of media exposure, and if so, are they driven by similar social comparison processes? Or do they, too, show positive exposure effects in some situations? While several dozen correlational and experimental studies have investigated women (Grabe et al. 2008), men have not received as much attention, with only about a third the number of studies on record (for a review

see Barlett et al. 2008; Blond 2008). This research disparity is troubling when we acknowledge that men in the U.S. and several European countries are becoming increasingly dissatisfied with their bodies (Adams et al. 2005), and are also increasingly suffering from eating disorders like anorexia nervosa and bulimia nervosa (Hoek 2006; Hudson et al. 2007), as well as from muscle dysmorphia (Pope et al. 1997). Since mass media exposure is often associated with increased eating disorders symptomatology (Agliata and Tantleff-Dunn 2004; Tiggemann 2003—in Australian men), investigations of mass media influence on men's self-image are needed to understand factors increasing men's susceptibility to these effects.

Recent meta-analytic work (Barlett et al. 2008; Blond 2008) suggests that viewing idealized male bodies in advertising has a small but statistically significant negative impact on men's self-image (i.e., self-esteem, body esteem, and body satisfaction). To give a few specific examples focusing on participants in North America and the U.K., viewing portrayals of idealized (i.e., attractive and muscular) men in advertisements decreased men's self-esteem (Farquhar and Wasylikiw 2007), body-esteem (Grogan et al. 1996; Hobza et al. 2007), and body satisfaction (Hausenblas et al. 2003; Lorenzen et al. 2004), whereas it increased men's feelings of anxiety and depression (Agliata and Tantleff-Dunn 2004; Halliwell et al. 2007). Viewing portrayals of idealized *women* also led to greater levels of anxiety in Canadian men (Johnson et al. 2007), greater actual-ideal body discrepancy in American men (Lavine et al. 1999), and decreased body esteem in Belgian men (Dens et al. 2009). On the other hand, one study among British men found that exposure to idealized male portrayals can also have self-enhancing effects by lowering men's negative affect (Halliwell et al. 2007). However, at present this is the only study to report a "fantasy effect" in men. With regard to the effect of men's exposure to female portrayals, some researchers have suggested that exposure to ideal female bodies encourages men to see themselves as potential mates for the women (van der Meij et al. 2010; Roney et al. 2007). In this case, the particularly attractive women portrayed in advertising might create another form of "fantasy effect", in which men imagine themselves with this woman, leading to increased self-esteem stemming from the high desirability of the imagined mate (for related discussion, see also the "thinness fantasy" in women, Myers and Biocca 1992).

Like research on the effects of exposure on women's self-image (Skorek and Dunham 2010), literature on men suffers from two limitations. First, researchers have focused almost exclusively on White men (the proportion of White participants has rarely been lower than 80%), and there are no reported comparisons of exposure effects across race/ethnicity. Therefore, investigations of non-White men are needed

to test the generalizability of the previous findings (Halliwell et al. 2007; Hobza et al. 2007). The second limitation of previous research is its reliance on self-report data. In many research domains, incorporating “implicit” measurement strategies has revealed new phenomena that challenge prior accounts (for health psychology see Wiers et al. 2010; clinical psychology, see Teachman et al. 2010; social psychology, see Greenwald et al. 2009); we expect this to be no less true in the domain of media exposure effects. In particular, we hope this approach will yield novel findings when focused on a dependent measure for which previously there has been mixed support, namely the effect of media exposure on self-esteem (see below).

Overall, this study has two primary goals. First, we examine whether previously reported findings on the effect of advertisements containing idealized body portrayals on men's body image extend to racial/ethnic minorities. And second, we test the possibility that an implicit measure of self-esteem will be more sensitive than traditional self-report measures to subtle changes brought about by media exposure. We are studying the above questions in an undergraduate U.S. sample. We believe that our results will be generalizable to undergraduate men in most Western countries, as we are building on prior research that finds comparable effects across student populations in several Western countries (e.g., Australia, Canada, Great Britain, and the Netherlands).

Explicit Versus Implicit Self-Esteem

There is ample evidence suggesting that self-esteem is largely stable over time (Greenwald 1980; Swann 1985). However, it is also known that situational factors can affect it. For instance, comparing oneself to a superior other tends to lower self-esteem (Festinger 1954). On the other hand, perceiving a close relationship to a successful other may lead to temporary self-enhancement, as in the example of basking in the glow of reflected glory (Cialdini et al. 1976). Previous research investigating the effect of exposure to media portrayal of ideal bodies on men's self-esteem produced mixed results. While some experiments found that exposure to ideal male portrayals decreased American men's self-esteem (Green and Pritchard 2003; Farquhar and Wasylkiw 2007), others found no effect of exposure in American and Belgian men (Barlett et al. 2005; Dens et al. 2009; Hobza et al. 2007).

One potential limitation of previous studies in this area is the reliance on self-report measures of self-esteem. Self-report measures have a number of limitations. First, participants do not always give truthful answers, as they may want to hide responses that are socially undesirable. This may be especially true for socially charged, personal, and potentially embarrassing issues, which are often included in studies

relating to body image. Second, even if participants' motivation to tell the truth is high, certain information may not be available to introspection because it is stored in semantic memory in a format that is not consciously accessible (Greenwald and Banaji 1995). Investigating whether exposure affects such representations requires employing implicit measures of automatic processing. One of the most notable successes in this area is research on intergroup prejudice, which now routinely focuses on subtle, introspectively unidentified biases, such as negative affective responses to racial outgroups (Devine 1989; Dovidio et al. 2002). Despite being unknown to the participant and not necessarily consistent with their explicit (i.e., self-reported) attitudes, these implicit forms of bias reliably predict behavior, often to a greater extent than do their self-reported counterparts (e.g., Greenwald et al. 2009).

As with intergroup attitudes, so it is with self-esteem. Research suggests that implicit and explicit measures of self-esteem are at best weakly correlated and potentially predictive of different outcomes (Bosson et al. 2000; Spalding and Hardin 1999). For example, Spalding and Hardin (1999) showed that only implicit self-esteem predicted individuals' nonverbal anxiety during an interview, whereas explicit self-esteem predicted their self-handicapping about the interview. Therefore, in our study we decided to use both explicit and implicit measures of self-esteem in order to reveal a potentially new pattern of results. Explicit measures are likely to reflect conscious beliefs participants have, while implicit measure may be more sensitive to subtle environmental influences such as recently encountered advertising images. The inclusion of an implicit measure in the study of exposure effects is also noteworthy, because as Want (2009) argues, social comparison processes are often automatic. If so, their consequences might not be revealed through participants' self-report, and will thus require measures designed to tap those automatic processes. Thus, in this study of exposure effects on men's self-esteem we will test the hypothesis that:

H1: An implicit measure of men's self-esteem will be more sensitive to subtle changes brought about by advertising exposure than will be traditional self-report measures and therefore an implicit measure of self-esteem will reveal a stronger pattern of exposure effects than explicit self-esteem measures.

Prior literature studying effects of exposure to idealized male and female models on men reported more negative than positive effects on men's explicit self-esteem (no studies investigated effects on implicit self-esteem). These detrimental effects are based on the SCT discussed above. We hypothesize:

H2: Exposure to idealized female and male portrayals in advertisements will lower men's explicit and implicit self-esteem.

Advertising Exposure and Race/Ethnicity

There is a general consensus that for most men an ideal body type is a lean and muscular v-shaped body (Grogan 2008). It is characterized by average build with well-developed upper-body muscles, and slim waist and hips (Grogan 2008). Low body fat levels are also important for this ideal body because they allow muscles to be more visible (Cafri and Thompson 2004). Thus, many men are both concerned with a drive for thinness and drive for muscularity (Kelley et al. 2010). Even though we tend to discuss a general body ideal of men, culture and ethnicity often dictate different body ideals. For instance, as compared to White men, African American men rate larger female silhouettes as attractive and desirable (Rosen et al. 1993; Thompson et al. 1996). African American also prefer to have larger bodies themselves than do White men (Thompson et al. 1996), whereas Asian men are similar to White men in their desired body weight (Barr 1995). Unfortunately, comparisons of body ideals across race/ethnicity are scarce. African American and White men are the most often compared groups, with much less being known about body ideals in Asian and Hispanic American men.

How might different racial/ethnic groups differ in their reactions to idealized male bodies? It turns out that one can motivate competing predictions. Following SCT (Festinger 1954) we might expect that men with larger body ideals experience more of a discrepancy with advertising ideals (assuming equivalent actual body size), and thus see social comparisons with media models as more distinctly upward. If so, racial/ethnic groups that tend towards larger body ideals might be more negatively affected; for instance, we would expect more negative exposure effects in Hispanic American or African American men as compared with Asian and White American men. But SCT can also motivate the contrary possibility. Most notably, if ethnic minorities do not consider White models, which are predominant in advertising, to be as viable a reference group, they might resist social comparisons to those models, thereby sheltering themselves from the negative effects of such comparisons. Thus, while both of these possibilities lead to the expectation of ethnic differences in exposure effects, they differ in the predicted direction of difference.

How might ethnic differences emerge with regard to the self-enhancement followed by viewing idealized female models? Again, minorities could be imagined to experience an even larger lift due to the desirability of high-status majority models, or less lift if this “fantasy effect” is less likely to occur when viewing women from a different racial/ethnic group. Given the possibility of motivating two competing predictions, we do not advance a strong hypothesis. Rather, the current study seeks to disentangle these various possibilities by directly investigating advertising exposure effects in a diverse population.

In this study, in addition to the implicit and explicit self-esteem measures, we decided to investigate the advertising effects on men’s actual-ideal body discrepancy (perception of difference between one’s actual and one’s ideal body size) and perception of weight-related health risks (perception of a range of body sizes considered free from risks including obesity or anorexia nervosa). These two measures can be thought of as measures of the cognitive aspect of body image (corresponding to the cognitive evaluation of the self measured by self-esteem scales). Prior studies on exposure effects to female and male models on men’s body image also predominantly reported negative effects, therefore, we hypothesize:

H3: Exposure to idealized female and male portrayals in advertisements will increase men’s actual-ideal body discrepancy.

We do not advance a hypothesis for the exposure effects on men’s perception of weight related health risks, as this is a newly developed measure and we would like to explore both the possibility that exposure may lead to a more conservative or liberal way of viewing healthy body sizes.

Finally, based on the above discussion of race/ethnicity, we hypothesize:

H4: There will be significant differences in the exposure effects on men’s implicit and explicit self-esteem, actual-ideal body discrepancy and perception of health risks across race/ethnicity.

As discussed above, while the prior literature can be read to imply ethnic differences, it does not provide enough theoretical or empirical support to advance a strong directional hypothesis; we therefore remained agnostic as to the direction of effect.

Method

Participants

One hundred sixty male undergraduate students (age range 18–30, $M=19.71$, $SD=2.02$) from a small university in California (USA) volunteered to participate in the experiment in exchange for partial credit for their introductory psychology course requirement. Fifty-seven were White (35.6%), 55 Asian (34.4%), and 48 Hispanic (30.0%). This distribution reflects this university’s diverse student population. Table 1 presents the distribution of racial groups across nine study cells. Randomization was successful, since no differences were found on participants’ age across the three conditions, $F(2,144)=.81$, $p=.447$, racial/ethnic groups, $F(2,144)=1.79$, $p=.171$, or the interaction of these

Table 1 Mean scores of all variables as a function of exposure condition and race/ethnicity

Condition	No exposure			Female ads			Male ads		
	Asian Am.	Hispanic Am.	White Am.	Asian Am.	Hispanic Am.	White Am.	Asian Am.	Hispanic Am.	White Am.
Cell size	<i>n</i> =19	<i>n</i> =13	<i>n</i> =20	<i>n</i> =13	<i>n</i> =20	<i>n</i> =23	<i>n</i> =19	<i>n</i> =13	<i>n</i> =13
Mean age	19.74	19.23	21.00	19.15	19.50	19.87	19.10	20.31	19.39
IAT ¹	.50 _a	.38 _a	.68 _a	.81 _b	.69 _b	.61 _b	.58 _{a,b}	.60 _{a,b}	.57 _{a,b}
RSES ²	17.21 _a	20.31 _{a,b}	23.55 _b	18.77 _a	21.60 _{a,b}	23.91 _b	21.63 _a	23.23 _{a,b}	23.31 _b
Feeling thermometer ³	-4.21	1.54	.05	-6.54	-4.00	2.30	-4.47	-9.38	-8.46
Likert scale ⁴	2.20 _a	2.56 _b	3.17 _b	2.61 _a	3.12 _b	3.38 _b	2.19 _a	3.68 _b	3.02 _b
Actual-ideal body discrepancy ⁵	.99 _{a,b}	.18 _{a,b}	.20 _{a,b}	1.00 _a	.68 _a	.64 _a	-.10 _b	.28 _b	-.20 _b
Healthy range ⁶	6.10 _a	6.54 _a	5.35 _b	6.69 _a	6.40 _a	5.39 _b	6.63 _a	5.92 _a	5.46 _b

Subscripts represent significant ($p < .05$) differences across conditions or race/ethnicity (see description of a MANOVA in [Results](#))

¹ Implicit Association Test: scale -2 to 2, higher score represents higher implicit self-esteem

² Rosenberg Self-Esteem Scale: scale 0–30, higher score represents higher explicit self-esteem

³ Scale -100 to 100, higher score represents higher explicit self-esteem

⁴ Scale -6 to 6, higher score represents higher self-esteem

⁵ Scale 0–8, higher score represents a greater discrepancy between one's actual and ideal body size

⁶ Scale 0–8, higher score represents a greater range of body sizes considered free from weight-related health risks

two factors, $F(4,144)=1.62$, $p=.172$. The race/ethnicity distribution did not differ across the three conditions $\chi^2(4, N=153)=5.09$, $p=.278$.

Design and Procedure

We employed a 3 (exposure condition: no exposure, female ads, male ads) \times 3 (racial/ethnic group: Asian, Hispanic, White) factorial design. Participants signed up for the study using a university-maintained online recruitment system. After signing a consent form participants were randomly assigned to one of three conditions: experimental condition with female models, experimental condition with male models, or a control condition (no exposure). Students participated individually in three ostensibly unrelated tasks. First, a priming task containing TV ads was introduced as part of a marketing study of products advertised on television. Participants in the experimental conditions viewed the ads and answered questions relating to them. Men in the control condition viewed no ads. Second, all participants were asked to do a categorization task that investigated how people classify words (Implicit Association Test measuring self-esteem). Third, participants received a "Health Psychology" questionnaire that was supposedly developed in cooperation with school's health psychology department to study students' mental health. This packet contained all explicit measures. The entire experiment took approximately 25 min to complete for men in the experimental conditions and 10 min for control participants.

Measures

Priming Task

Participants in the first experimental condition viewed 16 U.S. TV ads of women's fragrances (e.g., Dior), underwear (e.g., Victoria's Secret) or beach wear (e.g., Old Navy) which highlighted women's thin and sexually attractive body. The second experimental condition contained 16 U.S. and Australian TV ads of similar products but for men, each focusing on men's lean and muscular body (e.g., fragrances by Hugo Boss, underwear by AuzziBum, swimwear by Speedo). Ads presented exclusively White models. Each ad lasted between 30 and 60 s and the overall exposure time in each of the two conditions was approx. 11 min. Ads were presented in one order only. To strengthen the cover story of a "marketing study of advertising effectiveness" participants were asked to rate each ad on four criteria (good, likable, enjoyable, attention-getting) using a 7-point Likert scale. In addition, subjects were asked two questions about their buying behavior: Have you ever bought the advertised product, and would you buy the product based on the ad shown (adopted from Rudman and Borgida 1995). Participants in the control condition viewed no ads and received no filler task.

Implicit Measure of Self-Esteem

The Implicit Association Test (IAT; Greenwald et al. 1998) was used to measure implicit self-esteem. The IAT is a response latency measure of dichotomous categorization, in

which participants rapidly classify four kinds of stimuli using just two response buttons. In the present case, participants might press a left response button in response to self-related words and positive adjectives, and a right response button in response to other-related words and negative adjectives. In a second block of trials, the pairings are reversed such that self-related words would now be paired with negative adjectives and other-related words with positive adjectives. The logic of the IAT is that semantically associated categories will be more rapidly categorized when they share a response key. If participants have a positive association with the self, they will be faster when the self-related words share a key with positive adjectives, and slower when they share a key with negative adjectives. By computing an effect size to measure the degree of facilitation during this pairing, we can produce a measure of implicit self-esteem (scale range -2 to 2). Thus, the self-esteem IAT consisted of words relating to self (target words: I, me, my, mine, self), other (them, they, their, theirs, others), pleasant (joy, warmth, gold, happy, smile, pleasure), and unpleasant (gloom, agony, pain, stink, filth, death). The self-esteem IAT and all its stimuli were developed by Greenwald et al. (2002), and has now been used in dozens of published studies (e.g., most of the studies included in a recent meta-analysis on implicit components of identity; Cvencek et al. 2012). As the most widely used measure of implicit cognition, the IAT has certainly garnered its share of controversy. However, its reliability and validity have now been demonstrated in a large number of studies (e.g., Greenwald et al. 2005; Lane et al. 2007; Nosek et al. 2005). In addition, it has well-established predictive validity (Greenwald et al. 2009), routinely predicting behavior with greater power than self-report measures, especially in more charged domains such as stereotyping or prejudice. Thus, we anticipated that implicit self-esteem would provide us with an interesting independent window into the effects of media exposure. In this study we used a standard five-block IAT and employed the revised scoring algorithm validated with large data sets (Greenwald et al. 2003). This scoring procedure produces an effect size measure for each participant, the IAT D, with positive values representing positive implicit self-esteem.

Explicit Measures

Self-esteem Three measures of explicit self-esteem were administered: Rosenberg's (1965) Self-Esteem Scale (RSES), a feeling thermometer, and a Likert scale. All of these are measures of trait self-esteem. First, we used Rosenberg's (1965) self-esteem questionnaire that includes five positive and five negative self-descriptive statements (e.g., On the whole, I am satisfied with myself). We added additional four items to the original scale, which were statements about one's health (e.g., I think I exercise enough every week, or I am concerned about my health), in order to motivate participants to believe the

questionnaire was related to Health Psychology. Participants were asked to report how much they agree with each of the 14 statements on a 4-point Likert scale (1—strongly agree, 4—strongly disagree). The sum of the ratings assigned to the 10 original items (excluding four health-related items), after reverse scoring the positively worded items, indicated one's self-esteem level. Scores ranged from 0 to 30; higher scores indicating higher self-esteem. Internal consistency of RSES in this study was good, $\alpha=.90$. Next, participants were asked to mark how warmly/favorably they feel about themselves and about other people by placing a horizontal mark on the feeling thermometer that had three anchors: 0 (cold/unfavorable), 50 (neutral) and 100 (warm/favorable). The final score was achieved by subtracting the temperature for the other people from that of oneself (scale range -100 to 100); higher scores indicating higher self-esteem. Finally, the Likert-type scale questionnaire consisted of six unpleasant-meaning and six pleasant-meaning words previously appearing in the implicit self-esteem IAT (e.g., gold, happy, pain, death). This questionnaire was developed by Greenwald et al. (2002). Participants rated how characteristic of them each of these words was on a 7-point Likert scale (1—not at all characteristic of you, 7—extremely characteristic of you). The final score was constructed by subtracting the average score for the unpleasant words from that for the average for pleasant words; higher scores indicating higher self-esteem (scale range -6 to 6). Internal consistency of the Likert scale was acceptable, $\alpha=.85$. The scores obtained using these three procedures were planned to be combined into one index of explicit self-esteem following previous research that suggests their high inter-correlations (Greenwald et al. 2002); however, as we report below, due to low correlations between the measures, we instead treat each measure of self-esteem independently.

Actual-Ideal Body Discrepancy Actual-ideal body discrepancy was measured using a Figure Rating Scale (Stunkard et al. 1983). The scale consists of nine drawings of men's figures ranging from extremely thin to extremely heavy presented in a horizontal row. Participants were asked to answer the following four questions: (1) Which drawing looks most like your own figure? (actual body image), (2) Which figure do you most want to look like? (own body ideal), (3) Which figure do you think most men want to look like? (own gender body ideal), (4) Which figure do you think most women find most attractive? (opposite gender body ideal) (after Cohn and Adler 1992). The three ideal body image variables (all but the first variable) were expected to correlate highly, as shown by Lavine et al. (1999), and were planned to be converted into one composite measure of ideal body size ($\alpha=.78$; scale range 1–9). Construct validity and reliability of this type of measure is well established (Banasiak et al. 2001; Wertheim et al. 2004).

Next, we calculated men's actual-ideal discrepancy score by subtracting participants' composite ideal body image

(average of the last three questions) from their actual body image (scale 0–8). Positive scores indicate that one's actual body image is larger than a desired body image, while negative scores indicate that one is thinner or less muscular than desired (Lavine et al. 1999). Some authors (e.g., Lavine et al. 1999) consider positive discrepancy scores as synonymous with body dissatisfaction. We would argue that perception of difference between own and ideal bodies does not necessarily imply dissatisfaction. One can notice the difference and still be satisfied with one's own body. Therefore, we avoid referring to this discrepancy as "body dissatisfaction".

Perception of Health Risks Two questions were asked to measure men's perception of weight-related health risks: (1) Which figure do you think depicts a health-risk posed by being too skinny? (risk of anorexia nervosa), Which figure do you think depicts a health-risk posed by being too heavy? (risk of obesity). We included this measure to test whether men's health-related body ideals differ across race/ethnicity. Participants used the Figure Rating Scale (Stunkard et al. 1983) to indicate their responses. Each participant's final score was obtained by subtracting a score reflecting a health-risk posed by being too skinny from a score reflecting a health-risk posed by being too heavy (scale 0–8). The resulting composite score indicates a perceived range of healthy body sizes.

Results

Data Reduction

Following the revised scoring algorithm for the IAT (Greenwald et al. 2003) mentioned above, we excluded seven men (attrition 4.4%) who had too many short responses (< 300 ms), indicative of hitting the keys without having enough time to consciously categorize the stimuli (i.e., task disengagement). Therefore, the final sample included 153 men (age range 18–30, $M=19.74$, $SD=2.05$; 36.6% White, 33.3% Asian, 30.1% Hispanic).

Creating Indices

Bivariate correlations among the different measures of explicit and implicit self-esteem were computed. Only two of the explicit measures correlated with each other, the Rosenberg Scale of Self-Esteem (RSES) and the Likert scale ($r=.64$, $N=153$, $p<.001$). The feeling thermometer did not correlate with RSES ($r=-.01$, $N=153$, $p=.871$) or the Likert scale ($r=.06$, $N=153$, $p=.429$). Consequently, we decided against creating one index of explicit self-esteem and conducted analyses separately for all three measures of explicit self-esteem. In contrast to previous studies (Bosson et al.

2000; Spalding and Hardin 1999) that showed that the implicit (IAT) and explicit measures of self-esteem were uncorrelated, we found a weak positive correlation between the implicit self-esteem (IAT) scores and the Likert scale ($r=.22$, $N=153$, $p=.006$) but no significant correlation between the IAT and RSES ($r=.10$, $N=153$, $p=.199$) or the IAT and the feeling thermometer ($r=.09$, $N=153$, $p=.272$).

In addition, we created an ideal body size index by standardizing and averaging the following measures of body ideal: own ideal body size, other men's ideal body size, and women's ideal of men's body size ($\alpha=.77$).

Descriptive Statistics

Table 1 shows means of all study variables as a function of exposure condition and race/ethnicity. On average, men in our sample had a positive implicit ($M=.61$, $SD=.31$) and explicit self-esteem on the Rosenberg and Likert measures (RSES $M=21.59$, $SD=6.00$; Likert $M=2.89$, $SD=1.67$). However, the feeling thermometer indicated a slightly negative explicit self-esteem, $M=-3.18$, $SD=18.14$. *T*-test analyses showed that the implicit, $t(152)=23.94$, $p<.001$, as well as all three explicit measures of self-esteem were different from their rational midpoints: RSES $t(152)=13.60$, $p<.001$; thermometer $t(152)=-2.17$, $p=.031$; Likert $t(152)=21.41$, $p<.001$. Men's average reported body size was a bit larger than figure no. 4 ($M=4.58$, $SD=1.37$) and their average body ideal was thinner by approx. half a body size ($M=4.16$, $SD=.68$). The average actual-ideal body discrepancy was .43 ($SD=1.47$). Men considered on average 6.02 ($SD=1.57$) body sizes as free from weight-related health risks.

In order to compare the scores of all outcome variables across different racial/ethnic groups, we performed a 3 (exposure condition: no exposure, female ads, male ads) \times 3 (racial/ethnic group: Asian/Hispanic/White) factorial MANOVA. There was no significant effect of race/ethnicity on men's implicit self-esteem, $F(2, 144)=.84$, $p=.434$, explicit self-esteem measured using the feeling thermometer, $F(2, 144)=.36$, $p=.695$, perception of own body size, $F(2, 144)=1.94$, $p=.148$, ideal body size, $F(2, 144)=1.04$, $p=.356$, or actual-ideal body discrepancy, $F(2, 144)=1.06$, $p=.350$. However, we found that men's explicit self-esteem measured using RSES, $F(2, 144)=7.54$, $p=.001$, and the Likert scale, $F(2, 144)=4.17$, $p=.017$, as well as the range of body sizes considered free from weight-related health risks, $F(2, 144)=7.23$, $p=.001$, differed significantly by race/ethnicity. Post hoc comparisons (Tukey HSD) for RSES indicated that the mean explicit self-esteem of Asian men ($M=19.25$, $SD=5.54$) was significantly lower ($p<.001$) than the one of White men ($M=23.64$, $SD=6.00$). No other comparisons were significant ($p>.10$). Post hoc comparisons (Tukey HSD) for Likert scale of self-esteem indicated that the mean self-esteem of Asian men ($M=2.30$, $SD=1.92$) was significantly

lower ($p=.012$) than the one of White men ($M=3.22$, $SD=1.52$) and Hispanic men ($M=3.12$, $SD=1.37$, $p=.039$), who did not differ from one another ($p=.949$). Post hoc comparison (Tukey HSD) for weight-related health risks revealed that the range of body sizes considered free from health risks by White men ($M=5.39$, $SD=1.46$) was significantly smaller than the range perceived by Asian ($M=6.45$, $SD=1.50$, $p=.001$) and Hispanic men ($M=6.30$, $SD=1.57$, $p=.009$), who did not differ ($p=.884$) from one another.

Main Effects of Advertising Exposure

In Hypothesis 1, we expected that the implicit measure of men's self-esteem would reveal a stronger pattern of exposure effects than explicit self-esteem measures. Hypothesis 2 stated that exposure to idealized female and male portrayals in advertisements will lower men's explicit and implicit self-esteem. A 3 (exposure condition: no exposure, female ads, male ads) \times 3 (racial/ethnic group: Asian/Hispanic/White) factorial MANOVA was used to determine the main effects of exposure on all dependent variables. This test revealed a significant main effect of exposure condition on men's implicit self-esteem, $F(2, 144)=4.85$, $p=.009$ (see Fig. 1a). Post hoc comparisons (Tukey HSD) indicated that the mean implicit self-esteem for men in the female ads condition ($M=.71$, $SE=.04$) was significantly higher ($p=.036$) than the implicit self-esteem of men in the no exposure condition ($M=.52$, $SE=.04$). The male ads condition ($M=.59$, $SE=.04$) did not significantly differ from either the no exposure ($p=.756$) or the female ads condition ($p=.218$). There were no significant differences across the exposure conditions in men's explicit self-esteem: RSES $F(2, 144)=2.00$, $p=.139$, thermometer $F(2, 144)=1.59$, $p=.208$, Likert $F(2, 144)=.84$, $p=.435$; and perception of weight-related health risks, $F(2, 144)=.18$, $p=.831$. These findings confirmed Hypothesis 1 and demonstrated that the implicit measure of self-esteem revealed a stronger pattern of exposure effects than explicit self-esteem measures. Hypothesis 2 was disconfirmed, as exposure to female ads only had a self-enhancing effect on implicit but not explicit self-esteem, whereas male ads had no effect.

Hypothesis 3 assumed that exposure to idealized female and male portrayals in advertisements would increase men's actual-ideal body discrepancy. The above MANOVA revealed a significant effect of exposure condition on men's actual-ideal body discrepancy, $F(2, 144)=3.46$, $p=.034$ (see Fig. 1b). Post hoc comparisons (Tukey HSD) for men's actual-ideal body discrepancy revealed that the mean body discrepancy of men in the male ads condition ($M=-.01$, $SE=.22$) was significantly lower ($p=.027$) than that of men in the female ads condition ($M=.77$, $SE=.20$) indicating that men exposed to male ads saw themselves as closer to their body ideal. Because the two experimental

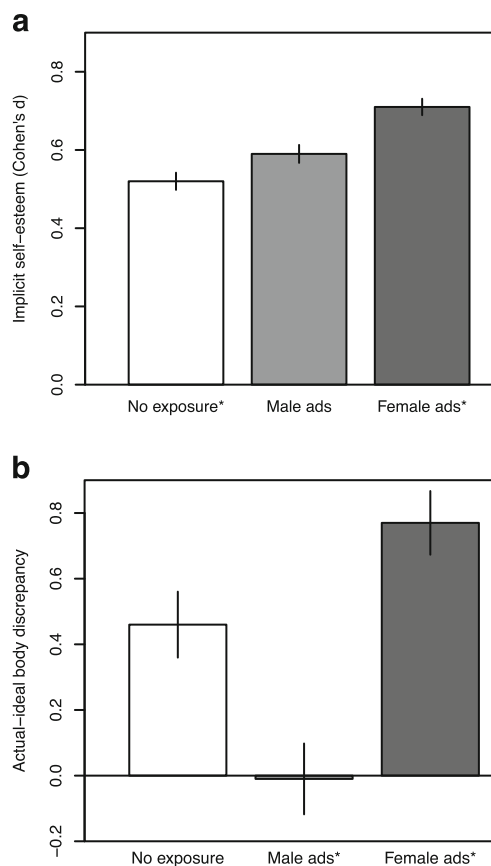


Fig. 1 **a** Effect of exposure to male and female advertisements on men's implicit self-esteem (predicted means). * $p<.05$, error bars represent 1SE. **b** Effect of exposure to male and female advertisements on men's actual-ideal body discrepancy (predicted means). * $p<.05$, error bars represent 1SE

conditions did not significantly differ ($p>.10$) from the no exposure control condition ($M=.48$, $SE=.21$), we examined these effects more closely by conducting one-sample t -tests examining the mean body discrepancy score for men in each condition. Mean discrepancy scores were significantly different from 0 in the female, $t(55)=3.96$, $p<.001$, and no exposure conditions, $t(51)=2.31$, $p=.025$, but not in the male ads condition, $t(44)=-.10$, $p=.919$. Thus, we can conclude that exposure to male ads eliminated body discrepancy. These results disconfirmed Hypothesis 3.

Interactions Between Exposure and Race/Ethnicity

In Hypothesis 4, we expected significant differences in the exposure effects on men's implicit and explicit self-esteem, actual-ideal body discrepancy and perception of health risks across race/ethnicity. The results from the above factorial MANOVA with two independent factors: 3 (exposure condition: no exposure, female ads, male ads) \times 3 (racial/ethnic group: Asian/Hispanic/White) were used to determine whether there was a significant

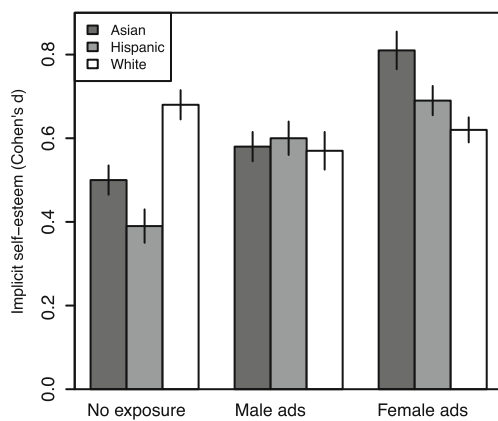


Fig. 2 Men's implicit self-esteem across exposure conditions and race/ethnicity (predicted means). Error bars represent 1SE

interaction between exposure condition and participant's race/ethnicity on any of the dependent variables. This analysis revealed a significant condition by race/ethnicity interaction for men's *implicit* self-esteem, $F(4, 144) = 2.65, p = .035$. As depicted in Fig. 2, the mean implicit self-esteem of Asian ($M = .58, SE = .07$) and Hispanic men ($M = .60, SE = .08$) who viewed male ads was higher than when they viewed no ads (Asian men $M = .50, SE = .07$; Hispanic men $M = .39, SE = .08$) and even higher after viewing female ads (Asian men $M = .81, SE = .08$; Hispanic men $M = .69, SE = .07$). There seemed to be no differences across conditions for White men. To further examine this pattern of results additional ANOVAs with implicit self-esteem as the dependent variable and exposure condition as an independent factor were conducted separately for each racial/ethnic group. The results confirmed the previous analysis showing that exposure had a significant effect on the implicit self-esteem of Asian, $F(2, 48) = 4.00, p = .025$, and Hispanic men, $F(2, 42) = 4.03, p = .025$, but no effect on White men, $F(2, 53) = .53, p = .592$. Post hoc analyses (Tukey HSD) indicated a significant difference between the female ads and no exposure conditions in both Asian ($p = .021$) and Hispanic men ($p = .019$). Mean implicit self-esteem of ethnic-minority men in the male ads conditions did not differ from the female ads or the control condition ($p > .10$). No significant differences in implicit self-esteem of White men were found between any of the exposure conditions ($p > .10$).

We found no condition and race/ethnicity interaction for men's explicit self-esteem, RSES $F(4, 144) = .76, p = .552$, thermometer $F(4, 144) = .74, p = .568$, Likert $F(4, 144) = .71, p = .585$, actual-ideal body discrepancy, $F(4, 144) = .71, p = .587$, or perception of weight-related health risks, $F(4, 144) = .61, p = .655$. Taken together, these results suggest that ethnic differences in exposure effects are present, but only for implicit self-esteem. These results only partially confirmed Hypothesis 4.

Discussion

This study showed that, in general, exposure to idealized images of women in advertising improved men's implicit, but not explicit, self-esteem. This result was found in Asian and Hispanic, but not White American men. The difference in the effects on implicit versus explicit self-esteem suggests that implicit measures might be more sensitive to short term, subtle effects on self-esteem than explicit measures (Greenwald et al. 2002), and suggests they could be employed more widely in future research. The fact that exposure to idealized images of women increased men's implicit self-esteem suggests that viewing advertisements of women can have self-enhancing effects on men. While establishing a definite mechanism underlying this effect must await further research, we would argue that these ads activate a concept of a female sex object. This could bolster self-esteem if men engage in an explicit or implicit fantasy of being with the target, an outcome that would likely be self-enhancing given the high desirability of the pictured women. In contrast with the female portrayals, viewing advertisements with attractive and muscular men did not produce any effect on men's implicit self-esteem.

More importantly, this study found that change in men's implicit self-esteem in different exposure conditions depends on their race/ethnicity. Viewing attractive female models in advertisements *increased* implicit self-esteem of Hispanic and Asian men; whereas among White men, on the contrary, viewing both attractive women and muscular models *did not have any effect* on their implicit self-esteem. Thus, the ethnic differences demonstrated by this study are such that advertising (portraying idealized White women) seems to have a more pronounced self-enhancing effect on non-White men. One explanation for this finding is that Asian and Hispanic men in our sample were more uniformly optimistic about becoming a potential partner for the female models, or conversely were less likely to feel threatened by the idealized partners, while White participants experienced a wider range of consequences leading to no mean-level exposure effect. It could also be that since we presented only White women in the selected advertisements, this was a novel fantasy for Asian and Hispanic men, and therefore it produced more self-enhancement; this would suggest that images of non-White women might have a larger effect on White males.

Contrary to prior work suggesting mostly negative effects of exposure to idealized male models (Grogan et al. 1996; Hobza et al. 2007), we found that exposure to idealized men did not have any effect on participants' self-esteem. This result suggests that prior studies may have overestimated the impact of such exposure, especially for non-White men, who may not be engaging in upward comparisons with these idealized images (cf. Hargreaves and Tiggemann 2009). Future work could vary the ethnicity of the models involved

to see if “match” or “mismatch” between participant and model ethnicity moderates exposure effects, particularly in the extent to which men were motivated to compare themselves upwardly to the presented media models (Collins 1996). In any case, our results add to the growing evidence that media exposure does not always lead to negative consequences for viewers (Grabe et al. 2008).

With regard to men’s actual-ideal body discrepancy, Asian, Hispanic, and White men were similarly affected by exposure: Men who viewed male portrayals in ads reported a significantly lower discrepancy between their actual and ideal body size than did men who viewed female portrayals. In fact, on average men’s discrepancy score in the male ads condition did not differ from zero, suggesting a lack of discrepancy between men’s perceived own body size and their ideal. This is again consistent with the possibility that exposure had self-enhancing effects, this time by closing the gap between men’s perceptions of their actual and ideal bodies. It may be that exposure to both female and male ads leads to a “fantasy effect”, but the nature of the effects differ: While female ads lead to bolstered self-esteem through imagining the self with an attractive female, male ads bolster body image through assimilating the self to a body ideal.

In addition to demonstrating ethnic differences in exposure effects, we showed racial/ethnic differences in men’s perception of weight-related health risks. White men considered the narrowest range of body sizes to be free from the risk of weight-related problems, like anorexia, obesity or diabetes. Asian and Hispanic men marked a range larger by an additional body size or more, especially at the extremely heavy end of the scale. This parallels results found in women (Skorek and Dunham 2010). The fact that only White men and women consider the narrowest range of body sizes to be free from such risk raises the possibility that Asian and Hispanic individuals might be less aware of the potential health problems associated with the extreme ends of the scale. This racial/ethnic difference in perception of health risks may have important implications for rising rates of obesity in Asian and Hispanic men and women (Davis et al. 2004; Flegal et al. 1998). The importance of this finding lies also in the relationship between different concepts of body ideal. When we asked men explicitly to indicate their ideal body size we found no differences across race/ethnicity. On average, men from all ethnic groups selected a body size slightly larger than no. 4 (Stunkard et al. 1983). However, when we asked which bodies are free from health-risks posed by being too skinny or too heavy, we recorded differences in men’s acceptance of different body sizes (Hispanic and Asian men accepted slightly more skinny men and especially more heavy men than did White men). On the one hand, these results suggest that all men have internalized the same mainstream ideal. On the other, these same

ideals at the mean level mask variation in the range of what is considered acceptable in different cultural groups. Measuring men’s perception of weight-related health risks could be a less direct and more concrete way of asking about men’s body ideals in a way that circumvents reliance on a single internalized ideal.

We acknowledge a few limitations in the current approach. First, this experiment used realistic advertisements in order to study effects as close as possible to men’s media experiences outside of the lab. However, this means that our sample of advertisements most likely confounded the concepts of thinness or muscularity with physical attractiveness, a limitation of many previous studies (Grabe et al. 2008). It is not absolutely clear whether the effects of exposure are brought about by advertising models having an ideal body size (i.e., thin or muscular), having an ideal body size and being attractive, or only being attractive. Prior research exposing American women to images of fashion models with control conditions employing images of more realistic or average-looking women (Dittmar and Howard 2004; Halliwell et al. 2005), or overweight women (Crouch and Degelman 1998), found that only the effects of exposure to fashion models were negative. But the body size and attractiveness dilemma still remains unresolved in those studies, as different women are shown in different conditions. Therefore, the best way around this is the investigation of exposure effects using artificially created control advertisements, for instance, using the same advertisement model stretched to be in a few different body sizes (either achieved with the help of computer software or different monitors). A few studies with women employed this strategy (Clay et al. 2005; Monro and Huon 2006) but have not reached concrete conclusions regarding the impact of weight versus attractiveness. Therefore, further investigations of the relationship between these two aspects of men and women’s portrayals are needed.

Second, we used exclusively White models in this study. As a result, we cannot generalize our findings to exposure to mixed-ethnicity advertising models. It is likely, that Asian and Hispanic men would respond differently to same-ethnicity models and would engage in social comparisons in such conditions. It is also likely that this study confounded the concept of “whiteness” with the one of physical attractiveness. However, we also note that addressing this experimentally raises some challenges. Using exclusively non-White models would not merely be a manipulation of ethnicity, because a selection of such advertisements would be atypical enough to create a strong cue to ethnicity and likely raise suspicions in participants regarding the nature of the study. Perhaps future work would best employ a representative sample of advertisements or manipulate the ratio of White to non-White portrayals in order to explore ethnicity-of-model effects.

Third, even though the construct validity and reliability of figure rating scales like Stunkard's Figure Rating Scale (Stunkard et al. 1983) has been established in adolescent women (Australian women; Wertheim et al. 2004), this measure has certain limitations for men. Like other measures primarily developed for women, it focuses on body size only and ignores muscularity, which may be a more important issue for men (Kelley et al. 2010; McCabe and Ricciardelli 2004). However, we note that the increasing incidence of anorexia bulimia in men (Hoek 2006) suggests that a drive for thinness may increasingly be impactful in men's lives, thus rendering this measure appropriate for at least those men. Also as reported above, on average men in our sample chose their ideal body size to be thinner and not larger than their actual body size. Certainly a wider-range of body image measures could be fruitfully employed in the future.

Another limitation of this research is the focus on exposure effects on trait self-esteem only, which might be more difficult to detect than changes revealed using measures of state self-esteem. Thus, future work should explore effects of exposure to male and female media portrayals using state-focused measures of self-esteem. Finally, this study's findings are generalizable to the undergraduate/young-adult population and little is known about the extent to which they extend to a general adolescent or adult population.

The current study has important implications for research on the effects of exposure to idealized bodies on men's self-image. We found that viewing muscular men in advertisements can have self-enhancing effects on the way men perceive their own body, largely eliminating the body discrepancies otherwise experienced. In addition, we showed that exposure to idealized women has a different form of self-enhancing effect, this time on men's implicit (but not explicit) self-esteem. This result prompts us to recommend employing implicit measures in future research, as they may be more sensitive or differentially sensitive to the subtle effects of media exposure. Instead, explicit measures of media exposure effects may not always be reliable because participants may not want to admit their true self-perceptions. Critically, this experiment is the first investigation of exposure effects in an ethnically diverse sample, and indeed our findings suggest that media exposure may be less harmful across these more diverse populations. Our findings revealed that Asian and Hispanic, but not White American men, experienced self-enhancement following exposure to female advertisements. We interpret this as evidence of a "fantasy effect", but further work is necessary to clarify the mechanism driving it. This study also found that men's racial/ethnic background matters for their perception of healthy body sizes. This finding may be helpful in designing targeted interventions and media campaigns focusing on ethnic-minority men suffering from eating disorders. We look forward to further investigations of the way in which

ethnically diverse men react to media portrayals of men and women, as well as of the new patterns of results revealed by the use of implicit methods.

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