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Victoria's Dirty Secret: How Sociocultural Norms Influence Adolescent Girls and Women

Erin J. Strahan
Adèle Lafrance
Anne E. Wilson
Nicole Ethier
Wilfrid Laurier University

Steven J. Spencer
Mark P. Zanna
University of Waterloo

The present studies tested whether the salience of sociocultural norms for ideal appearance leads women to base their self-worth more strongly on appearance, which in turn leads them to feel more concerned with others' perceptions and less satisfied with their bodies. Study 1 tested this model by manipulating the salience of the sociocultural norm among female university students. The model was supported. In Study 2 an intervention challenging the legitimacy of the sociocultural norm was delivered to female and male adolescents. Compared to controls, females who received this intervention were less accepting of the sociocultural norms for appearance, based their self-worth less strongly on appearance, and in turn were less concerned with others' perceptions and were more satisfied with their bodies. The implications for women are discussed.

Keywords: *sociocultural norms for appearance; contingencies of self-worth; body image; media images; intervention*

In Western society, women feel tremendous pressure to be thin. Girls often start dieting as young as 10 years old and this preoccupation with weight and body shape is evident across the life span (Pliner, Chaiken, & Flett, 1990). In fact, women's dissatisfaction with their bodies is so widespread that some theorists refer to it as a "normative discontent" (Rodin, Silberstein, & Striegel-Moore, 1985). Theorists and researchers have suggested that women's body dissatisfaction is influenced by sociocultural norms for ideal appearance that are pervasive in society and particularly directed at women. These norms convey the message that women are valued for their bodies and appearance, that standards for attractiveness are very high, and that it is reasonable to measure oneself against, and strive for, such standards (Rodin et al., 1985).

Role of Media Messages in Women's Body Image

The media have been harshly criticized for creating and perpetuating a cultural standard for unrealistic thinness and beauty that is difficult, if not impossible, for most women to attain. For example, the average American woman is 5 ft 4 in. and 140 lb, whereas the average model is 5 ft 11 in. and 117 lb (National Eating Disorders Association, 2002). Researchers also find that fashion models are thinner than 98% of American women (Smolak, 1996). Correlational

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studies have shown that exposure to the media is negatively related to body satisfaction (Hofschire & Greenberg, 2002) and positively related to internalization of a slender ideal body shape (Stice, Schupak-Neuberg, Shaw, & Stein, 1994).

Researchers have also investigated the causal role of media images by experimentally manipulating exposure to these images. Reviews of this literature have suggested that the relation between media exposure and body image is not entirely straightforward (Levine & Smolak, 1998). Several studies demonstrate that exposure to ideal images increases body dissatisfaction (Irving, 1990; Stice & Shaw, 1994). However, other studies have found little or no impact of exposure to idealized media images on body satisfaction (Champion & Furnham, 1999). Still other researchers have found that the effect of exposure to ideal images is moderated by individual differences or social factors (D. Henderson-King, E. Henderson-King, & Hoffman, 2001; Mills, Polivy, Herman, & Tiggeman, 2002) and can in fact have a positive impact on body satisfaction under certain conditions. Although these findings paint a fuzzy picture of the role of the media in females' dissatisfaction with their bodies, a recent meta-analysis suggests that the media most typically have a negative impact on women (Groesz, Levine, & Murnen, 2002). Groesz et al. (2002) examined 43 effects reported in 25 studies and found that women who were exposed to idealized media images felt significantly more dissatisfied with their bodies than women who were exposed to control images.

Other researchers have examined mechanisms that help account for the relation between media and body image, such as thin-ideal internalization (e.g., Heinberg & Thompson, 1995) and social comparison processes (e.g., Tiggemann & McGill, 2004). First, the extent to which women internalize society's standards for thinness (thin-ideal internalization) is a risk factor for eating disorders, and women who internalize these standards have lower body satisfaction after exposure to thin media images. Thin-ideal internalization has also been shown to mediate the relation between media exposure and body satisfaction (Stice et al., 1994).

Second, social comparison processes may help account for the impact of media images on women's self-views. Research demonstrates that women compare themselves with the unrealistically high standards presented in the media (Strahan, Wilson, Cressman, & Buote, 2006). Furthermore, the number of social comparisons women make after exposure to ideal images partially mediates the images' effect on body dissatisfaction and negative mood (Tiggemann & McGill, 2004).

Contingent Self-Worth

In the current research we investigate an additional mechanism: We suggest that sociocultural norms affect women's self-image by increasing the degree to which they base their self-worth on physical appearance. Theorists and researchers have long recognized that successes and failures in personally valued domains determine self-worth far more than outcomes in more inconsequential arenas (James, 1890/1950; Kernis, 2003). Indeed, Crocker and Wolfe's (2001) Contingencies of Self-Worth Scale measures individual differences in people's tendency to base their self-worth on domains including academic achievement, family's acceptance, moral virtue, and appearance. Individual differences in self-worth contingencies predict reactions to domain-specific outcomes. For example, students who were highly contingent on academics experienced greater self-esteem fluctuations following acceptances and rejections from graduate schools (Crocker, Sommers, & Luhtanen, 2002).

Crocker (2002) theorizes that external contingencies of self-worth put people at risk for negative outcomes because they lead people to look to others for validation. Past research points to the role of external contingencies in body image. Sanchez and Crocker (2005) found that individuals who wanted to resemble their gender's ideal appearance reported greater external contingencies of self-esteem, which led to lower global self-esteem and more disordered eating symptomatology. In addition, Patrick, Neighbors, and Knee (2004) found that women with self-esteem based on external factors such as achievement and appearance compared themselves to models more readily than those low in contingent self-esteem, resulting in more negative affect.

The Current Research

Our research differs from this past work in two ways. First, we examine one specific external contingency—appearance-contingent self-worth—rather than external contingencies in general (i.e., achievement, others' acceptance, appearance) as past work has done (Sanchez & Crocker, 2005) because we argue that sociocultural norms for appearance should target this specific domain. Second, we treat contingent self-worth as a mediator variable that may be affected by situational context rather than as a preexisting individual difference. Although there is ample evidence of chronic individual differences in contingencies of self-worth (Crocker & Wolfe, 2001), to our knowledge, this is the first research to suggest that situational factors may *influence* the degree to which people base their self-worth on a particular domain. For example, the same individual might base his or her self-worth more strongly on academics while immersed in a study group and more strongly on appearance after reading a fashion magazine.
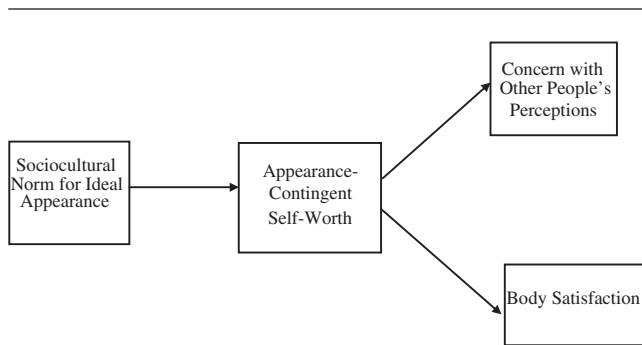
Figure 1 Effect of sociocultural norms on appearance-contingent self-worth, concern with others' perceptions, and body satisfaction.

In sum, we propose that sociocultural norms for appearance suggest to women that their value is determined by their appearance. Thus, exposure to media images reflecting these norms should lead women to base their self-worth more strongly on appearance, which in turn should reduce body satisfaction and increase concern with others' opinions (see Figure 1).

The direct effects that we propose in our model are consistent with past research. A meta-analysis of past research has demonstrated that ideal images most typically lead women to feel dissatisfied with their bodies (Groesz et al., 2002). In addition, Fredrickson and Roberts's (1987) body objectification theory posits that females learn that physical appearance is valued by others and as a result they are socialized to take a third-person observer perspective on their own bodies. This perspective leads women to feel self-conscious and to habitually monitor how they appear to others. Fredrickson and Roberts argue that media depictions of women as objects contribute to women's feelings of objectification. We suggest that ideal images in the media that highlight these sociocultural norms may lead women to worry about whether they are thin or attractive enough in the eyes of others and, more generally, may lead women to feel concerned about how other people view them.

More novel is our contention that salience of sociocultural norms influences appearance-contingent self-worth, which in turn affects body satisfaction and concern with others' perceptions. Despite the Kellogg's advertisement pronouncing, "A woman's value should not be determined by the pound," the predominant message conveyed in popular media is that a woman's worth *can* be determined by her weight and appearance. Women may conclude that if *society* values them for their appearance, then they, too, must determine their worth by how they look. Although women tend to accept sociocultural appearance norms as legitimate (Crocker, Cornwell, & Major, 1993), this ideal is difficult, if not impossible, for most women to attain. These norms should lead women to base their self-worth on a domain in which they are virtually guaranteed to fall short. As women become more invested in appearance as a basis for self-worth, they should become more evaluative of their appearance (leading to dissatisfaction in light of the high cultural standards). They may also become painfully aware that others might judge them harshly on the same grounds.

Past research has demonstrated that people with chronically high external contingencies of self-worth are more vulnerable to media and gender ideals (Sanchez & Crocker, 2005). If we find that *situational* exposure to norms can actually *increase* appearance contingencies, this process has important implications: It suggests that under the right circumstances *any* woman could become vulnerable to the costs associated with basing self-worth on external contingencies.

Overview of Studies

In Study 1 we manipulated the salience of sociocultural norms for ideal appearance in the lab. We tested whether exposure to images reflecting these norms had a direct effect on body satisfaction and concern with others' perceptions, and whether appearance-contingent self-worth accounted for these effects. Study 2 was a field study conducted at local public schools. Rather than manipulating salience of sociocultural norms, we created an intervention that challenged the *legitimacy* of sociocultural norms for ideal appearance. We tested whether adolescents who received this intervention based their self-worth less strongly on appearance, which in turn led to greater body satisfaction and less concern about others' opinions.

STUDY 1

First, we tested whether appearance contingencies of self-worth would mediate the impact of ideal images on women's body satisfaction and concern with others' perceptions. We focused on young undergraduate women who are thought to be among those most susceptible to media impact (Groesz et al., 2002). Although we acknowledge that men may also be influenced by idealized images in the media (Strahan et al., 2006), research suggests that norms still target women more pervasively and that women are more at risk for negative effects (Fallon & Rozin, 1985).

In this first study, we manipulated the salience of sociocultural norms for ideal appearance by exposing some women to media images that strongly convey these

norms (commercials containing images of thin, attractive women) and others to neutral stimuli. Subsequently, we measured how strongly participants based their self-worth on appearance, how dissatisfied they were with their bodies, and how concerned they were with others' perceptions.

Method

Participants

Participants were 68 female undergraduates in introductory psychology courses who received one experimental credit for participation.

Procedure

Participants were invited to take part in what was described as a long-term memory study. Participants were told that they would be shown a series of commercials and they should try to remember as much detail as possible. This cover story was given to ensure that participants would attend to the commercials while obscuring the study's true purpose.

Participants were randomly assigned to the experimental or control condition. In the control condition, participants viewed four neutral commercials containing no people. This is the most typical control condition used in past body image research (Groesz et al., 2002). Commercials advertised a cell phone, a gas station, a pharmacy, and an insurance company. In the experimental condition, participants viewed the same four neutral advertisements intermixed with two additional commercials conveying sociocultural norms. One commercial featured supermodels wearing Victoria's Secret bras, and the other featured a very thin, attractive woman promoting Dove soap.[1] The number of commercials participants viewed varied by condition because we thought it was more important to equalize ad *content* than ad *length*. Participants in the thin commercials condition watched approximately 45 additional seconds of commercials, which is unlikely to account for the specific differences that we find between conditions.

After watching the commercials, participants were told they needed to take a break to allow a delay before long-term memory could be tested. During this break, participants completed questionnaires ostensibly for other researchers in the department. These measures actually included our mediator and dependent variables. The experimenter left the room while the participant completed these measures to increase feelings of anonymity. Before leaving, participants were asked their height and, with their permission, were weighed, allowing us to calculate body mass index (BMI). Participants were fully debriefed and probed for suspicion.

Measures

Contingencies of self-worth. This 29-item scale was adapted from a longer version of Crocker and Wolfe's (2001) Contingencies of Self-Worth Scale. Nine of the items measured the extent to which participants based self-worth on appearance (e.g., "When I think I look unattractive, my self-esteem suffers"; α = .86) on a 7-point scale (1 = *strongly disagree, 7 = strongly agree*). The remaining items were filler items and measured other contingency domains (academic competence, family support, others' approval, virtue).

Appearance self-esteem. We included Heatherton and Polivy's (1991) 20-item State Self-Esteem Scale. Body satisfaction was measured using the 6 items that measure appearance self-esteem (e.g., "I am pleased with my appearance right now"; α = .82) on a 5-point scale (1 = *not at all, 5 = extremely*). The other items tap performance and social self-esteem.

Public self-consciousness. We assessed participants' concerns with others' opinions using the seven-item public self-consciousness subscale from Fenigstein, Scheier, and Buss's (1975) Self-Consciousness Scale (e.g., "I'm concerned about the way I present myself"; α = .74). Items were measured on a 5-point scale (0 = *extremely uncharacteristic, 4 = extremely characteristic*).

Results and Discussion

Appearance as a Basis of Self-Worth

We propose that exposure to images conveying the sociocultural norm for beauty will lead women to base their self-worth more strongly on appearance. We conducted a one-way ANOVA with type of commercial as the independent variable and score on appearance-contingent self-esteem as the dependent variable. Participants exposed to the commercials reflecting appearance norms based their self-esteem more strongly on appearance (*M* = 5.11, *SD* = 0.87) than did participants exposed to neutral commercials (*M* = 4.63, *SD* = 0.92), $F(1, 66) = 4.96$, p = .03, η^2 = .07, supporting our contention that salience of these norms may actually *alter* women's self-worth contingencies.[2]

We expected our manipulation to uniquely affect the appearance-contingency domain of self-worth. A test of the manipulation's influence on the other contingencies of self-worth revealed no condition effects for the aggregate of all nonappearance contingencies (p = .15). With regard to specific contingency domains, type of commercial did not influence academic competence, family support, or virtue (ps > .15). However, participants in the thin commercials condition had marginally higher

scores on the domain of others' approval than did those in the control, $F(1, 66) = 3.27$, $p = .08$.

Body Satisfaction

We expected that participants exposed to sociocultural appearance norms would report lower body satisfaction than control participants. We conducted a one-way ANOVA with type of commercial as the independent variable and appearance self-esteem as the dependent variable. Participants who viewed the ideal images were less satisfied with their bodies ($M = 3.07$, $SD = 0.77$) than were participants who viewed the neutral commercials ($M = 3.48$, $SD = 0.73$), $F(1, 66) = 5.00$, $p = .03$, $\eta^2 = .07$.

We expected that commercials should primarily affect appearance self-esteem. Further analyses revealed that the commercials did not affect performance self-esteem ($p = .59$) but that participants in the thin commercials condition had marginally lower social self-esteem, $F(1, 66) = 3.37$, $p = .07$.

Concern With Others' Perceptions

We also expected that participants exposed to images reflecting appearance norms would feel more concerned about others' judgments of them than would control participants. A one-way ANOVA with public self-consciousness as the dependent measure revealed that participants who viewed the thin commercials were significantly more concerned with others' opinions ($M = 2.96$, $SD = 0.55$) than were participants who viewed the neutral commercials ($M = 2.65$, $SD = 0.63$), $F(1, 66) = 4.14$, $p = .05$, $\eta^2 = .06$.

Test of the Process Model

Our proposed mediation model that specifies the sociocultural norm manipulation as the predictor, appearance-contingent self-worth as the mediator, and body satisfaction and concern with others' perceptions as the outcome variables was tested using path analyses. We used structural equation modeling (SEM; specifically, Amos 6.0; Arbuckle & Wothke, 1999) to increase the sensitivity of the analyses (see Spencer, Zanna, & Fong, 2005, for a discussion of the utility of this approach). The model is reported in Figure 2 and allows for associations between the outcome variables. Consistent with results reported previously, salience of sociocultural norms had a significant direct effect on both outcome variables: body satisfaction and concern for others' opinions. Consistent with our hypothesized mediation model, participants reported that their self-worth was more contingent on appearance when sociocultural norms were salient. In
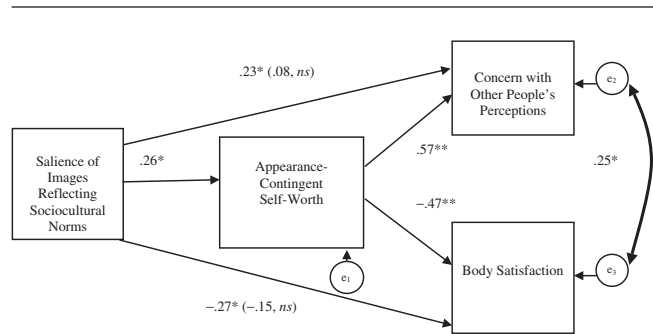

Figure 2 Study 1: Effect of exposure to ideal images on concern with others' perceptions and body satisfaction mediated by changes in appearance-contingent self-worth.
*$p < .05$. **$p < .01$.

turn, the more participants based their self-worth on appearance, the lower their body satisfaction was and the more concerned they were with others' perceptions of them. When the mediator was included, both direct effects were reduced to nonsignificance. Sobel tests indicate that appearance-contingent self-worth was a significant mediator for both the body satisfaction ($z = 1.95$, $p = .05$) and concern with others' opinions ($z = -1.95$, $p = .05$) pathways (Sobel, 1982). This path analysis suggests that the effect of sociocultural norms for appearance on body satisfaction and concern with others' perceptions is partly mediated by appearance-contingent self-worth.

Summary

Findings from Study 1 suggest that the sociocultural norms for appearance have a significant impact on women's dissatisfaction with their bodies and the extent to which they are concerned with other people's perceptions of them. Furthermore, exposure to images reflecting these norms led women to base their self-worth more strongly on their appearance, which in turn led them to feel less satisfied with their bodies and more concerned with others' opinions.

In the first study, we suggested that exposure to idealized media images makes salient sociocultural norms for appearance. In Study 2, rather than increasing salience of sociocultural norms, we attempted to *reduce* acceptance of norms by designing an intervention challenging these beliefs. If we find that people who received the challenging-norms intervention base their self-esteem less strongly on appearance, which in turn leads them to feel more satisfied with their bodies and less concerned with others' perceptions, we will have convergent evidence of the causal role of sociocultural norms and further support for our process model.

STUDY 2

In Study 2, a field study conducted at local public schools, we test the causal role of sociocultural norms by delivering an intervention to reduce their impact. Adolescents received either the challenging-norms intervention or a control intervention. Dependent measures were collected 1 week later. To ensure that sociocultural norms were salient to participants before completing the dependent variables, we exposed all participants to idealized images at the beginning of that session.

We expected that adolescents who received the intervention in which the sociocultural norm was challenged would base their self-worth less strongly on appearance, which in turn would lead to more body satisfaction and less concern with others' opinions. We also expected these findings to be more pronounced for female adolescents. This expectation is based on past research that has demonstrated that females (a) feel greater pressure than males to look thin and attractive (Rodin et al., 1985), (b) believe that the sociocultural norm for beauty is legitimate (Crocker et al., 1993), and (c) are more inclined to derive their self-esteem from their appearance than males (Harter, 1999).

The notion of conducting interventions to target body image cognitions and behaviors is not new. Many interventions using a wide range of procedures and theoretical goals have been tested, often with limited success (see Austin, 2000, for a review). Several more recent interventions found positive changes in attitudes about appearance or eating (O'Dea & Abraham, 2000). For example, one intervention with some conceptual similarities to our approach had women who were high in internalization of the thin ideal voluntarily argue against the value of the thin ideal in our society (Stice, Mazotti, Weibel, & Agras, 2000). This intervention reduced thin-ideal internalization, body dissatisfaction, and dieting behavior. Our primary goal, however, was to create an intervention that would allow us to test our theoretical arguments about the impact of sociocultural norms for ideal appearance. Therefore, we do not review the literature on body image interventions in detail here.

In this study, we tested the effectiveness of an intervention that challenged the legitimacy of the sociocultural norms dictating appearance. Each activity was specifically designed to contest the idea that to be accepted in society, women need to be thin and beautiful and men need to be tall and muscular. Although all activities were consistent with this theoretical framework, we recognize that by using multiple activities, we sacrifice some precision to ensure a higher impact intervention. In other words, because we thought it was important to have students engage in multiple, hands-on, dynamic activities, we cannot determine the exact impact of each activity.

We wanted to ensure that any treatment effects we found were a result of the content of the intervention. To rule out the possibility that our findings could be attributed to the fact that intervention participants received special treatment and attention, we included a control intervention. Participants in the control condition received an intervention of the same length and format designed to promote positive attitudes toward volunteering. In addition, to reduce the possibility of demand characteristics, we waited 1 week before collecting the dependent measures, had different research assistants collect those measures, and used a cover story to disguise the purpose of the final session. We included a suspicion probe at the end of the session to directly assess students' beliefs about whether the sessions were related.

Consistent with the findings from our first study, we expected that participants (especially girls) who received the experimental intervention that challenged the sociocultural norm of appearance would base their self-worth less strongly on appearance, which in turn would lead them to feel more satisfied with their bodies and less concerned with others' perceptions.

Method

Participants

Participants were 146 students (73 females, 73 males) recruited from three local schools located in demographically similar areas with respect to socioeconomic and cultural composition. Mean age was 12.5 years. Three male participants were excluded from the analyses because they received the questionnaire intended for girls. Random assignment was used to assign conditions to the various schools.[3] Participants from two of the three schools received the experimental intervention that challenged sociocultural norms about appearance. Participants from the third school received the control intervention that promoted volunteerism. Consent was obtained from the school principals, the students, and their parents.

Procedure

The experimental intervention consisted of two 80-min group sessions delivered over a 2-week period. One male and one female research assistant led all sessions. Each activity was designed to challenge sociocultural norms for ideal appearance that convey the notion that people need to look like the unattainable ideals portrayed in the media to be accepted and successful in life. A cover story was used to increase students' engagement without increasing demand characteristics. Students were informed that we were currently developing a program to encourage young people to question messages in the

media and that we wanted their help and feedback on the program we would deliver in the future to students their age.

Session 1 began with an interactive discussion of "ideal" body types for men and women, aided by PowerPoint slides depicting idealized media images. Next, facilitators presented images reflecting historical changes in ideal bodies from the Renaissance period to the present and discussed the flexibility of these ideals. Students nominated various sources that convey sociocultural appearance norms (e.g., the media, one's friends and family). Then, in small groups, students engaged in problem solving in response to scenarios in which an individual was described as feeling pressure to look a certain way. Subsequently, the entire class discussed these coping strategies and incorporated them into a "toolbox" representing techniques that students could use to combat the negative effects of sociocultural norms.

Next, facilitators conveyed how unrealistic and unattainable appearance ideals can be by breaking down the time and effort required to prepare a magazine photo (i.e., hairstyling, wardrobe, makeup, airbrushing), illustrated by contrasting real-life pictures of celebrities with their "perfected" media images. Finally, facilitators helped students identify risks associated with pursuing sociocultural ideals to deglamorize these norms and reduce their appeal.

In Session 2, students were given the opportunity to apply what they learned in two activities: a debate and the creation of a poster. For the debate, pairs of students from each of two teams argued *against* each of 10 statements *supporting* sociocultural norms, earning points for the strength of their arguments. Next, students were provided with materials (including magazine images, markers, glue, etc.) and encouraged to create posters challenging the sociocultural norms about appearance. Finally, facilitators summarized the main points from both sessions and thanked the students for their participation.

The control intervention promoting volunteerism mirrored the procedure of the experimental intervention in two 80-min sessions. Because the content is not relevant to the current focus, it will not be discussed in detail.

Dependent variable collection. One week after the second intervention session, a different male–female pair of research assistants (blind to condition) collected the dependent variables. No connection was made to the intervention sessions, leading students to believe that this was an unrelated study. They were told that the purpose of the session was to find out their impressions of some magazine advertisements and to gather some general information about students' personalities, values, self-views, and opinions. The first three pages of the booklet

contained advertisements and asked for students' evaluations. All students first evaluated a neutral ad for toothpaste, then evaluated one ad featuring a male model and one ad featuring a female model. Boys received these ads ordered such that the ideal male image came last (to make it most salient as they completed other measures); females saw the ideal female ad last.[4]

Participants then completed a booklet of questionnaires that included our dependent measures mixed with filler questionnaires including measures of volunteering attitudes and intentions. Finally, students completed a written suspicion probe assessing thoughts about any connection between this session and previous intervention sessions. No one identified the connection between the two studies. Participants were then fully debriefed.

Measures

Rejection of sociocultural norms. We expected that participants in the experimental intervention would challenge the sociocultural norms for appearance to a greater extent than would participants in the control intervention; therefore, we created a two-item measure of perceived legitimacy of norms, $r(139) = .33$, $p < .001$ (e.g., "The way women look in magazines, TV, and movies is unrealistic. It isn't like 'real life.'"). Participants responded to these items on 5-point scales (1 = *completely disagree, 5 = completely agree*).

Thin-ideal internalization. We also included the internalization component of Heinberg, Thompson, and Stormer's (1995) Sociocultural Attitudes Toward Appearance Questionnaire (SATAQ) as a second manipulation check (e.g., "I believe that clothes look better on thin models"; $\alpha = .82$). Participants responded to these seven items on a 5-point scale (1 = *completely disagree, 5 = completely agree*). Different versions of this scale were given to male and female participants with questions reflecting the ideals for their gender. The remaining dependent measures were the same as those described in Study 1, except for the modifications noted next.[5]

Contingencies of self-worth. Crocker and Wolfe's (2001) Contingencies of Self-Worth Scale was shortened to 18 items. Six of the items measured our mediator, appearance-contingent self-worth ($\alpha = .69$). The remaining items measured other contingency domains (academic competence, family support, others' approval, virtue).

Appearance self-esteem. The State Self-Esteem Scale (Heatherton & Polivy, 1991) was shortened to 16 items, including 4 items measuring appearance self-esteem ($\alpha = .68$). We included 1 additional item directly assessing body satisfaction: "How satisfied are you with

the shape of your body?" on a 7-point scale (1 = *not satisfied at all,* 7 = *completely satisfied*). Responses from these two measures were standardized and aggregated (α = .77) to create a composite measure of body satisfaction. The other items assessed performance and social self-esteem.

Public self-consciousness. We used three items from the Self-Consciousness Scale (Fenigstein et al., 1975), which measures concern with others' perceptions of one's appearance (α = .59).

Results and Discussion

Preliminary Analyses

First, we examined whether school and classroom within the school should be included as a control factor when estimating intervention and gender effects. In these preliminary models, gender, intervention, and their interaction were always treated as fixed effects. We estimated the contribution of school and classroom to total residual variance using mixed-effects models treating school and classroom as random effects. For all of the dependent measures under consideration, school contributed less than 3% to total variance (p > .28) and classroom contributed less than 4% to total variance (p > .33). We also fit a nested fixed-effects ANOVA treating school within classroom as a nested factor. This factor was not statistically significant for any of the dependent measures (p > .12). Therefore, we pooled responses over school and classroom for all results reported in this study.

Manipulation Checks

The experimental intervention should have led participants to challenge sociocultural norms for ideal appearance more than the control intervention. First, we directly measured participants' tendency to challenge the legitimacy of the sociocultural norms with the two-item scale created by the authors. Second, we tested whether people who received the experimental intervention would report less internalization of the thin ideal (Heinberg et al., 1995).

Rejection of sociocultural norms. We conducted a 2 (condition) × 2 (gender) ANOVA with acceptance of the sociocultural norm as the dependent variable. Both male and female participants who received the experimental intervention rejected the legitimacy of sociocultural norms (M = 4.23, SE = .10) to a greater extent than participants who received the control intervention (M = 3.52, SE = .11), $F(1, 138)$ = 23.11, p < .001, η^2 = .14. Girls were marginally more likely to reject the norms than boys, $F(1, 138)$ = 3.54, p = .06, η^2 = .02.

Gender did not interact with condition, $F(1, 138)$ = 1.84, p = .18, η^2 = .01.[6]

Thin-ideal internalization. A 2 (condition) × 2 (gender) ANOVA with the internalization subscale of the SATAQ as the dependent variable revealed that both male and female participants who received the experimental intervention (M = 2.11, SE = .10) internalized the norms less did than participants who received the control intervention (M = 2.60, SE = .10), $F(1, 142)$ = 12.71, p < .001, η^2 = .08. A main effect for gender indicated that females (M = 2.57, SE = .10) internalized the norm more than did males (M = 2.14, SE = .10), $F(1, 142)$ = 10.16, p = .002, η^2 = .07. Gender did not interact with condition, $F(1, 142)$ < 1, p = .64, η^2 = .002. Taken together, manipulation check findings suggest that our intervention led both girls and boys to challenge the legitimacy of the sociocultural norm for appearance and its associated body ideals.

Appearance as a Basis of Self-Worth

Consistent with the first link in our model, we expected that participants in the experimental intervention would base their self-worth less strongly on appearance than would control participants. We also expected that this pattern might be particularly evident for girls. A 2 (condition) × 2 (gender) ANOVA on appearance-contingent self-esteem revealed a significant Condition × Gender interaction, $F(1, 124)$ = 4.11, p = .05, η^2 = .03. We conducted planned contrasts on boys and girls separately.[7] Boys were not affected by the intervention (F < 1, *ns*), reporting equal appearance-contingent self-esteem in the experimental (M = 4.02, SD = 1.06) and control (M = 3.88, SD = 1.19) interventions. In contrast, girls in the experimental intervention based their self-esteem less strongly on appearance (M = 3.99, SD = 1.04) than did those in the control condition (M = 4.64, SD = 1.11), $F(1, 63)$ = 5.77, p = .02, η^2 = .08.

In addition, girls in the control condition based their self-esteem more strongly on weight and appearance than did boys in the control condition, $F(1, 54)$ = 6.01, p = .02, η^2 = .08, reflecting the typical tendency for appearance to be a greater determinant of females' self-worth. Notably though, boys and girls in the experimental intervention did not differ on appearance-contingent self-esteem (F < 1, *ns*). Hence, the experimental intervention appears to have eliminated the gender difference in this potentially costly external contingency.

As in Study 1, we examined whether our manipulation influenced other domains on which people can base their self-worth. We found no condition or interaction effects for the aggregate of all nonappearance contingencies (ps > .12). With regard to specific contingency

domains, type of intervention did not influence academic competence or others' approval (*p*s > .16). However, the volunteering intervention appeared to increase the degree to which participants' self-esteem was contingent on virtue and family support (*F*s > 4.52, *p*s < .04). It is worth noting that the marginal effect on others' approval contingency of self-worth found in Study 1 was not replicated in Study 2. It appears, then, that sociocultural norms for appearance primarily target appearance contingencies of self-worth.

Body Satisfaction

We predicted that participants—especially girls—who received the experimental intervention would feel more satisfied with their bodies than would participants who received the control intervention. A 2 (condition) × 2 (gender) ANOVA with body satisfaction as the dependent variable revealed a significant Condition × Gender interaction, $F(1, 124) = 4.29$, $p = .04$, $\eta^2 = .03$. Boys in the experimental intervention were equally as satisfied with their bodies ($M = 0.18$, $SD = 0.58$) as boys in the control intervention ($M = 0.09$, $SD = 0.82$), $F(1, 61) < 1$, *ns*. In contrast, girls who received the experimental intervention were more satisfied with their bodies ($M = 0.07$, $SD = 0.71$) than were girls who received the control intervention ($M = -0.40$, $SD = 0.91$), $F(1, 63) = 5.59$, $p = .02$, $\eta^2 = .08$.

Girls in the control condition were more dissatisfied with their bodies than were boys in the control condition, $F(1, 54) = 8.05$, $p = .006$, $\eta^2 = .13$, reflecting the widespread body discontent found for females. However, girls in the experimental condition were as satisfied as boys with their bodies ($F < 1$, *ns*). Hence, when sociocultural norms for appearance are challenged, females' typical vulnerability to body dissatisfaction disappears.

We also examined whether gender and intervention condition affected performance or social self-esteem and found no condition or interaction effects for either performance or social self-esteem (*p*s > .11).

Concern With Others' Perceptions

We also expected participants—particularly girls—in the experimental intervention would be less concerned about other people's opinions than would participants in the control intervention. A 2 (condition) × 2 (gender) ANOVA with concern with others' opinions as the dependent variable revealed only a main effect of gender, $F(1, 124) = 9.36$, $p = .003$, $\eta^2 = .07$. However, because of our strong basis for expecting a greater impact on females, we conducted planned contrasts with girls and boys separately. Boys in the experimental and control interventions were equally concerned with others' perceptions ($M = 4.13$,

$SD = 1.09$ and $M = 4.26$, $SD = 1.43$, respectively), $F(1, 61) < 1$, *ns*. However, girls who received the experimental intervention tended to be less concerned with others' perceptions ($M = 4.59$, $SD = 1.28$) than did girls who received the control intervention ($M = 5.17$, $SD = 1.19$), $F(1, 63) = 3.43$, $p = .07$, $\eta^2 = .05$.

In addition, girls in the control condition were more concerned with others' opinions than were boys in the control condition, $F(1, 54) = 6.57$, $p = .01$, $\eta^2 = .11$. However, boys and girls in the experimental intervention did not differ in their concern for others' opinions, $F(1, 70) = 2.65$, $p = .11$. Hence, challenging the appearance norms appeared to reduce the gender difference in public self-consciousness.

Test of the Process Model

As in Study 1, we tested our proposed mediation model using SEM. Because the intervention affected only girls on the variables of interest, the model is tested only for girls. The intervention manipulation was specified as the predictor, appearance-contingent self-worth as the mediator, and body satisfaction and concern with others' perceptions as the outcome variables (see Figure 3 for standardized estimates). The model allows for associations between the outcome variables. The intervention condition had a significant direct effect on body satisfaction and a marginal effect on concern for others' opinions. Consistent with our hypothesized mediation model, girls in the challenging-norms intervention condition reported that their self-worth was less contingent on appearance than did girls in the control intervention. In turn, the less strongly girls based their self-worth on appearance, the more satisfied they were with their bodies and the less concerned they were with others' perceptions of them. When the mediator was included in the analysis, both direct effects were reduced to nonsignificance. Sobel tests indicate that the mediation pathway was marginally significant for body satisfaction ($z = 1.82$, $p < .07$) and significant for concern with others' opinions ($z = 2.07$, $p = .04$; Sobel, 1982). Highly consistent with Study 1, this path analysis suggests that the effect of sociocultural norms for appearance on body satisfaction and concern with others' perceptions is partly mediated by appearance-contingent self-worth. In fact, if the results are meta-analyzed across the two studies, the Sobel tests for mediation are highly reliable for both body satisfaction ($z = 2.66$, $p < .01$) and for concern with others' perceptions ($z = 2.84$, $p < .01$).

Summary

In the second study, we found that an intervention that challenged the legitimacy of the sociocultural norms dictating appearance had a significant impact on
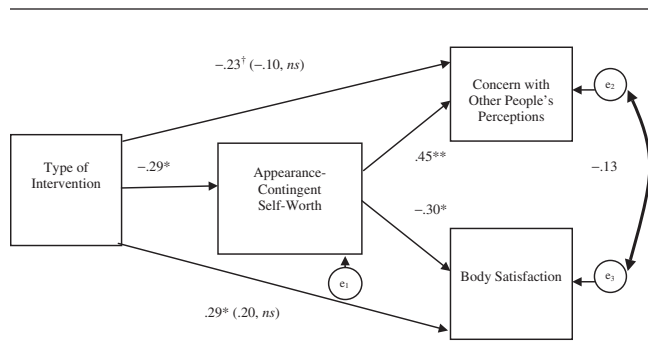
Figure 3   Study 2: Effect of type of intervention on concern with others' perceptions and body satisfaction mediated by changes in appearance-contingent self-worth.

$^\dagger p = .06.$ $^* p < .05.$ $^{**} p < .01.$

female adolescents. Despite being exposed to an idealized media image reflecting sociocultural norms for beauty, girls who received the challenge to the norm intervention based their self-worth less strongly on appearance, which in turn led them to feel more satisfied with their bodies and less concerned with others' perceptions (relative to a control condition).

We attempted to reduce the potential for demand characteristics in this study by using a cover story, waiting 1 week before the collection of dependent measures, and using different experimenters to collect these measures. Other findings also suggest that demand characteristics did not account for our results. First, although both boys and girls in the experimental condition reduced their acceptance of sociocultural norms, boys' contingencies of self-esteem, body dissatisfaction, and concern with others' perceptions were not affected by the intervention. If our results were due to experimental demand, one might expect both genders to respond in similar ways. Second, participants were probed for suspicion in a private questionnaire and nobody linked the dependent variable collection to the earlier intervention sessions. This strengthens our confidence that the results for the females in this study were due to the intervention. These findings offer convergent evidence for the causal role of sociocultural norms for appearance: Challenging the sociocultural norm appeared to alleviate the vulnerability often displayed by women and girls in the domain of physical appearance.

GENERAL DISCUSSION

Taken together, these studies provide considerable support for our model. In Study 1, women who were exposed to ideal images that reflected sociocultural norms based their self-worth *more* strongly on appearance than did

women exposed to neutral images, and they subsequently felt less satisfied with their bodies and more concerned with others' perceptions. In Study 2, an intervention that challenged sociocultural norms dictating appearance appeared to alleviate female participants' vulnerability to the effects of sociocultural standards of appearance. When female adolescents received the intervention that challenged the norms, they based their self-worth *less* strongly on appearance, leading to increased body satisfaction and decreased concern with others' perceptions.

Gender Specificity of Model

Notably, although the intervention in Study 2 appeared to affect participants of both genders (i.e., girls and boys in the experimental intervention accepted and internalized the norms less than controls), only girls in the experimental condition reported basing their self-worth less strongly on appearance and reported feeling more satisfied with their bodies and less concerned with others' perceptions. Consistent with past findings (Pliner et al.,1990), we find that in the control condition, boys base their self-worth less strongly on appearance and are more satisfied with their bodies than are girls (arguably reflecting the typical gender difference). Thus, an intervention that challenges sociocultural norms may affect boys less because they are already relatively immune to these norms. Alternatively, it is possible that we created an intervention that more effectively targeted concerns pertinent to girls than to boys.

Even though boys' and girls' rejection of the legitimacy of sociocultural norms and their internalization of the thin ideal were equally affected by the intervention in Study 2 (i.e., gender and condition did not interact), the differences between boys and girls on these measures that remained despite the intervention were interesting. Girls tended to see the sociocultural norms as less legitimate than did boys, and yet girls internalized the thin ideal more than did boys. Together these differences might have made girls more responsive than boys to the intervention. Because girls were less accepting of the legitimacy of the sociocultural norms, they may have been more receptive than boys to the message presented in the intervention. Alternatively, because they had greater internalization of the thin ideal, they may have paid more attention than boys to the intervention. In any event, further research is needed to understand why the current intervention was effective for girls and not for boys.

It is also possible that the intervention's effectiveness for girls was enhanced by the presence of boys (Austin, 2000). If girls were aware that the boys in their social circles also questioned sociocultural norms, they might

feel more confident in rejecting the legitimacy of these norms. This is consistent with evidence that girls and women often believe that others "buy into" sociocultural norms to an even greater extent than themselves; hence, regardless of their own evaluation of the legitimacy of the norms they believe they will be measured against them by others (Park, 2005).

Does Our Model Apply to All Women?

We did not find evidence that individual differences, such as restrained eating status or BMI, moderated our effects in Study 1, supporting the idea that women's concern with their weight is a normative discontent (Rodin et al., 1985). We suggest that almost all women are vulnerable to sociocultural norms, especially when they are very salient. However, we do allow for the possibility that other individual differences might moderate our model. For example, women with strong feminist beliefs or women who are chronically high in thin-ideal internalization might respond differently to sociocultural norms, thereby either reducing or exacerbating the negative impact of ideal images.

However, although the degree to which women internalize these norms varies (Heinberg et al., 1995), we suggest that most women at least implicitly accept the legitimacy of these norms. For instance, because weight is seen as controllable, women tend to believe that they should be able to achieve a more ideal body as long as they are disciplined (Major & Crocker, 1993; Quinn & Crocker, 1999). Additionally, women are aware that they can be negatively evaluated based on their weight and appearance, and they seem to think that such an evaluation is warranted if they do not conform to society's standards for these attributes (Crocker et al., 1993).

This widespread acceptance of the norms' legitimacy may help account for why norms can directly influence contingencies of self-worth. We argue that contextual factors (such as salience of norms) can have a causal effect on self-worth contingencies. However, presumably contextual factors should only affect individuals who accept that it is legitimate to base one's self-worth on that domain. For example, a situational factor such as the presence of a Bible could increase the extent to which self-worth is based on God's love, but only if that person already has faith in God. Salience of sociocultural norms for appearance may play a powerful role in the degree to which people's self-esteem is contingent on appearance because most women presume the legitimacy of these norms.

Media and Sociocultural Norms for Appearance

In the current studies we used media images to make salient the messages conveyed in sociocultural norms for appearance. We deliberately chose ads that reflected various features of the cultural ideal for attractiveness, thinness, height, and body shape. These ads are certainly multifaceted, but so are the sociocultural norms for ideal appearance. Women in these ads are undoubtedly sexualized, objectified, and idealized, and we do not claim to disentangle precisely which features of the ads drive our effects. Future research could examine the impact of specific ad features, as well as investigating other routes by which these norms are communicated.

Relation of Our Findings to Self-Objectification Theory

Our findings are consistent with the contention of self-objectification theory that women are socialized to take a third-person perspective on their own bodies and that media depictions of women as objects lead them to feel self-conscious and to habitually monitor their outward appearance (Fredrickson & Roberts, 1997). Accordingly, we found that women exposed to ideal media images were more concerned with others' perceptions than were women not exposed to these images. In addition, the current results expand on this theoretical perspective by demonstrating that appearance-contingent self-worth mediates the relation between sociocultural norms and women's appearance self-consciousness. This is consistent with Fredrickson's perspective, but it has never been tested empirically. Fredrickson has also argued that self-objectification can disrupt and limit an individual's mental resources (Fredrickson, Roberts, Noll, Quinn, & Twenge, 1998). The time and energy that women devote to worrying about their appearance limits the mental resources they could be using for (arguably) more important activities, such as academics, career, or athletics.

Mechanisms Accounting for Body Image Effects

The current research identifies appearance-contingent self-worth as a previously unexplored mechanism that helps account for the relation between sociocultural messages and outcomes including body dissatisfaction and concern with others' perceptions. It is important to emphasize that our research does not imply a criticism of previous process models (i.e., social comparison and thin-ideal internalization), nor do we mean to supersede them. Previous models make important contributions to our understanding about the psychology of body image; we believe that our research adds to this understanding. Specifically, our research focuses on broader self and identity implications of sociocultural norms for appearance. Not only do these sociocultural norms influence women's beliefs about what they should look like, but

they may have the power to affect their more core feelings about where they derive their feelings of self-worth.

Implications of Sociocultural Norms

One of the most important and novel findings from these studies is the strong causal link, for women and girls, between sociocultural norms for ideal appearance and appearance-contingent self-worth. This finding has important implications for women: When women are exposed to these sociocultural messages, appearance will become a larger basis of their self-esteem. Most women cannot live up to the standards set by these sociocultural norms; therefore, they come to base their self-worth on an aspect of their self that will be inherently threatening. In the current research, it appeared that simply viewing images that reflect the sociocultural norms reinforced women's belief that they should measure their self-worth with their appearance.

To our knowledge this is the first set of studies to treat context as a significant determinant of self-worth contingencies (rather than treating contingencies of self-worth as a chronic individual difference). Specifically, exposure to images conveying sociocultural norms increased appearance-contingent self-worth, and challenging those norms decreased it. If temporarily increasing salience of these norms in the lab can influence the domains on which women base their self-worth, one can only imagine how repeated exposure to these norms in our society might influence the bases of women's self-esteem. Crocker (2002) suggests that any external contingencies of self-worth have significant costs to well-being. Women who base their self-worth on appearance will look outward for validation that may result in an unstable self-view, as well as a number of unhealthy or even self-destructive behaviors (Sanchez & Crocker, 2005).

Our finding that women value appearance more after being exposed to ideal images can be contrasted with past research that suggests that people will devalue or disidentify with a domain when faced with threatening information about the self. For example, when faced with a threatening social comparison, people may protect themselves by reducing the self-relevance of that comparison dimension (Tesser & Campbell, 1982). Similarly, when people are reminded of a negative ingroup stereotype, they may disidentify with the stereotyped dimension to protect their self-esteem (e.g., Major, Spencer, Schmader, Wolfe, & Crocker, 1998; Steele, 1997). Thus, it appears that people tend to base their self-esteem on things that bolster their self-image, not crush it. In contrast, our findings present a dramatic exception to this general rule. In Study 1, women were faced with images of the unattainable sociocultural ideal, but instead of disidentifying, they actually cared *more* about their weight and appearance despite the threat these ideals present to the self.

This failure to protect the self may well represent a relatively common phenomenon that has received little attention by the field. In the current studies women are placed in a difficult predicament. They must acknowledge that they do not measure up to the strong sociocultural norms for beauty or they must abandon this ideal with the possible unsettling implication of interpersonal or societal rejection. Given this dilemma, it is perhaps not surprising that women embrace the sociocultural norms in spite of their negative self-image implications.

Those mired in poverty in American culture might well face a similar predicament: Having to acknowledge that one does not measure up to the American Dream or abandon this ideal with the possible unsettling implication that there is no hope. Similarly, women in abusive relationships must acknowledge that they do not live up to the ideal of marital bliss or abandon this ideal with the unsettling implication that they will be left alone and unable to fend for themselves.

It is our view that these predicaments in which people face acknowledging that they do not measure up to a sociocultural ideal—as unattainable as it may be—or risk abandoning this ideal with the negative consequences and ostracism that such abandonment might entail are important and powerful situations that merit further study.

Although in the present research we study sociocultural norms associated with appearance (in the form in which they exist in Western society), this is just one of many sociocultural norms with implications for people's identity and behavior. Sociocultural norms exist across a variety of domains in different cultures and will be differentially pervasive for various groups within society. For example, sociocultural norms for modesty may be especially common within Japanese culture (Heine, Toshitake, & Lehman, 2000) and sociocultural norms for machismo may be particularly pervasive for young men in cultures of honor (Cohen, Nisbett, Bowdle, & Schwarz, 1996). The specific consequences of not living up to cultural standards will vary depending on the content of the norm, but the process of shifting one's contingencies of self-worth may be consistent across a variety of domains and cultures.

Conclusions

It seems clear that exposure to societal messages that reflect the sociocultural norm for ideal appearance has a negative effect on women. We suggest that repeated exposure to such images in our society leads women to measure their self-worth by their appearance, accounting for their widespread body dissatisfaction and self-consciousness. Given the pervasiveness of these

media messages, the results from Study 1 can be seen as disheartening. However, the findings from Study 2 are more hopeful. They suggest that challenging the legitimacy of these sociocultural norms may help break the cycle in which these norms increase appearance-contingent self-esteem, thereby allowing women to become more accepting of and less self-conscious about their own physical appearance.

NOTES

1. This study was conducted before more recent Dove commercials that present women of varying weights and sizes.

2. We tested whether restrained eating (Herman & Polivy, 1980), which was obtained in an earlier mass testing session, and body mass index (BMI) were significant covariates for any of the dependent measures. Restrained eating was not a significant covariate and did not interact with or reduce the effect of the ideal images on our mediator and outcome variables (Fs <1, ns); therefore, it will not be discussed further. BMI was a significant covariate only for the analysis with appearance self-esteem as the dependent measure, and it did not moderate any of our findings. The pattern of results was not altered for any of the dependent variables regardless of whether BMI was included.

3. Because this study spanned several weeks, we were concerned that students at the same school would talk to one another about the intervention. If more than one intervention had been delivered at the same school, this may have seriously diluted its effects. Therefore, we delivered only one intervention per school.

4. It would have been preferable to experimentally manipulate exposure to ideal images; however, the size of the available sample precluded this option. We chose to present all participants with idealized images because this provided us with the most conservative test of the efficacy of our intervention.

5. Several scales were adapted slightly to accommodate the vocabulary level of the adolescents. Some scales were also shortened because of the time constraints placed on us by schools. Details about minor changes are available from the first author on request.

6. Minor variations in degrees of freedom reflect that a few participants did not complete some scales.

7. Because the Gender × Intervention Condition interactions were not always significant in this study, we performed all of the planned contrasts using the degrees of freedom and mean square error for the individual condition (rather than the total) to provide a more conservative test of our hypotheses.

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