

Telling Women That Men Desire Women With Bodies Larger Than the Thin-Ideal Improves Women's Body Satisfaction

Social Psychological and
Personality Science
2015, Vol. 6(4) 391-398
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DOI: 10.1177/1948550614561126
spps.sagepub.com



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Abstract

One source of women's body dissatisfaction appears to be the media's suggestion that men desire extremely thin women. Thus, three independent experiments examined whether reversing this suggestion would improve women's weight satisfaction. In all three studies, women viewed images of female models with bodies larger than the thin-ideal. Women who were randomly assigned to be told that men found those models attractive experienced increased weight satisfaction compared to women who were not given any information (Studies 1 and 2) and women who were told that men preferred ultra-thin women (Study 2). Study 3 (a) provided evidence for the theoretical mechanism—internalization of the thin-ideal—and (b) revealed that telling women that other women find larger models attractive does not yield similar benefits. These findings extend the tripartite influence model by demonstrating that women's beliefs about men's body preferences are an important moderator of the association between media influence and women's body satisfaction.

Keywords

body image, internalization, social cognitive theory, tripartite influence model, women

The negative implications of poor body image are far reaching and severe. While positive body image is associated with increased self-esteem (Wade, 2000) and self-evaluation (Abell & Richards, 1996), body dissatisfaction is associated with increased emotional distress (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999) and depression (Cromley et al., 2012). Further, although positive body image is associated with healthy behaviors (e.g., exercise and eating nutritiously; Neumark-Sztainer, Paxton, Hannan, Haines, & Story, 2006), body dissatisfaction is associated with unhealthy behaviors (e.g., excessive dieting and disordered eating; Stice, Mazotti, Krebs, & Martin, 1998; Thompson, Coovert, Richards, Johnson, & Cattarin, 1995). Finally, although positive body image is also associated with greater interpersonal functioning, body dissatisfaction is associated with lower levels of sexual frequency, sexual satisfaction, and marital satisfaction (Meltzer & McNulty, 2010). Understanding the sources of women's body dissatisfaction could thus prove valuable to promoting women's well-being.

report higher body dissatisfaction than women who watch fewer of these programs or read fewer of these magazines (Bissell & Zhou, 2004; Park, 2005). Likewise, women randomly assigned to view images of extremely thin women in fashion magazines report higher body dissatisfaction than women randomly assigned to view news magazines (Turner, Hamilton, Jacobs, Angood, & Dwyer, 1997). Demonstrating the robustness of these associations, a meta-analysis revealed that media exposure of thin women is positively associated with women's body dissatisfaction (Grabe et al., 2008).

According to Thompson, Heinberg, Altabe, and Tantleff-Dunn's (1999) tripartite influence model, exposure to thin models leads to increased body dissatisfaction because it leads women to internalize the societal standard that thinner is more attractive, which makes them perceive their own bodies as less attractive by comparison (see Stice & Shaw, 1994; Thompson et al., 1999; Thompson & Stice, 2001). One prediction that can thus be derived from this model is that exposing women to images of models with bodies larger than the thin-ideal should

Media Pressures to Be Thin

One source of women's body dissatisfaction is their exposure to media images of extremely thin women (for reviews, see Grabe, Ward, & Hyde, 2008; Groesz, Levine, & Murnen, 2002). For example, women who watch more television programs or read more fashion magazines depicting thin women

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lead them to be less likely to internalize the thin-ideal and thus experience increased body satisfaction. Indeed, several studies indicate that women who are exposed to images of larger-sized women report higher body satisfaction than women who are exposed to images of thin-ideal women (Halliwell & Dittmar, 2004; Halliwell, Dittmar, & Howe, 2005; Ogden & Munday, 1996; Stice & Shaw, 1994).

The Role of What Women Think Men Desire

But there may be an important moderator of these effects. Social cognitive theory (Bandura, 1994) posits that individuals tend to want to imitate those who are rewarded for their qualities and behaviors. Accordingly, one reason heterosexual women may internalize the thin-ideal is that thin women depicted in the media tend to be rewarded by men (Fouts & Burggraf, 2000; Greenberg, Eastin, Hofschire, Lachlen, & Brownell, 2003). For example, men in the media are more likely to (a) date, (b) provide physical affection to, and/or (c) engage in sexual relations with thinner women compared to larger women (Greenberg et al., 2003). Accordingly, telling women that men physically desire women with bodies larger than the thin-ideal may reverse these contingencies and thus strengthen the effects of exposing women to images of larger-sized women. Specifically, leading women to believe that men physically desire larger-sized women should make women less likely to internalize the thin-ideal and thus experience increased satisfaction with their own weight. Indeed, providing people with explicit information about the beliefs of others is one way to change their attitudes and preferences (see Sechrist, Stangor, & Killen, 2005). We tested this possibility in three independent experiments.

Study 1

In Study 1, women viewed media images of models with bodies larger than the thin-ideal; half were randomly assigned to be told that men had selected the images because they found the models attractive, whereas the other half were randomly assigned to be told simply that the images had been selected from media advertisements. We predicted that women who were led to believe that men desired the larger-sized women would experience increased weight satisfaction compared to the women who were not led to believe that men desired such women.

Participants, Procedures, and Measures

Participants were 74 undergraduate, heterosexual women enrolled in introductory psychology courses. Participants reported a mean age of 18.42 ($SD = 0.97$); most (73%) self-identified as Caucasian. Upon arrival to the laboratory, participants provided informed consent. They were told the study examined ratings of female body attractiveness and that they would (a) rate the body attractiveness of the models depicted in various images and (b) complete a series of questionnaires

assessing individual differences. Each participant was randomly assigned to either the (1) treatment condition or (2) the control condition. All participants were shown eight images of female models that were selected from a plus-sized shopping website. The women in the images were modeling clothing (e.g., bathing suit, dress, blouse, and pants). In an effort to enhance the credibility of the manipulation, the width of each image was decreased by 10%. To prevent potential bias due to facial attractiveness, we cropped all images to depict the model from the neck down. Prior to viewing each image, participants in the treatment condition ($n = 37$) were told “men chose these images selected from advertisements to depict what they find attractive,” whereas participants in the control condition ($n = 37$) were simply told “these images were selected from advertisements.” After viewing each image, participants approximated each model’s U.S. clothing size using a nominal scale to verify that the images did indeed depict bodies larger than the thin-ideal. Participants’ average perceptions of the models’ U.S. clothing size fell between a size 8 and a size 10 (the average model wears a size 2; Halliwell et al., 2005). In other words, although the women depicted in these images were larger than the thin-ideal, they were by no means large; instead, they were appropriately representative of the average female undergraduate (Tiggemann & Andrew, 2012). Finally, participants completed a (a) measure of weight satisfaction and (b) variety of questionnaires outside the scope of the current analysis that helped disguise the current hypothesis. Indeed, no participants reported any suspicion during the debriefing. All participants were compensated with course credit.

Weight satisfaction. Participants completed the appearance subscale of Heatherton and Polivy’s (1991) State Self-Esteem Scale. Given that the manipulation targeted satisfaction with weight/body size, rather than facial attractiveness, skin tone, and so on, however, we assessed weight satisfaction with the only 2 subscale items that assess satisfaction with one’s weight. Specifically, participants indicated the extent to which they agreed with the statements, “At the current moment, I am dissatisfied with my weight” (reverse-scored), and “At the current moment, I feel satisfied with the way my body looks right now,” on a 5-point scale ranging from 1 = *not at all* to 5 = *extremely*. We averaged item responses ($r = .72$) to form an index of weight satisfaction. Higher scores indicate higher weight satisfaction ($M = 3.13$, $SD = 1.02$).

Control variable. To ensure our manipulation influenced weight satisfaction independent of participants’ actual body size, we assessed and (a) controlled body mass index (BMI; derived from self-reported height and weight and calculated using kg/m^2 ; $M = 22.91$, $SD = 4.17$) and (b) examined whether the predicted effect varied across BMI.

Results

We conducted a univariate analysis of covariance (ANCOVA) to examine between-condition differences in weight

Table 1. Studies 1 and 2: Effect of Men's Preference for Women With Average-Sized Bodies on Women's Weight Satisfaction, Controlling BMI.

	df	F
Study 1		
BMI	1	36.78***
Condition	1	3.79*
Error	71	(0.71)
Study 2		
Pre-manipulation weight satisfaction	1	0.01
BMI	1	1.01
Condition	2	3.04*
Error	138	(0.10)

Note. BMI = body mass index. For Study 1, $N = 74$. For Study 2, $N = 143$. Value enclosed in parentheses is MS_{error} .

* $p < .05$, one-tailed. *** $p < .001$.

satisfaction, controlling for participants' BMI. Results of this analysis are presented in the top half of Table 1. As can be seen, our manipulation predicted women's weight satisfaction, controlling BMI. Consistent with predictions, women who viewed the images ostensibly desired by men reported higher weight satisfaction (predicted $M = 3.33$, $SE = 0.14$) than women who viewed those same images that were not ostensibly desired by men (predicted $M = 2.93$, $SE = 0.14$). A subsequent analysis that directly tested the Condition \times BMI interaction revealed that this effect was not moderated by participants' BMI, $F(1, 70) = 0.40$, not significant (ns).

Discussion

Consistent with predictions, women who were told that men prefer a female body size larger than the thin-ideal reported higher levels of weight satisfaction than women who were not given any information regarding men's preferences. Nevertheless, Study 1 has several important limitations. First, our weight satisfaction measure was not a standard measure of weight satisfaction but rather 2 items that tapped the construct of interest that we selected from a broader measure. Second, Study 1 did not assess participants' pre-existing levels of weight satisfaction, leaving it unclear whether women in the treatment condition experienced increased weight satisfaction or whether women in the control condition experienced decreased weight satisfaction. Third, Study 1 did not offer a direct comparison between the effects of viewing the larger-sized women depicted in the images and viewing the thin-ideal. It is possible that the thin-ideal that women tend to think men value was not salient and that women would have responded differently if it was. Finally, the manipulation in Study 1, which involved describing men's positive evaluations of larger-sized women, was confounded with describing any positive evaluation from men. Thus, it remains possible that women in the treatment condition felt better about their bodies not because they were told that men evaluated the larger-sized women more positively but simply because men's positive evaluations were salient.

Study 2

To address these limitations, Study 2 (a) used a standard weight satisfaction measure, (b) assessed weight satisfaction before and after the manipulation, (c) exposed all women to both larger-sized and thin-ideal women, (d) included an additional control group in which women were told that men prefer the thin-ideal women, and (e) included a manipulation check. We once again predicted that women who were led to believe that men desired the larger-sized women would experience increased weight satisfaction compared to women who view the same images but were either told nothing or told that men actually desire the ultra-thin women. We did not expect women who were led to believe that men desired the ultra-thin women would necessarily feel worse about their bodies than the women who were not given any information because, as reviewed earlier, the media already makes it clear that men desire ultra-thin women and we believed women told nothing would rely on this perception.

Participants, Procedures, and Materials

Participants were 143 undergraduate, heterosexual women who reported a mean age of 18.57 ($SD = 1.48$); most (82.9%) self-identified as Caucasian. Participants signed up for the study through the University's online research system, where they provided informed consent and were told the purpose of the study was to better understand women and how they react to media images. After completing a measure of weight satisfaction and filler questionnaires (outside the scope of the current analyses that helped disguise the current hypothesis) that were purportedly screeners, all participants were randomly assigned to one of three conditions: a treatment condition and two control conditions. Participants in all conditions viewed the same 16 images of female models. Eight of these images were the exact same images used in Study 1. The additional eight images were versions of these same images, the width of which had been reduced by 30% to depict the thin-ideal. Thus, all participants viewed eight sets of side-by-side images, where the image on the right was only slightly reduced to have a body size larger than the thin-ideal (the images used in Study 1) and the image on the left was further reduced to have a body size representative of the thin-ideal. As in Study 1, participants approximated each model's U.S. clothing size using a nominal scale. Indeed, participants perceived the "thin-ideal" body as significantly smaller than the "average-sized" body, $t(142) = -36.91$, $p < .001$; participants' average perceptions of the U.S. clothing size of the "thin-ideal" models fell between a size 2 and a size 4, which is similar to that of the average model (Halliwell et al., 2005), whereas participants' average perceptions of the size of the "average-sized" models fell between a size 8 and a size 10, as in Study 1. These body size perceptions did not differ across conditions, for the thin-ideal images, $F(2, 140) = 0.12$, ns ; for the average-sized images, $F(2, 140) = 1.91$, ns . Although these "morphed" images may seem somewhat unrealistic, it is important to note that the goal of these

images was to provide a visual guide to accompany the key manipulation and information regarding men's preferences (described next). As such a visual guide, the purpose of these images was similar to the purpose of the often-used contoured body drawings (e.g., Thompson & Gray, 1995).

We believed that showing women sets of larger- and smaller-sized women required a more elaborate cover story. Prior to viewing each set of images, participants were delivered instructions that served as the key manipulation. In the treatment condition ($n = 48$), women were told, "a recent study showed 100 men these images and found that they consistently reported that they found the body of the average-sized women on the right more attractive compared to the body of the ultra-thin women on the left." In one control condition ($n = 53$), which paralleled Study 1's control condition, women were given no information regarding men's preferences. In the second control condition ($n = 42$), women were told, "a recent study showed 100 men the following pairs of images and found that they consistently reported that they found the body of the ultra-thin women on the left more attractive compared to the body of the average-sized women on the right." Finally, participants completed the same weight satisfaction measure that they completed at the beginning of the study and additional filler questionnaires. All participants were then debriefed and compensated with course credit. No participants indicated knowledge of the study's prediction during debriefing.

Weight satisfaction. We assessed weight satisfaction before and after the manipulation using the weight concern subscale of the Body Esteem Scale (BES; Franzoi & Shields, 1984). This subscale consists of 10 items. For each item, individuals indicate the extent to which they have negative or positive feelings for various weight-related dimensions (e.g., waist, thighs, and weight) on a 7-point scale, ranging from 1 = *have strong negative feelings for* to 7 = *have strong positive feelings for*. At each assessment, we averaged item responses to form an index of participants' weight satisfaction. Higher scores indicate higher levels of weight satisfaction (pre-manipulation, $\alpha = .91$, $M = 2.91$, $SD = 0.85$; post-manipulation, $\alpha = .92$, $M = 2.92$, $SD = 0.89$).

We computed a change in weight satisfaction score by subtracting participants' pre-manipulation weight satisfaction scores from their post-manipulation weight satisfaction scores. Positive scores indicate increased weight satisfaction following the manipulation, whereas negative scores indicate decreased weight satisfaction following the manipulation. We used this weight satisfaction change score as the dependent variable in the primary analysis and controlled participants' pre-manipulation weight satisfaction. The coefficient of the manipulation in such an analysis is identical to what would be obtained by using post-manipulation weight satisfaction as the dependent variable and controlling pre-manipulation weight satisfaction. What is different about using the change score as the dependent variable, however, is that the predicted means in our analysis represent change in weight satisfaction, our key outcome (Hendrix, Carter, & Hintze, 1978; see Rausch, Maxwell, & Kelley, 2003, p. 472).

Manipulation check. To ensure that we manipulated women's perceptions of men's body size preferences, we assessed their perceptions subsequent to the manipulation. Specifically, participants responded to the following item, "In your opinion, what size female body do men believe looks best?" on a scale ranging from U.S. clothing size 00 to U.S. clothing size 20 (U.S. female clothing sizes are even numbers only). Indeed, women in the control conditions reported that men prefer a smaller body size than women in the average-sized condition reported, $t(141) = 2.66$, $p = .009$.

Control variable. As in Study 1, we assessed and (a) controlled participants' BMI ($M = 22.88$, $SD = 5.01$) and (b) examined whether the predicted effect varied across BMI.

Results

We conducted a univariate ANCOVA to examine between-condition differences in the difference between participants' post- and pre-manipulation weight satisfaction, controlling for participants' pre-manipulation weight satisfaction and BMI. The results of this analysis are reported in the bottom half of Table 1. As can be seen, there was a significant effect of condition. To examine which conditions significantly differed, we conducted two contrast effect analyses. Specifically, we contrasted (1) the weight satisfaction of participants in the two control conditions with one another and (2) the weight satisfaction among participants in the treatment condition with the average of those in the two control conditions. The first contrast revealed that women in the two control conditions reported similar levels of weight satisfaction, $F(1, 138) = 0.79$, *ns*. Consistent with predictions, the second contrast revealed that women who were told that men prefer the average-sized women reported significantly higher weight satisfaction than the women in the two control conditions, $F(1, 138) = 5.07$, $p = .026$. Moreover, the estimated marginal mean of these women's change in weight satisfaction from this analysis was positive and marginally significantly different from 0 (predicted $M = 0.09$, $SE = 0.05$, 90% confidence interval $[CI_{90}] = [0.01, 0.17]$), indicating that treatment women experienced a significant increase in weight satisfaction following the manipulation. Women in the two control conditions did not experience change in weight satisfaction following the manipulation (for women given no information, predicted $M = -0.07$, $SE = 0.05$, $CI_{90} = [-0.14, 0.01]$; for women told that men prefer the ultra-thin women, predicted $M = -0.01$, $SE = 0.05$, $CI_{90} = [-0.09, 0.07]$; see Figure 1, Panel A). A subsequent analysis that directly tested the Condition \times BMI interaction revealed that the primary effect was not moderated by BMI, $F(2, 136) = 1.61$, *ns*.

Discussion

Consistent with predictions and the findings of Study 1, women who were told that men prefer average-sized women experienced significantly increased weight satisfaction (a) relative

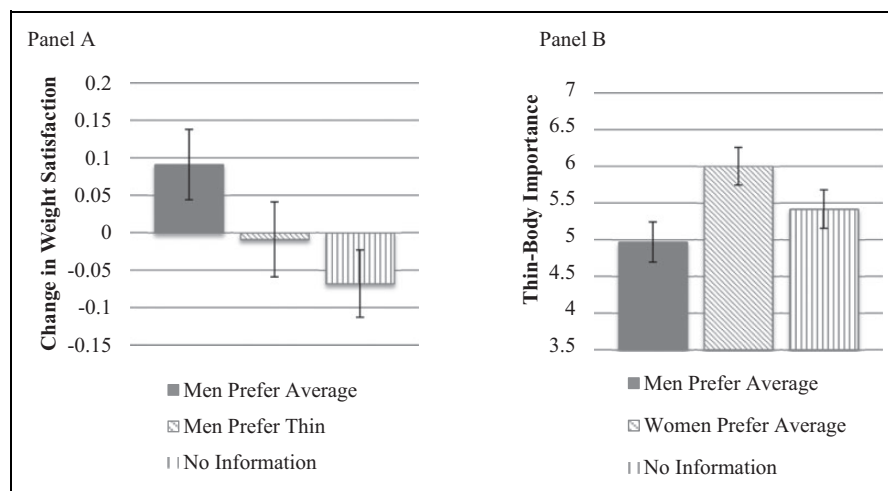


Figure 1. The influence of men's preferences on women's weight satisfaction and thin-ideal internalization.

to women not given any information, (b) relative to women who were told that men preferred ultra-thin women, and (c) relative to their own baseline. Nevertheless, Study 2 has two important limitations. First, although it conceptually replicated the findings of Study 1, Study 2 did not demonstrate the mechanism of the predicted effect. Because women often believe that men prefer ultra-thin women (as suggested by the similar findings across Study 2's two control conditions), they likely place higher importance on obtaining a thin body and thus experience weight dissatisfaction. Telling women that men prefer average-sized women, in contrast, should lead them to place less importance on obtaining a thin body and thus buffer against weight dissatisfaction. Second, Study 2 did not demonstrate that this effect is unique to men's preferences. It is possible that women who are told that other women prefer average-sized women may similarly experience increased weight satisfaction.

Study 3

To address these two limitations, Study 3 (a) included a different control group in which women were told that other women prefer average-sized women and (b) examined a potential mechanism—desire to obtain a thin body. We predicted that the key effect would emerge because women who were led to believe that men desired the average-sized women would place less importance on obtaining a thin body and thus experience higher levels of body satisfaction. We did not expect that the women who were led to believe that women desired the average-sized women would necessarily feel better or worse about their bodies than the women who were not given any information.

Participants, Procedures, and Materials

Participants were 221 heterosexual women who were recruited using Amazon's Mechanical Turk. Participants reported a mean age of 35.39 ($SD = 12.22$); most (77.8%) self-

identified as Caucasian. After signing up for the study, participants provided informed consent and were told the purpose of the study was to better understand women and how they react to media images. Participants were then randomly assigned to one of three conditions: a treatment condition and two control conditions. Participants in all three conditions viewed the same sets of images that were used in Study 2.

Prior to viewing the images, participants were delivered instructions that served as the key manipulation. In the treatment condition ($n = 69$), women were given the same instructions as participants in Study 2's treatment condition. In one control condition ($n = 75$), which paralleled Studies 1 and 2's control condition, women were given no information. In the second control condition ($n = 77$), women were told, "a recent study showed 100 women the following pairs of images and found that they consistently reported that they found the body of the average-sized women on the right more attractive compared to the body of the ultra-thin women on the left." Finally, participants completed (a) a single item assessing the importance they place on obtaining a thin body and (b) the same measure of weight satisfaction that was used in Study 2. All participants were then debriefed and compensated with US\$0.30. Once again, no participants indicated knowledge of the study's predictions during debriefing.

Weight satisfaction. As in Study 2, we assessed weight satisfaction using the weight concern subscale of the BES (Franzoi & Shields, 1984; in the current study, $\alpha = .91$, $M = 2.92$, $SD = 0.91$).

Manipulation check. We assessed women's perceptions of men's and women's body-size preferences subsequent to the manipulation using a gender-appropriate version of the question used in Study 2. Women in the treatment condition reported that men prefer a female body size larger than the average of the women in the two control conditions, $t(219) = 3.24$, $p = .001$, and women in the female-preference condition reported

Table 2. Study 3: Effect of Men's Preference for Average-Sized Women on Women's Internalization and Weight Satisfaction, Controlling BMI and Age.

	<i>df</i>	<i>F</i>
DV: Internalization		
BMI	1	6.50*
Age	1	5.66*
Condition	2	3.84*
Error	216	(5.08)
DV: Weight Satisfaction		
BMI	1	87.16***
Age	1	0.75
Condition	2	0.88
Internalization	1	23.37***
Error	215	(0.58)

Note. BMI = body mass index; DV = dependent variable. $N = 221$. Value enclosed in parentheses is MS_{error} .

* $p < .05$. *** $p < .001$.

that women prefer a female body size larger than the average of the women in the other two conditions, $t(219) = 2.21$, $p = .028$.

Control variable. As in Study 1, we assessed and controlled participants' BMI ($M = 25.71$, $SD = 6.31$). Additionally, given the variability in participants' age in the current sample compared to the samples of Studies 1 and 2, we assessed and controlled participants' age.

Mediator. To assess the proposed mediator, internalization of the thin-ideal, we asked women, "How important is it to you to have a thin body?" on a 9-point scale ranging from 1 = *not at all important* to 9 = *extremely important*.

Results

Following the procedures outlined by MacKinnon, Fritz, Williams, and Lockwood (2007), we conducted two analyses to test our mediation prediction. In the first analysis, we conducted a univariate ANCOVA to examine between-condition differences in participants' thin-body importance, controlling for participants' BMI and age. The results of this analysis are reported in the top half of Table 2 (also see Figure 1, Panel B). Consistent with the first step of mediation, there was a significant effect of condition. To examine which conditions significantly differed, we conducted two contrast effect analyses that paralleled those conducted in Study 2. Specifically, we contrasted (1) thin-body importance of women in the two control conditions with one another and (2) thin-body importance among women in the treatment condition with the average of women in the two control conditions. Women in the two control conditions placed similar levels of importance on having a thin body, $F(1, 216) = 2.53$, *ns*, and women who were told that men prefer average-sized women placed significantly less importance on having a thin body than the women in these two control conditions, $F(1, 216) = 5.03$, $p = .026$. In the second

analysis, we conducted a univariate ANCOVA to examine the association between women's thin-body importance and weight satisfaction, controlling condition, BMI, and age. The results of this analysis are reported in the bottom half of Table 2. Consistent with the second step of mediation, thin-body importance was negatively associated with weight satisfaction such that women who placed less importance on having a thin body reported higher levels of body satisfaction. Multiplying these two effects together yielded a significant estimate of the indirect effect of our manipulation on weight satisfaction, $B = -0.03$, $SE = 0.01$, $CI_{95} = [-0.057, -0.003]$.

General Discussion

Summary of Results

Three independent experiments provided support for the prediction that telling women that men desire women with bodies larger than the thin-ideal leads women to feel better about their weight. In Study 1, women who viewed images of models with bodies larger than the thin-ideal ostensibly preferred by men reported higher weight satisfaction than women who were not given any information regarding men's preferences. Study 2 not only conceptually replicated this effect, it additionally demonstrated that such women also experienced increased weight satisfaction (a) compared to their own baseline and (b) compared to women who were told that men preferred ultra-thin women. Finally, Study 3 demonstrated that this effect indirectly emerged through women's tendencies to internalize the thin-ideal and did not extend to telling women that other women preferred average-sized women.

Theoretical and Practical Implications

These findings have both theoretical and practical implications. Theoretically, they extend Thompson et al.'s (1999) tripartite influence model. Specifically, drawing on social cognitive theory (Bandura, 1994), the current research suggests an important moderator of the association between media influence and body satisfaction—women's beliefs regarding men's preferences. Across all three studies, although all participants viewed images of women with bodies larger than the thin-ideal, only the women who were told that men preferred those women reported increased weight satisfaction. And Study 3 confirmed that this altered perception led those women to internalize a body size larger than the thin-ideal, which minimized the discrepancy between their own and ideal body size and thus increased weight satisfaction.

Practically, the current findings suggest that interventions that alter women's perception regarding men's desires for ideal female body sizes may be effective at improving women's body image. Nevertheless, there are some important issues to be addressed by future research before such benefits could be realized. First, it is important for future research to better understand men's preferences to avoid providing women with false information. Importantly, there is evidence that women do overestimate how thin men want them to be (Fallon & Rozin,

1985), which suggests that practitioners may be able to simultaneously tell women the truth about men's preferences and benefit them. Second, research may benefit by examining the extent to which these effects emerge among all women or whether important moderators tell a more precise story. For example, although Study 3 demonstrated that altering women's perceptions of other women's body size preferences did not increase women's weight satisfaction, other research has demonstrated that altering women's perceptions of other women's weight maintenance behaviors has increased women's body image but only for those high in thin-ideal internalization (Mutterperl & Sanderson, 2002). Future research may thus benefit by examining this and other potential moderators to determine exactly who is most likely to benefit.

Strengths and Limitations

Several strengths of the current research enhance our confidence in the results reported here. First, all three studies employed an experimental design, providing information regarding the causal influence of information regarding men's preferences on women's body image. Second, given that university life is a context in which women are particularly concerned with physical appearance and attracting potential mates, these effects emerged in at least two samples of participants for whom the results are real and consequential. Finally, both studies demonstrated a significant effect utilizing an extremely minimal manipulation—a simple statement regarding men's preferences—demonstrating how simply and subtly the effect could be produced (Prentice & Miller, 1992).

Nevertheless, several factors limit interpretations of the current findings until they can be extended. First, and most notably, although the homogeneity of the samples in Studies 1 and 2 reduced error variance and thus may have facilitated our ability to detect the current effects, generalizations to other samples (e.g., Black women) should be made with caution. Second, the key effect in Studies 1 and 2 emerged as traditionally significant using one-tailed tests. Nevertheless, these one-tailed tests were appropriate, given our strong directional predictions, and the key effect emerged across three independent studies—one of which emerged as traditionally significant using two-tailed tests, making it very unlikely that it is a Type I error. Third, although the current findings suggest that telling women that men prefer average-sized women can have immediate positive effects on women's body image, it is unclear how long these effects may last. Indeed, all studies assessed women's weight satisfaction immediately after the manipulation. It would likely take repeated exposure to images of women with average-sized bodies ostensibly desired by men to strongly rival the patterns of reinforcement that are so pervasive in the media. Finally, participants in the current studies were exposed to images of women who approximated a U.S. clothing size between a size 8 and a size 10. Although this body size is smaller than the average woman in the United States (size 12–14; Halliwell et al., 2005), it is closer to the average, female undergraduate body size (Tiggemann & Andrew, 2012)

and thus meaningful. Nevertheless, it remains unclear whether exposure to larger women would demonstrate similar effects.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

References

- Abell, S. C., & Richards, M. H. (1996). The relationship between body shape satisfaction and self-esteem: An investigation of gender and class differences. *Journal of Youth and Adolescence, 25*, 691–703.
- Bandura, A. (1994). Social cognitive theory of mass communication. In J. Bryant & D. Zillmann (Eds.), *Media effects: Advances in theory and research* (pp. 61–90). Hillsdale, NJ: Lawrence Erlbaum.
- Bissell, K. L., & Zhou, P. (2004). Must-see TV or ESPN: Entertainment and sports media exposure and body-image distortion in college women. *Journal of Communication, 54*, 5–21.
- Cromley, T., Knatz, S., Rockwell, R., Neumark-Sztainer, D., Story, M., & Boutelle, K. (2012). Relationships between body satisfaction and psychological functioning and weight-related cognitions and behaviors in overweight adolescents. *Journal of Adolescent Health, 50*, 651–653.
- Fallon, A. E., & Rozin, P. (1985). Sex differences in perceptions of desirable body shape. *Journal of Abnormal Psychology, 94*, 102–105.
- Fouts, G., & Burggraf, K. (2000). Television situation comedies: Female weight, male negative comments, and audience reactions. *Sex Roles, 42*, 925–932.
- Franzoi, S. L., & Shields, S. A. (1984). The body esteem scale: Multi-dimensional structure and sex differences in a college population. *Journal of Personality Assessment, 48*, 173–178.
- Grabe, S., Ward, L. M., & Hyde, J. S. (2008). The role of the media in body image concerns among women: A meta-analysis of experimental and correlational studies. *Psychological Bulletin, 134*, 460–476.
- Greenberg, B. S., Eastin, M., Hofschire, L., Lachlan, K., & Brownell, K. D. (2003). Portrayals of overweight and obese individuals on commercial television. *American Journal of Public Health, 93*, 1342–1348.
- Groesz, L. M., Levine, M. P., & Murnen, S. K. (2002). The effect of experimental presentation of thin media images on body satisfaction: A meta-analytic review. *International Journal of Eating Disorders, 31*, 1–16.
- Halliwell, E., & Dittmar, H. (2004). Does size matter? The impact of model's body size on women's body-focused anxiety and advertising effectiveness. *Journal of Social and Clinical Psychology, 23*, 104–122.
- Halliwell, E., Dittmar, H., & Howe, J. (2005). The impact of advertisements featuring ultra-thin or average-size models on women with a history of eating disorders. *Journal of Community & Applied Social Psychology, 15*, 406–413.

- Heatherton, T. F., & Polivy, J. (1991). Development and validation of a scale for measuring state self-esteem. *Journal of Personality and Social Psychology, 60*, 895–910.
- Hendrix, L. J., Carter, M. W., & Hintze, J. L. (1978). A comparison of five statistical methods for analyzing pretest-posttest designs. *Journal of Experimental Education, 47*, 96–102.
- MacKinnon, D. P., Fritz, M. S., Williams, J., & Lockwood, C. M. (2007). Distribution of the product confidence limits for the indirect effect: Program PRODCLIN. *Behavior Research Methods, 39*, 384–389.
- Meltzer, A. L., & McNulty, J. K. (2010). Body image and marital satisfaction: Evidence for the mediating role of sexual frequency and sexual satisfaction. *Journal of Family Psychology, 24*, 156–164.
- Mutterperl, J. A., & Sanderson, C. A. (2002). Mind over matter: Internalization of the thinness norm as a moderator of responsiveness to norm misperception education in college women. *Health Psychology, 21*, 519–523.
- Neumark-Sztainer, D., Paxton, S. J., Hannan, P. J., Haines, J., & Story, M. (2006). Does body satisfaction matter? Five-year longitudinal associations between body satisfaction and health behaviors in adolescent females and males. *Journal of Adolescent Health, 39*, 244–251.
- Ogden, J., & Munday, K. (1996). The effects of the media on body satisfaction: The role of gender and size. *European Eating Disorders Review, 4*, 171–182.
- Park, S. Y. (2005). The influence of presumed media influence on women's desire to be thin. *Communication Research, 32*, 594–614.
- Prentice, D. A., & Miller, D. T. (1992). When small effects are impressive. *Psychological Bulletin, 112*, 160–164.
- Rausch, J. R., Maxwell, S. E., & Kelley, K. (2003). Analytic methods for questions pertaining to a randomized pretest, posttest, follow-up design. *Journal of Clinical Child and Adolescent Psychology, 32*, 467–486.
- Sechrist, G. B., Stangor, C., & Killen, M. (2005). Prejudice as social norms. In C. S. Crandall & M. Schaller (Eds.), *Social psychology of prejudice: Historical and contemporary issues* (pp. 163–183). Seattle, WA: Lewinian Press.
- Stice, E., Mazotti, L., Krebs, M., & Martin, S. (1998). Predictors of adolescent dieting behaviors: A longitudinal study. *Psychology of Addictive Behaviors, 12*, 195–205.
- Stice, E., & Shaw, H. (1994). Adverse effects of the media portrayed thin ideal on women and linkages to bulimic symptomatology. *Journal of Social and Clinical Psychology, 13*, 288–308.
- Thompson, J. K., Covert, M. D., Richards, K. J., Johnson, S., & Cattarin, J. (1995). Development of body image, eating disturbance, and general psychological functioning in female adolescents: Covariance structure modeling and longitudinal investigations. *International Journal of Eating Disorders, 18*, 221–236.
- Thompson, J. K., Heinberg, L. J., Altabe, M., & Tantleff-Dunn, S. (1999). *Exacting beauty: Theory, assessment, and treatment of body image disturbance*. Washington, DC: American Psychological Association.
- Thompson, J. K., & Stice, E. (2001). Thin-ideal internalization: Mounting evidence for a new risk factor for body-image disturbance and eating pathology. *Current Directions in Psychological Science, 10*, 181–183.
- Thompson, M. A., & Gray, J. J. (1995). Development and validation of a new body-image assessment scale. *Journal of Personality Assessment, 64*, 258–269.
- Tiggemann, M., & Andrew, R. (2012). Clothing choices, weight, and trait self-objectification. *Body Image, 9*, 409–412.
- Turner, S., Hamilton, H., Jacobs, M., Angood, L. M., & Dwyer, D. H. (1997). The influence of fashion magazines on the body image satisfaction of college women: An exploratory analysis. *Adolescence, 32*, 603–614.
- Wade, T. J. (2000). Evolutionary theory and self-perception: Sex differences in body esteem predictors of self-perceived physical and sexual attractiveness and self-esteem. *International Journal of Psychology, 35*, 36–45.

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