



Brief research report

Women's exposure to thin-and-beautiful media images: body image effects of media-ideal internalization and impact-reduction interventions

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Abstract

Exposure to media images of thin-and-beautiful women negatively affects the body image and mood states of young women. However, not all women are equally susceptible to these effects. The present experimental investigation with 123 young college women evaluated the moderating effects of the extent of internalization of media ideals. It also examined the preventative impact of two brief interventions (i.e., media literacy information with and without a dissonance-induction procedure). Results indicated that relative to a control group, the exposure to thin-and-beautiful media images adversely influenced the state body image of participants with high internalization levels. Media-literacy psychoeducation prior to the media exposure prevented this adverse effect. Adding a pre-exposure dissonance-induction procedure did not significantly enhance the preventative effects relative to psychoeducation alone. These results and their implications for the treatment and prevention of body image disturbances are discussed in the context of the empirical literature on the media's effects on body image.

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Introduction

Body image is not strictly a stable trait, but is also a variable state influenced by specific contextual events

(Cash, 2002a, 2002b), such as exposure to media images and messages. Researchers have found that in the United States, 94% of female characters in television programs are thinner than the average American woman (e.g., Gonzalez-Lavin & Smolak, 1995), with whom the media frequently associate happiness, desirability, and success in life (Tiggemann, 2002). The media also explicitly instruct how to

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attain thin bodies by dieting, exercising, and body-contouring surgery, encouraging female consumers to believe that they *can* and *should* be thin. However, an idealization of thinness is positively correlated with body image dissatisfaction (Stice, Schupak-Neuberg, Shaw, & Stein, 1994), which is often accompanied by social anxiety, depression, eating disturbances, and poor self-esteem (Cash & Pruzinsky, 2002).

According to Groesz, Levine, and Murnen's (2002) meta-analysis, women are significantly more body dissatisfied after viewing thin-and-beautiful media images versus average-size, oversize, or nonbody images. At least two factors account for varying body image responses to media exposure: (1) level of internalization of the media-promoted thin-ideal (Cattarin, Thompson, Thomas, & Williams, 2000; Halliwell & Dittmar, 2004; Tiggemann & McGill, 2004), and (2) social comparison processes (Heinberg & Thompson, 1992; Tiggemann & McGill, 2004). These variables may be viewed within the broader construct of "appearance schematicity," or one's cognitive structures vis-à-vis one's physical appearance, which organize and influence the processing of self-relevant information (Cash, 2002b; Tiggemann, 2002). Thompson developed the Sociocultural Attitudes Towards Appearance Questionnaire to measure women's media-ideal internalization and comparison (Thompson, van den Berg, Roehrig, Guarda, & Heinberg, 2004). High-internalization (HI) women are especially likely to use high profile persons (e.g., media images) as upward comparison targets (Heinberg & Thompson, 1992) and feel inferior for not meeting social "norms" of attractiveness.

Media literacy interventions involving critical analyses of contents of the media messages have been advocated to prevent internalization and social comparison processes (Levine & Piran, 2004). In an experiment by Posavac, Posavac, and Weigel (2001), women received two types of psychoeducational, media-literacy information. The "Artificial Beauty" condition argued that media images of females are inappropriate "standards" because their flawless looks are created by various techniques, including make-up and air-brushing. The "Genetic Realities" condition argued that genetics influence body weight/shape and that most women are biologically predisposed to be heavier than women in the media. Results indicated that exposure to thin-and-beautiful

media images increased women's weight concerns. Providing either or both psychoeducational conditions comparably prevented the effect.

Although the present study was modeled after Posavac et al. (2001), certain changes were made. First, they excluded body-satisfied women; we did not. Second, they used a trait measure of weight concern as their dependent measure, but we used a state measure that taps a range of current body image evaluations and feelings. Whereas the two variables are quite likely related, a state measure is more appropriate to capture an immediate effect of media exposure (Cash, 2002a). Third, because the male narrator in their videotaped materials explicitly urged the audience not to compare themselves to media images, it is uncertain whether it was substantive content of the message that was effective or an instructional demand. Thus, we adapted message content without the explicit demand, using an audiotaped presentation by a male narrator. In both studies, he was identified as a psychologist and expert on the topic.

Investigating specific procedures to reduce thin-ideal internalization, Stice, Chase, Stormer, and Appel (2001) used an intervention based on dissonance theory. This framework maintains that when people have inconsistent cognitions, they experience psychological discomfort and are motivated to change their cognitions to restore consistency. Females who had internalized the thin-ideal were asked to voluntarily take a stance against thin-ideals by discussing ways to help adolescent girls avoid internalization. Post-test data revealed a resultant decrease in both thin-ideal internalization and body image dissatisfaction.

The two aforementioned studies were the bases for this experiment. We also examined a potentially important moderator variable—the disposition for media-ideal internalization and social comparison. We hypothesized that: (1) without the psychoeducational, media-literacy information described above, women's state body image experiences would be negatively affected by thin-and-beautiful media image exposure (Groesz et al., 2002); (2) giving the psychoeducational, media-literacy information would reduce these media-exposure effects; (3) having individuals construct arguments against thin-ideal based on the media-literacy information would also reduce the effects; (4) adding this dissonance-induction technique to the provision of the psychoeducational

information would have a greater effect than the information alone. In all conditions, only those with a stronger disposition for internalization and social comparison were expected to be significantly affected by the experimental manipulations.

Method

Participants

Participants were 123 White female students at Old Dominion University. They were between 18 and 29 years old ($M = 21.4$, $SD = 2.86$) and volunteers for the study in exchange for extra credit in psychology courses. White women were studied given that the model slides only depicted White women, who may be less relevant social comparison standards for other ethnic groups. Participants' average body mass index ($BMI = \text{kg}/\text{m}^2$) was 24.1 ($SD = 5.72$).

Materials

Experimental stimuli were 20 pictures of young White fashion models taken from various women's magazines. Control stimuli were 20 slides of automobiles. Stimuli were those used by Posavac et al. (2001). With a Kodak Carousel projector, the exposure time of each slide was 15 s, followed by a 15 s exposure to a blank slide (i.e., the response interval).

Control information concerned parenting skills and child behavior management, presented as important not only for current or future parents but also for anyone having contact with children. Psychoeducational information in the experimental conditions conveyed facts about "Artificial Beauty" and "Genetic Realities" described above, as adapted from Posavac et al. (2001). Both experimental and control messages were presented on a 7 min audiotape.

Measures

Sociocultural Attitudes Towards Appearance Questionnaire-3 (SATAQ-3; Thompson et al., 2004)

The full 30-item scale measures four facets of societal influences on personal body image standards, using a 5-point Likert-type scale. This study used the Internalization–General subscale, which assesses the

extent to which one idealizes ("I would like to look like ...") and compares oneself ("I compare my appearance ...") to movie stars, television, and magazine models. Based on median-split from a local sample of 284 college women, participants were classified as "high internalization" and "low internalization" (LI) individuals. Internal consistency of the subscale in this study was .96.

Body Image States Scale (BISS; Cash, Fleming, Alindogan, Steadman, & Whitehead, 2002)

Using a 9-point Likert-type scale, the 6-item BISS measures one's *current* ("at this moment") dissatisfaction–satisfaction with aspects of his/her physical appearance. Higher scores indicate a more favorable body image state. Its internal consistency was .87 in this study.

Evaluation of Educational Audiotape Form

This questionnaire asked about the clarity, importance, usefulness, and agreeability of the information given in the tape. Depending on condition, participants either listed the key information in the tape or wrote persuasive arguments against the media-transmitted thin-ideal based on the tape's information. Persuasive arguments in the dissonance induction were to help a teenage girl, whom participants knew and cared about. They were to help her not to take seriously or be affected by beautiful, thin models in the media.

Procedures

In a study several days earlier, participants completed a demographics form and the SATAQ-3, embedded among other questionnaires. They were randomly assigned to one of four conditions: Control-Info/Control-Slides ($n = 30$), Control-Info/Model-Slides ($n = 33$), Media-Info/Model-Slides ($n = 28$), and Media-Info/Dissonance-Induction/Model-Slides ($n = 32$). Approximately half of each group scored above or below the SATAQ-3 median. In this between-groups design, we did not conduct an immediate pre-test assessment of state body image satisfaction, to prevent sensitization or reactivity effects on post-condition assessments.

In the laboratory, small groups of no more than five (typically only one or two) women participated, to reduce the likelihood of influences of close physical

Table 1

The BISS means and standard deviations of participants with low and high internalization levels in four conditions

Conditions	High internalization mean (SD)	Low internalization mean (SD)
Control-Info/Control-Slides ($n = 30$)	5.53 (1.24)	6.24 (1.39)
Control-Info/Model-Slides ($n = 33$)	3.50 (1.43)	5.20 (1.45)
Media-Info/Model-Slides ($n = 28$)	5.92 (1.25)	6.21 (1.23)
Media-Info/Dissonance-Induction/ Model-Slides ($n = 32$)	4.96 (1.52)	5.78 (1.91)

Note: The higher the score, the more favorable the body image state.

proximity or overt reactions to the materials. A female experimenter presented the study as consumer research on young women's evaluations of new educational programs and certain products. They then received either the psychoeducational or control information and completed the Evaluation of Educational Audiotape Form. The latter also required that they list facts from the tapes. In the dissonance-induction condition they were to construct persuasive written arguments, as described above. Participants were given 5 min for fact listing or argument construction. Next, under the guise of a "different consumer research study," the slides of either fashion models or automobiles were presented. The experimenter gave participants a bogus evaluation questionnaire to rate how much they liked the products (models' clothing or automobiles) to ensure that participants attended to slide contents and to reinforce the consumer-research pretense. Finally, participants completed the BISS, presented as a "third study."

Results

Preliminary data analyses revealed no significant age or BMI differences across conditions. LI group scores on SATAQ-3 Internalization were comparable across conditions, as were the HI group scores.

Planned contrasts tested the study's four hypotheses within a 2 (high versus low internalization) \times 4 (conditions) general linear model analysis of variance. We examined post-experimental differences as a function of condition and internalization level. Because multiple contrasts were carried out that were not completely orthogonal, the alpha level for significance was set at $p < .01$. Degrees of freedom for each contrast were 1 and 115. Collectively, the omnibus test of contrasts among the LI participants

was not significant, $F(3, 115) = 1.82$, $p < .15$, partial $\eta^2 = .045$, but among the HI participants it was significant, $F(3, 115) = 7.90$, $p < .001$, partial $\eta^2 = .171$. The F -test for internalization level indicated that, across conditions, HI participants reported generally less favorable body image states than did LI participants, $F(1, 115) = 11.31$, $p < .001$, partial $\eta^2 = .09$. Table 1 provides the means and standard deviations on the BISS for the cells of the Internalization \times Condition design.

The test of Hypothesis 1 compared BISS scores of the Control-Info/Control-Slides group and the Control-Info/Model-Slides group as a function of internalization level. Results supported Hypothesis 1; only among HI participants, BISS scores in the latter group were significantly lower than their counterparts in the Control-Info/Control-Slides group (M difference = 2.03, $p < .001$; effect size, $d = 1.25$). This confirms the adverse impact of the exposure to thin/attractive images on body image for HI women.

The test of Hypothesis 2 compared BISS scores from the Control-Info/Model-Slides group with those from the Media-Info/Model-Slides group as a function of internalization level. Hypothesis 2 was supported; only among HI participants, BISS scores of those in Media-Info/Model-Slides group were significantly more positive than scores of those in Control-Info/Model-Slides group (M difference = -2.42 , $p < .001$; effect size, $d = -1.49$). This confirms that the provision of media-literacy information prior to exposure to thin/attractive images reduced their adverse effect on body image among HI women.

To test Hypothesis 3, BISS scores of the Control-Info/Model-Slides group and the Media-Info/Dissonance-Induction/Model-Slides group were compared within internalization level. Supporting Hypothesis 3, BISS scores for the latter group were significantly more positive than those for the Control-Info/Model-

Slides group (M difference = -1.46 , $p < .007$; effect size, $d = -.90$), but only when internalization level was high. Therefore, for these women, the negative body image impact of thin/attractive image exposure was also less when the combined psychoeducational information and dissonance-induction procedures were implemented.

The test of Hypothesis 4 compared the Media-Info/Model-Slides group and the Media-Info/Dissonance-Induction/Model-Slides group. Results failed to support our hypothesis; the BISS scores of those in both groups did not differ significantly, regardless of internalization levels (M difference = $.430$, $p < .414$ for LI participants; M difference = $.961$, $p < .08$ for HI participants). Thus, adding the dissonance-induction activity to the provision of media-literacy information failed to augment the effect of the latter.

Finally, we conducted analyses to explore reasons that Hypothesis 4 was not supported. We counted the number of facts that participants wrote down in each condition, as well as the number of arguments made with these facts in the dissonance-induction procedure. On average, the Media-Info/Model-Slides group stated 7.9 facts ($SD = 2.2$) from 14 facts given on the tape, whereas the Media-Info/Dissonance-Induction/Model-Slides group gave only 3.8 facts ($SD = 2.1$). Significantly fewer facts were conveyed in the latter condition, $F(1, 56) = 54.79$, $p < .001$. Furthermore, dissonance induction produced an average of only 3.2 arguments ($SD = 2.1$) using those facts. Thus, while creating arguments as requested, they did not reiterate as much of the “discounting” information as did participants in the other condition.

Discussion

The study’s results indicate that even a 5 min exposure to thin-and-beautiful media images results in a more negative body image state than does exposure to images of neutral objects, particularly among young women with high media-ideal internalization levels and social comparison tendencies. The adverse effect of the media exposure was significantly reduced among high-internalization women when they were given media-literacy information and either asked to recall and write down the information or induced to make written arguments against the media’s thin-

ideals based on the information. Low-internalization women were unaffected by any of the study’s experimental manipulations.

We failed to find the addition of a dissonance-induction procedure to be more beneficial than media-literacy information alone. Our data suggest some plausible explanations for the null finding. The dissonance-induction procedure led to only about three arguments from a reiteration of fewer facts than were listed in the media-literacy condition alone. Thus, the addition of dissonance induction, while comparably effective, may have been less involving than it should have been. For example, a stronger induction might entail asking participants first to list all the facts and then construct at least 10 arguments that derive from them, and/or make these arguments aloud to another person in a role-playing context (Stice et al., 2001). Private delineation of arguments in a research context may be weaker than a “voluntary” public articulation. However, it is also possible that the media-literacy information per se maximally prevented the impact of media exposure for the high internalization participants and could not have been improved upon. The mean body image level for control participants was 5.53 and that of the media-literacy group after media-ideal exposure was slightly even more positive (5.92).

We used 20 model slides as stimuli, presented for a total duration of 5 min. Groesz et al. (2002) found that as the number of stimuli exceeded 10, viewers were somewhat less influenced, probably due to habituation. Still, we clearly confirmed the significance of the exposure effect among high internalization women. Moreover, although the media-literacy intervention effectively prevented negative effects of media exposure, such brief interventions would be unlikely to have lasting power much beyond the study’s duration, just as acute exposure effects dissipate. Women with a strong drive for thinness experience not only body dissatisfaction but also negative affect for at least 2 hours after exposure to idealized media images (Hausenblas, Janelle, Gardner, & Focht, 2004). Nevertheless, media exposure in daily life is considerable and effects may be cumulative. One prospective study (Hargreaves & Tiggemann, 2003) concluded that girls who are acutely affected most negatively do develop greater trait body dissatisfaction over a 2-year period.

A number of variables may moderate or perhaps mediate the impact of media exposure to extreme ideals of beauty and thinness (Tiggemann & McGill, 2004)—for example, media-ideal internalization, drive for thinness, social and physical comparison tendencies, and appearance schematicity. All these dimensions are facets of the overriding body image investment construct (Cash, 2002b; Cash et al., 2004), which refers to the cognitive and behavioral importance that persons place on their appearance, especially its salience in their sense of identity and self-worth. Such investment is predictive of greater body image reactivity and instability in daily life (Cash et al., 2002; Melnyk, Cash, & Janda, 2004).

Relative to males, females in our society are clearly more body dissatisfied (Feingold & Mazzella, 1998; Striegel-Moore & Franko, 2002), partly due to the strong media emphasis on women's thinness and attractiveness. Societal and institutional changes are needed to de-emphasize unrealistic physical "standards." The media could use average-sized models instead of thin ones, as the former may be equally effective in ads without adversely affecting the body image of women with high internalization (Halliwell & Dittmar, 2004). Regardless of the targeted level of negative body image prevention and improvement efforts, from individual interventions (Cash & Hrabosky, 2004) to institutional and societal change strategies (Levine & Piran, 2004), such efforts are imperative in appearance-obsessed societies. As Levine and Smolak (2001) state, "mental health professionals, dedicated researchers, activists, parents, and a variety of professionals . . . must work together to extend, integrate, apply, and carefully evaluate all . . . models of prevention" (p. 256).

References

- Cash, T.F. (2002). Beyond traits: Assessing body image states. In T. F. Cash & T. Pruzinsky (Eds.), *Body image: A handbook of theory, research, and clinical practice* (pp. 163–170). New York: Guilford Press.
- Cash, T.F. (2002). Cognitive behavioral perspectives on body image. In T. F. Cash & T. Pruzinsky (Eds.), *Body image: A handbook of theory, research, and clinical practice* (pp. 38–46). New York: Guilford Press.
- Cash, T. F., & Hrabosky, J. I. (2004). The treatment of body-image disturbances. In J. K. Thompson (Ed.), *Handbook of eating disorders and obesity* (pp. 515–541). New York: Wiley.
- Cash, T. F., & Pruzinsky, T. (Eds.). (2002). *Body image: A handbook of theory, research, and clinical practice*. New York: Guilford Press.
- Cash, T. F., Fleming, E. C., Alindogan, J., Steadman, L., & Whitehead, A. (2002). Beyond body image as a trait: The development and validation of the Body Image States Scale. *Eating Disorders: The Journal of Treatment and Prevention*, 10, 103–113.
- Cash, T. F., Melnyk, S. E., & Hrabosky, J. I. (2004). The assessment of body image investment: An extensive revision of the Appearance Schemas Inventory. *International Journal of Eating Disorders*, 35, 305–316.
- Cattarin, J. A., Thompson, J. K., Thomas, C., & Williams, R. (2000). Body image, mood, and televised images of attractiveness: The role of social comparison. *Journal of Social and Clinical Psychology*, 19, 220–239.
- Feingold, A., & Mazzella, R. (1998). Gender differences in body image are increasing. *Psychological Science*, 9, 190–195.
- Gonzalez-Lavin, A., & Smolak, L. (1995, March). Relationships between television and eating problems in middle school girls. *Paper presented at the meeting of the Society for Research in Child Development*.
- Groesz, L., 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.
- Hargreaves, D. A., & Tiggemann, M. (2003). Longer-term implications of responsiveness to thin-ideal television: Support for a cumulative hypothesis of body image disturbance. *European Eating Disorders Review*, 11, 465–477.
- Hausenblas, H. A., Janelle, C. M., Gardner, R. E., & Focht, B. C. (2004). Viewing physique slides: Affective responses of women at high and low drive for thinness. *Journal of Social and Clinical Psychology*, 23, 45–60.
- Heinberg, L. J., & Thompson, J. K. (1992). Social comparison: Gender, target importance ratings, and relation to body image disturbance. *Journal of Social Behavior and Personality*, 7, 335–344.
- Levine, M. P., & Piran, N. (2004). The role of body image in the prevention of eating disorders. *Body Image: An International Journal of Research*, 1, 57–70.
- Levine, M. P., & Smolak, L. (2001). Primary prevention of body image disturbances and disordered eating in childhood and early adolescence. In J. K. Thompson & L. Smolak (Eds.), *Body image, eating disorders, and obesity in youth: Assessment, prevention, and treatment* (pp. 237–260). Washington, DC: American Psychological Association.
- Melnyk, S. E., Cash, T. F., & Janda, L. H. (2004). Body image ups and downs: Prediction of intra-individual level and variability of women's daily body image experiences. *Body Image: An International Journal of Research*, 1, 225–235.

- Posavac, H. D., Posavac, S. S., & Weigel, R. G. (2001). Reducing the impact of media images on women at risk for body image disturbance: Three targeted interventions. *Journal of Social and Clinical Psychology, 20*, 324–340.
- Stice, E., Chase, A., Stormer, A., & Appel, A. (2001). A randomized trial of a dissonance-based eating disorder prevention program. *International Journal of Eating Disorders, 29*, 247–262.
- Stice, E. M., Schupak-Neuberg, E., Shaw, H. E., & Stein, R. I. (1994). Relation of media exposure to eating disorder symptomatology: An examination of mediating mechanisms. *Journal of Abnormal Psychology, 103*, 836–840.
- Striegel-Moore, R. H., & Franko, D. L. (2002). Body image issues among girls and women. In T. F. Cash & T. Pruzinsky (Eds.), *Body image: A handbook of theory, research, and clinical practice* (pp. 183–191). New York: Guilford Press.
- Thompson, J. K., van den Berg, P., Roehrig, M., Guarda, A. S., & Heinberg, L. S. (2004). The Sociocultural Attitudes Towards Appearance Scale-3 (SATAQ-3): Development and validation. *International Journal of Eating Disorders, 35*, 293–304.
- Tiggemann, M. (2002). Media influences on body image development. In T. F. Cash & T. Pruzinsky (Eds.), *Body image: A handbook of theory, research, and clinical practice* (pp. 91–98). New York: Guilford Press.
- Tiggemann, M., & McGill, B. (2004). The role of social comparison in the effect of magazine advertisements on women's mood and body dissatisfaction. *Journal of Social and Clinical Psychology, 23*, 23–44.