Positive and Negative Media Image Effects on the Self

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We examine several factors that determine whether exposure to thin (or heavy) media images positively or negatively affects consumers' appearance self-esteem. We find that the effects of exposure to models in advertisements depend on two moderating factors: (1) the extremity of the model's thinness or heaviness, and (2) the method by which self-esteem is measured (free responses vs. rating scales). We also establish the underlying role of self-knowledge activation by examining response latencies in a lexical decision task.

A model-thin body is now considered an ideal that every woman should admire and achieve (Wertheim et al. 1997). This article examines how exposure to thin (or heavy) media images affects women's appearance self-esteem. Richins (1991) demonstrated that women were less satisfied with their own physical appearance after they viewed advertisements featuring thin, attractive models. A number of other researchers have confirmed that exposure to thin media images can negatively affect body-image perception (Meyers and Biocca 1992) and assessment of one's own attractiveness (Martin and Gentry 1997). However, there is also evidence that exposure to thin models in magazines can lead to self-enhancement (Henderson-King and Henderson-King 1997) and thinner self-ratings (Mills et al. 2002) than exposure to larger body images. Thus, it remains unclear under which conditions such exposure results in assimilative or contrastive shifts in self-evaluation. In this article, we integrate some of these previously divergent findings and extend Richins's (1991) work by documenting circumstances under which exposure to idealized pictures of women in ads exerts positive or negative effects.

We examine the roles of two potential moderators: extremity of the model's build (i.e., whether the model is extremely or moderately thin/heavy) and response mode (i.e., the way in which participants' self-judgments are measured). According to Mussweiler (2003), assimilation or contrast in self-evaluation depends on which type of accessible self-knowledge becomes accessible as a result of social comparison. Comparison with a moderate standard (e.g., a moderately thin model) should render standard-consistent self-knowledge accessible and result in assimilation, while comparison with an extreme standard (e.g., an extremely thin model) should render standard-inconsistent self-knowledge accessible and result in contrast. The response mode, used to assess the self-evaluative consequences of social comparison, may also play an important role. A free-response measure is more likely to reflect an individual's accessible knowledge than the more often used rating-scale measure (e.g., Richins 1991), which may instead show contrast because of reference-point use (Mussweiler and Strack 2000).

Our research contributes to the existing literature in several ways. As already described, previous studies provided mixed results of exposure to body images in the media. In addition, most prior research has examined moderators of assimilation or contrast in the context of explicit social comparison designs, but almost never in the case of implicit comparison designs (Stapel and Suls 2004). We revisit Richins's (1991) suggestion (which was not directly tested) that individuals implicitly compare themselves to the model in an ad without explicit instructions to do so. We also examine the mechanism underlying our effects via a lexical decision task, which measures which type of self-knowledge becomes accessible after exposure to various types of advertising models.

CONCEPTUAL BACKGROUND

People have a natural drive to evaluate their own attributes and abilities, which they do by comparing themselves with others (Festinger 1954). A comparison to a thin (or heavy) model is considered to be upward (or downward) social comparison, since thin people are perceived more positively than heavy people (Wertheim et al. 1997). Prior research

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has uncovered assimilation as well as contrast effects in self-evaluation as a result of social comparison. Upward comparisons can result in decreased self-satisfaction, and downward comparisons can result in increased self-satisfaction (e.g., Richins 1991). On the other hand, an upward comparison target might also serve as an inspiration or role model, while exposure to a downward comparison standard can result in feelings of discouragement (see Stapel and Koomen 2001).

Mussweiler (2003) proposed the "selective accessibility model" to explain whether assimilation or contrast occurs. The first stage in this cognitive model is standard selection, which can be manipulated by providing comparison targets, such as thin or heavy models. The second stage is comparison, which is influenced by selective accessibility. The comparison is made by a quick holistic assessment of the similarity between the self and the standard. The individual making the comparison will search her memory for evidence of similarities or dissimilarities between the self and the target. Perceived similarities indicate that the standard resembles the self, which results in the activation of standard-consistent information about the self. Perceived dissimilarities indicate that the standard does not resemble the self, which results in the activation of standard-inconsistent information about the self. The final stage, evaluation of one's own abilities, is highly dependent on the information selectively retrieved during the second stage. Subsequent self-evaluation should assimilate to the standard when it is based on accessible standard-consistent information about the self. However, self-evaluation should contrast away from the standard when standard-inconsistent information about the self is accessible.

Differences in perceived similarity between the self and a comparison standard can determine the occurrence of contrast or assimilation in self-evaluation (Lockwood and Kunda 1997). For example, Häfner (2004) manipulated participants' perceived similarity to models in ads by altering the headlines to read "same body—same feeling" or "feel the difference," and found assimilation effects among participants primed on similarity and contrast effects among those primed on dissimilarity. Moderately thin or moderately heavy models are more likely to be viewed by magazine readers as "possible selves" (Markus and Nurius 1986), either currently or in the future, than extremely thin or extremely heavy models. Therefore, we expect to find assimilative self-evaluations after participants view pictures of moderately thin/heavy models and contrastive self-evaluations after participants view pictures of extremely thin/heavy models. When comparing oneself to a moderately thin model, knowledge that one is thin should become accessible, and when comparing oneself to a moderately heavy model, knowledge that one is heavy should become accessible (Mussweiler 2003). Comparing oneself to an extremely thin or extremely heavy model, on the other hand, should increase the accessibility of knowledge that one differs from the model. As a result, an individual should express higher self-esteem when having access to knowledge that one is thin than knowledge that one is heavy.

Although related, our studies diverge from those of Mussweiler, Rüter, and Epstude (2004) and Mussweiler and Strack (2000) in that we do not explicitly ask participants to make a comparative judgment between themselves and the advertising models before providing self-judgments. If Richins's (1991) assertions are correct, the initial comparison should spontaneously occur when participants view an ad featuring a thin or heavy model. While much of the existing social comparison research uses explicit comparison instructions (Stapel and Suls 2004), in real life, individuals usually compare themselves with others in an implicit and spontaneous manner (Wheeler and Miyake 1992). Under such circumstances, both assimilation and contrast may occur, depending on "a host of factors, such as, for example, the distinctness and extremity of the primed person information" (Stapel and Blanton 2004, 479).

Another factor that is expected to influence our participants' self-judgments is the way in which these judgments are measured, known as the response mode (Payne, Bettman, and Johnson 1992). According to Mussweiler and Strack (2000), a rating-scale measure is dependent on reference-point use when a comparison standard is provided. When answering a rating scale (such as a Likert scale), the standard serves as a reference point to anchor the scale (Lynch, Chakravarti, and Mitra 1991), which leads to contrast when comparing oneself to the standard (Mussweiler and Strack 2000). A free-response measure is not affected by reference-point use but rather reflects the effects of knowledge accessibility. For example, Mussweiler and Strack (2000) demonstrated that comparing oneself to a moderate exemplar of drug use (e.g., Frank Zappa) increases the accessibility of standard-consistent knowledge about one's own drug use, producing assimilation on a free-response measure. However, when answering a rating scale, Zappa serves as a reference point, producing contrast away from the standard. Therefore, when a rating scale is used, we expect lower self-ratings when consumers are exposed to thin models than to heavy models, regardless of the extremity of the model's build (replicating Richins's [1991] contrast results).

In summary, we expect both the extremity of the model's size and the response mode to influence participants' self-esteem responses, as described in the following hypotheses:

H1a: When completing a free-response measure, participants will demonstrate higher self-esteem after exposure to moderately thin models than after exposure to moderately heavy models (i.e., an assimilation effect) and lower self-esteem after exposure to extremely thin models than after exposure to extremely heavy models (i.e., a contrast effect).

H1b: When completing a rating-scale measure, participants will demonstrate lower self-esteem after exposure to thin models than after exposure to heavy

models, regardless of the extremity of the model's size (i.e., a contrast effect).

EXPERIMENT 1

A pretest was used to select advertisements containing female models for the following four conditions: moderately thin, extremely thin, moderately heavy, and extremely heavy. Participants were 62 female university students who completed a paper-and-pencil test in exchange for course credit. Each participant viewed an advertisement booklet containing 23 ads with female models. Participants rated each model in terms of size (-5 = extremely overweight, 5 = extremely thin) and attractiveness (-5 = extremely unattractive, 5 = extremely attractive). Based on these scores, we selected four advertising models in each condition. Tukey post hoc comparisons ($\alpha = .05$) revealed that all four conditions differed significantly from each other in terms of size but not in terms of attractiveness. Extremely thin models ($M = 3.56$) were judged as thinner than moderately thin models ($M = 2.48$), who were rated as thinner than moderately heavy models ($M = -1.39$), who were rated as thinner than extremely heavy models ($M = -2.44$). A second pretest, using 123 female university students, confirmed that participants perceived the moderate (thin and heavy) models from the first pretest as more similar to themselves than the extreme (thin and heavy) models ($F(1,122) = 4.29$, $p < .05$).

Method

In the first experiment, 62 female university students participated for course credit. Each participant was randomly assigned to one of the four conditions of the 2 (model size: thin vs. heavy) × 2 (extremity of model size: moderate vs. extreme) between-subjects design. The first task was labeled "Advertisement Questionnaire." Participants received a booklet containing eight full-page color ads: four ads with models, pertaining to their condition, and four filler ads with no models. The order of the eight ads was randomized. Participants indicated on five-point scales whether the ads were original, convincing, and/or informative. Following a short filler task, participants received an "Attitude Questionnaire." The first part of this questionnaire consisted of the Twenty Statements Task (TST; Kuhn and McPartland 1954), where participants complete 20 self-descriptive statements ("I am ___"). This free-response task can validly assess individuals' momentary self-conceptions, such as appearance (Gardner, Gabriel, and Lee 1999). Next, participants completed the Appearance Self-Esteem Scale on a five-point scale (Heatherton and Polivy 1991), which represented the rating-scale measure. Finally, participants completed a short questionnaire, which indicated that no participants correctly guessed the true nature of the study.

Results and Discussion

Two independent judges, blind to the conditions and the hypotheses, scored participants' TST answers. For each participant, the judges selected self-descriptive statements, either positive or negative, that referred to the participant's own physical appearance (e.g., "I am pretty," "I am slim," "I am heavy," "I am unsatisfied with my appearance"). The judges showed a high level of agreement ($r = .81$). Based on the selected statements per participant, two other independent judges, also blind to the conditions and the hypotheses, rated each participant's perception of her own physical appearance using a five-point scale that ranged from 1 (very negative about her own physical appearance) to 5 (very positive about her own physical appearance). Ratings of the two judges were highly correlated ($r = .91$, $p < .001$) and were combined into a single score. Our analysis for the free-response measure was based on these judged ratings. We also conducted an analysis on the difference between the number of positive and negative self-descriptions about one's own appearance. This analysis was highly similar to the analysis on the judged ratings.

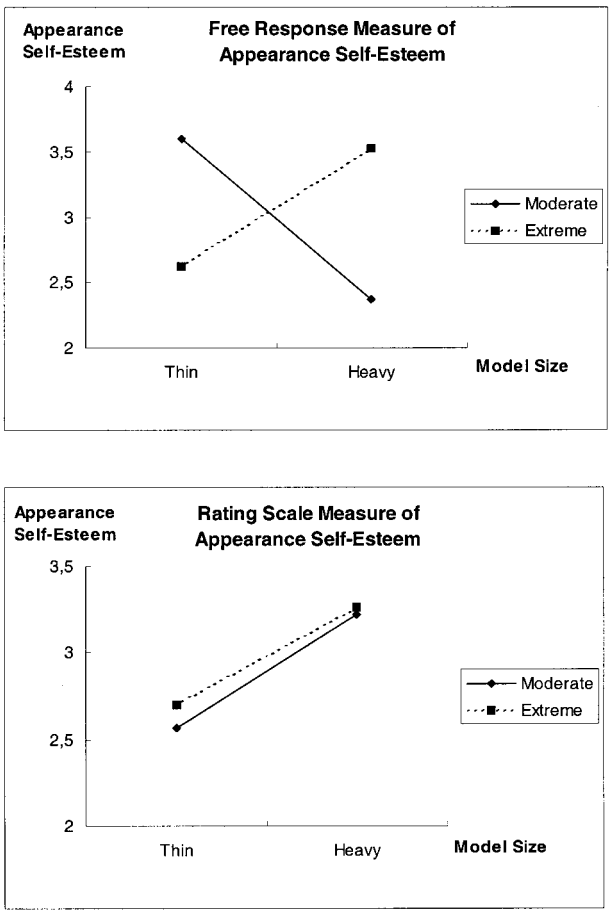
We conducted a 2 (model size: thin vs. heavy) × 2 (extremity of model size: moderate vs. extreme) × 2 (response mode: free response vs. rating scale) ANOVA with model size and extremity of model size as between-subjects factors and response mode as a within-subjects factor. This analysis revealed a three-way interaction between model size, extremity of model size, and response mode ($F(1,58) = 11.62$, $p < .01$), which is illustrated in figure 1.

Analysis of the free-response measure revealed a model size × extremity interaction ($F(1,58) = 15.29$, $p < .001$). Participants exposed to moderately thin models had higher appearance self-esteem ($M = 3.60$) than participants exposed to moderately heavy models ($M = 2.38$), resulting in an assimilation effect that supports hypothesis 1a. Participants exposed to extremely thin models had lower appearance self-esteem ($M = 2.63$) than participants exposed to extremely heavy models ($M = 3.53$), resulting in a contrast effect that also supports hypothesis 1a. Analysis of the rating-scale measure revealed only a main effect of model size ($F(1,58) = 14.50$, $p < .001$), providing evidence to support hypothesis 1b. Participants exposed to thin models ($M = 2.63$) had lower appearance self-esteem than participants exposed to heavy models ($M = 3.29$).

These results suggest that the extremity of the standard and the response mode determine to what extent comparison with a standard leads to assimilative or contrastive self-evaluations. When judging themselves via free responses, participants displayed self-esteem that varied as a function of the extremity of the standard. However, when participants judged themselves on a rating scale, we only obtained a contrast effect. These findings imply that in addition to selective accessibility, self-evaluative comparisons also suggest a reference-point mechanism that may be used for subsequent judgments. Thus, the contrast effects found for extremely thin and heavy models on both the free-response and the rating-scale measures appear to result from a dif-

FIGURE 1

EXPERIMENT 1 RESULTS: APPEARANCE SELF-ESTEEM AS A FUNCTION OF MODEL SIZE, EXTREMITY OF MODEL SIZE, AND RESPONSE MODE



ferent underlying process: knowledge accessibility in the case of the free-response measure and reference-point use in the case of the rating-scale measure. Experiment 2 was designed to provide further evidence for the role of knowledge accessibility in self-evaluation when comparing oneself to models in ads.

EXPERIMENT 2

In experiment 2, we tested the underlying process by which self-knowledge becomes accessible after exposure to thin versus heavy models by using a lexical decision task. This task measured the accessibility of words designating thinness, words designating heaviness, and neutral words. These words were preceded by subliminally presented self primes (words related to the self, e.g., *I* or *me*), or control primes (words unrelated to the self). Subliminal exposure to self primes has been demonstrated to activate the self-concept (Dijksterhuis et al. 1998). Lexical decision trials preceded by self primes increase the specific accessibility of knowledge related to the self, whereas trials preceded by control primes do not (Dijksterhuis et al. 1998).

If selective accessibility plays a role in the comparison with advertising models, standard-consistent self-knowledge should become more accessible when participants compare themselves to moderately thin models (i.e., knowledge that one is thin should become accessible) or moderately heavy models (i.e., knowledge that one is heavy should become accessible). On the other hand, standard-inconsistent self-knowledge should become more accessible when participants compare themselves to extremely thin models (i.e., knowledge that one is heavy should become accessible) or extremely heavy models (i.e., knowledge that one is thin should become accessible). Hence, participants should respond more quickly in identifying words that are related to the self-knowledge that has become accessible.

H2: In the presence of a self prime, participants exposed to moderately thin models or extremely heavy models will respond faster to words associated with thinness than to words associated with heaviness or neutral words, whereas participants exposed to moderately heavy models or extremely thin models will respond faster to words associated with heaviness than to words associated with thinness or neutral words.

Participants tend to compare themselves automatically with advertising models (Richins 1991), but the self-evaluative effects of such a comparison should only occur when participants are asked to judge themselves (as in experiment 1) or are nonconsciously primed to think about themselves (as with self primes; Dijksterhuis et al. 1998). On the other hand, lexical decision trials preceded by control primes should reflect only the knowledge associated with the standard (Dijksterhuis et al. 1998) because the self is not activated. In particular, we predict here an interaction between model size and the target words. Exposure to moderately or extremely thin models should lead to the activation of thinness knowledge, whereas exposure to moderately or extremely heavy models should lead to the activation of heaviness knowledge, as specified in hypothesis 3:

H3: In the presence of a control prime, participants exposed to thin models will respond faster to words associated with thinness than to words associated with heaviness or neutral words, whereas participants exposed to heavy models will respond faster to words associated with heaviness than to words associated with thinness or neutral words, regardless of the extremity of the model's size.

Method

Participants were 84 female university students who participated for course credit. They were randomly assigned to one of the following four conditions: moderately thin, mod-

erately heavy, extremely thin, or extremely heavy. This resulted in a 2 (thin vs. heavy models; between-subjects) × 2 (moderate vs. extreme; between-subjects) × 2 (self primes vs. control primes; within-subjects) × 3 (thin vs. neutral vs. heavy target words; within-subjects) experimental design.

Upon arrival in the laboratory, participants were told they would participate in two unrelated studies. First, participants completed the same "Advertisement Questionnaire" as in experiment 1, containing (*a*) the four ads with models, pertaining to their condition, and four filler ads with no models, and (*b*) several five-point scales on which participants indicated whether the ads were original, convincing, and/or informative. After this task, participants sat in front of a computer monitor and performed a word-recognition task. The instructions on the screen informed them that they should focus on the screen every time a string of *X*'s appeared. They were told that this string would be followed by a word or a nonword and that they should identify, as fast as possible, whether the word existed or not. Participants responded by either pushing the "1" (word) or the "3" (nonword) on the keyboard. To reduce variance in response latencies, participants were asked to keep their hands near the buttons throughout the task.

The lexical decision task consisted of 42 trials, with six practice trials and 36 critical trials. The critical trials consisted of 18 trials in which the target word was an existing word and 18 trials in which the target word was a random letter string (e.g., *golrr*). Of the 18 existing target words, six words were associated with thinness (e.g., *thin*, *slender*), six words were associated with heaviness (e.g., *heavy*, *fat*), and six words were unrelated to thinness or heaviness (e.g., *calm*). Half of the target words were preceded by a self prime (*I*, *my*, *me*), and the other half were preceded by a control prime (*on*, *the*, *a*). We created two lists for this task, so that three specific words that were preceded by a self prime in one list were preceded by control primes in the other list and vice versa. The 36 trials were randomly presented. At the beginning of each trial, a row of *X*'s appeared on the center of the screen for 1,000 ms. The prime then appeared in the same location for 15 ms and was immediately masked by the string of *X*'s again for 500 ms. Then the target word appeared, overwriting the mask, and remained on the screen until participants made a lexical decision, which was timed by the computer. After each decision, the screen remained blank for 2,000 ms. Following the lexical decision task, participants answered a final questionnaire, which tested for any suspicion about the aim of the experiment or awareness of the subliminal primes. None of the participants guessed the aim of the experiment or connected the first task of the experiment (ad ratings) with the second task (lexical decision task). After being informed that they had been exposed to subliminal primes, none of the participants could recall the words that were primed. They were not even aware that any primes had been presented.

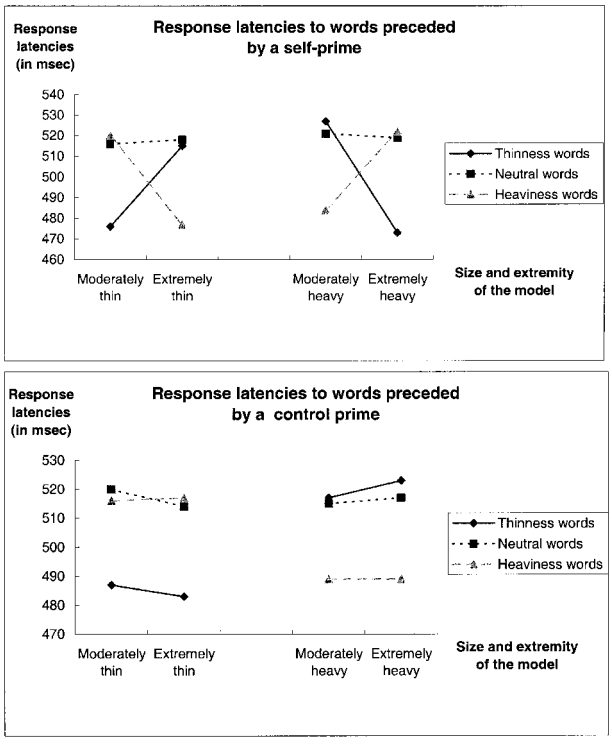
Results and Discussion

Only the results for the target words were included in the analysis. To reduce the distorting effect of outliers, data points that were 3 standard deviations above or below the mean for each word (1.2%) were considered outliers and dropped from the analysis. The remaining latencies were subjected to a 2 (model size: thin vs. heavy) × 2 (extremity of model size: moderate vs. extreme) × 2 (primes: self primes vs. control primes) × 3 (target words: thin vs. neutral vs. heavy) ANOVA, with the last two factors being within-subjects.

The ANOVA revealed a four-way interaction between model size, extremity of model size, primes, and target words ($F(2,160) = 7.62, p < .01$), as illustrated in figure 2. To test our specific hypotheses regarding self primes and control primes, we conducted two separate 2 (model size: thin vs. heavy) × 2 (extremity of model size: moderate vs. extreme) × 3 (target words: thin vs. neutral vs. heavy) ANOVAs, with the last factor being within-subjects, on the response latencies for each type of prime. The ANOVA for the self primes revealed a three-way interaction between model size, extremity of model size, and target words ($F(2,160) = 11.83, p < .001$). Participants exposed to moderately thin models responded faster to thinness words

FIGURE 2

EXPERIMENT 2 RESULTS: REACTION TIMES AS A FUNCTION OF MODEL SIZE, EXTREMITY OF MODEL SIZE, PRIME, AND TARGET WORD



($M = 476$ ms) than to neutral words ($M = 516$ ms; $F(1,80) = 4.91, p < .05$) or heaviness words ($M = 520$ ms; $F(1,80) = 6.57$, $p < .05$). Participants exposed to moderately heavy models responded faster to heaviness words ($M = 484$ ms) than to neutral words ($M = 521$ ms; $F(1,80) = 4.06, p < .05$) or thinness words ($M = 527$ ms; $F(1,80) = 5.95$, $p < .05$). Further, participants exposed to extremely thin models reacted faster to heaviness words ($M = 477$ ms) than to neutral words ($M = 518$ ms; $F(1,80) = 5.17, p < .05$) or thinness words ($M = 515$ ms; $F(1,80) = 4.80, p < .05$). Participants exposed to extremely heavy models reacted faster to thinness words ($M = 473$ ms) than to neutral words ($M = 519$ ms; $F(1, 80) = 6.39$, $p < .05$) or heaviness words ($M = 522$ ms; $F(1,80) = 7.97$, $p < .01$). These results support our predictions in hypothesis 2.

The ANOVA for the control primes revealed a two-way interaction between model size and target words ($F(2,160) = 6.81$, $p < .01$), supporting hypothesis 3. Participants exposed to thin models reacted faster to thinness words ($M = 485$ ms) than to neutral words ($M = 517$ ms; $F(1,80) = 7.63, p < .01$) or heaviness words ($M = 516$ ms; $F(1,80) = 8.99$, $p < .01$). Participants exposed to heavy models reacted faster to heaviness words ($M = 489$ ms) than to neutral words ($M = 516$ ms; $F(1,80) = 4.00$, $p < .05$) or thinness words ($M = 520$ ms; $F(1,80) = 8.76$, $p < .01$).

The results confirmed that moderate and extreme comparison standards lead to a selective increase in the accessibility of different subsets of self-knowledge, as indicated by response latencies to words preceded by a self prime. It appears that self-knowledge consistent with the standard became accessible after exposure to moderate comparison standards, and standard-inconsistent self-knowledge became accessible after exposure to extreme comparison standards. These results foster strong support for a selective accessibility explanation of the assimilation and contrast effects obtained with the free-response measure in experiment 1.

GENERAL DISCUSSION

Richins (1991) demonstrated that exposure to idealized advertising models can negatively alter self-perceptions by lowering individuals' satisfaction with their own bodies. Some prior studies supported these findings, whereas other studies obtained self-enhancing effects. In our research, we provide two factors that should be taken into account when studying self-evaluative effects following implicit social comparison with advertising models. First, the extremity of the comparison standard seems to be a crucial factor in determining assimilation and contrast effects. Second, whether assimilation or contrast occurs also depends on whether the self-evaluation question is framed as a free-response measure or as a rating scale. Furthermore, the findings of experiment 2 confirmed, via a lexical decision task, that the assimilation and contrast effects obtained with a free-response measure were due to selective accessibility of different subsets of self-knowledge. Comparison with a moderate standard increases the accessibility of standard-consistent self-knowledge, such as knowledge that one is thin (or heavy) when comparing oneself to a moderately thin (or moderately heavy) model. Comparison with an extreme standard increases the accessibility of standard-inconsistent self-knowledge, such as knowledge that one is heavy (or thin) when comparing oneself to an extremely thin (or extremely heavy) model. Our results also stress the importance of using a free-response measure to assess the consequences of social comparison for the self. A free-response measure reflects what becomes cognitively accessible in a consumer's mind during exposure to thin media images. Therefore, the free-response measure seems to be a more realistic measure of appearance self-esteem than the rating-scale measure, which is affected by reference-point use. These findings might have important implications for researchers who draw conclusions from consumers' self-ratings by using rating scales.

Our two studies also confirmed Richins's (1991) suggestion that women compare themselves spontaneously and automatically with the models in advertisements. However, in contrast to Richins's findings, we demonstrated that exposure to thin models does not necessarily have a negative impact on one's self-esteem. On the contrary, exposure to moderately thin (but not extremely thin) models has a positive impact on one's self-esteem. Our findings might explain why *Mode* magazine, which featured only plus-sized models, folded after just 4 yr because of low circulation rates (Morris 2002). Fashion and beauty magazine readers may aspire to achieve the thin ideal pictured on the cover, and without promises of attaining such an ideal, there might be no reason to buy the magazine.

Future research should examine whether our results are universal or could be moderated by other factors. One obvious moderating factor is body mass index (BMI). In our experiments, we measured BMI, but this factor did not affect our results. However, most of our participants resided within normal ranges of BMI (between 19 and 25). Therefore, future research should examine to what extent our results differ for consumers outside that BMI range. All of the participants were young, female university students, and thus we also cannot say whether these findings extend to men or individuals in other stages of life. Future research might also examine the effects of exposure to thin (or heavy) models on more consumer-oriented variables, such as purchase intention, product preference, or consumer spending. Further research might also examine the duration of the effects of exposure to such ads. Perhaps exposure to idealized images has only a temporary effect. However, given the pervasiveness of the idealized images one encounters daily, effects might be more enduring.

[*Dawn Iacobucci served as editor for this article.*]

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