The Effects of Instructional Frame on Female Adolescents' Evaluations of Larger Sized Female Models in Print Advertising

BARBARA LOKEN
Carlson School of Management
University of Minnesota

JOANN PECK
School of Business
University of Wisconsin–Madison

Despite growing attention to problems associated with girls' and women's viewing unrealistic portrayals of women in advertising, little research has identified positive consequences of presenting larger sized females in advertisements. The present research examined these positive effects and found that instructions that support the use of larger sized females in ads (relative to a more traditional instructional frame) heightened adolescent girls' ratings of the larger sized models' attractiveness, self-attractiveness, and self-esteem without changing girls' ratings of thinner sized models. General and valenced self-referencing (positive and negative self-thoughts while viewing the ads) were examined as potential mediators of the instructional effects on self-attractiveness and self-esteem. The findings provide evidence that girls' perceptions can be altered in a positive manner through media images of women.

The American Association for University Women (AAUW, 1990) recently reported that in a study of 36,000 students in Minnesota, girls were three times more likely than boys to have negative body image, to say they feel badly about themselves, and to believe that others see them in a negative light. Other research reports are similarly disturbing. One third of all adolescent girls in Grades 9 through 12 think they are overweight, and 60% say they are trying to lose weight, yet only 11% are actually overweight (U.S. Department of Health and Human Services Office on Women’s Health, 1999).

The increase in rates of eating disorders and body dissatisfaction among adolescent and preadolescent girls has alarmed researchers, who have wondered whether the media images that pervasively show thin models are contributing to body-image dissatisfaction, lower self-esteem, excessive dieting, eating

1The authors thank the Madison, Wisconsin, public school system for their valuable assistance with data collection. The project was supported in part by a McKnight-BER grant from the Carlson School of Management to the first author.

2Correspondence concerning this article should be addressed to Barbara Loken, Carlson School of Management, University of Minnesota, 321 19th Avenue South Suite 3-140, Minneapolis, MN 55455. E-mail: bloken@csom.umn.edu; or Joann Peck, School of Business, University of Wisconsin, 975 University Avenue, Madison, WI 53706. E-mail: jpeck@bus.wisc.edu
disorders, and depression among girls in these age groups (Field et al., 2001; Hankin & Abramson, 1999; Stice, Hayward, Cameron, Killen, & Taylor, 2000). These issues are increasingly in the forefront of public health and education initiatives in the United States and will no doubt be added to the marketing agendas of more companies and research programs in the coming years.

In adolescence, there is an increased value placed on peer acceptance and approval, and a heightened attention to external influences, such as the media and social messages about cultural norms (National Women’s Health Information Center, 2001). Although advertising has changed somewhat in its depiction of women in the past few decades (Gagnard, 1986), particularly advertisements directed at segments of older women, ads directed toward girls and young women continue to portray female models as below average in weight. For example, fashion models weigh 23% less than does the average female, although these representations are perceived to be normal (National Women’s Health Information Center, 2001). Similarly, the average American woman is 5’4” tall and weighs 140 pounds, while the average American model is 5’11” and weighs 117 pounds (National Association of Anorexia Nervosa and Associated Disorders, 2002).

Whereas female beauty was once linked to a larger body size, our current societal expectations emphasize a smaller body size, and models in ads have been increasingly thinner over time (Maynard & Taylor, 1999; Seid, 1989; Silverstein, Perdue, Peterson, & Kelly, 1986; Wolf, 1991). Concomitant with this trend in advertising is a tendency for women and adolescent girls to be dissatisfied with their own attractiveness (Cohn & Adler, 1992; Richins, 1991) and to perceive an ideal body type to be thinner than their own actual body size (Cohn & Adler, 1992; Davis, 1997; Tiggemann, 1992).

Since the cultural norm for female attractiveness includes the attribute of thinness, and since advertisements portraying thin models, particularly print advertisements, are pervasive, researchers are increasingly concerned that the larger sized woman’s or adolescent girl’s dissatisfaction with her body stems from this stereotype (Lavine, Sweeney, & Wagner, 1999). Greater levels of exposure to thin models in print communications are associated with lower self-evaluations after even a one-time exposure to ads (Botta, 1999; Irving, 1990), more depressed feelings and body dissatisfaction (Stice & Shaw, 1994), and, at the extreme, symptoms of eating disorders (Botta, 1999; Stice & Shaw, 1994; see also Courtney & Whipple, 1983; Hall & Crum, 1994; Lavine et al., 1999; Martin & Gentry, 1997; Meyers & Biocca, 1992; Rudman & Borgida, 1995). Of the eight million or more people in the United States with eating disorders, 90% are women, and these eating disorders usually start in the teens (National Association of Anorexia Nervosa and Associated Disorders, 2002).

While prior research has focused on the negative consequences resulting from the portrayal of women in advertisements, minimal investigation has been given
to the positive consequences associated with countering these images with more realistic portrayals. Little emphasis has been directed to the contextual variables that may moderate the effects of media images on women's and girls perceptions of themselves. In the present research, we examine whether the portrayal of females with larger sized body types in ads has positive consequences for adolescent (high school) girls if girls are instructed a priori to evaluate the larger sized models for a magazine that supports the use of larger sized female models. We also examine thought processes underlying the positive effects of realistic portrayals.

Positive Effects on Perceptions

If advertisements can affect women's perceptions of body size negatively, we expect that they should also be able to influence perceptions positively. Prior research has found that women had more self-confidence and conformed less when they were exposed to nontraditional gender stereotypes than when they were exposed to traditional gender stereotypes (Geis, Brown, Jennings, & Porter, 1984; Jennings, Geis, & Brown, 1980). Increased self-confidence may be the result of both greater amounts of self-reflection and greater self-acceptance in the context of nontraditional gender images. However, we found little research that examined whether the instructional frame in which these beauty types appear (whether traditional or nontraditional) might have a positive influence on perceptions relating to the self.

Instructional Frame

An abundance of research in psychology has demonstrated the general importance of framing effects in people's judgments (e.g., Tversky & Kahneman, 1974, 1981). In the case of adolescents, for example, the manner in which larger sized models are perceived may depend on the perceptions or norms that the young viewer brings to the viewing experience (Botta, 1999; Faber, Brown, & McLeod, 1979); that is, norms about attractiveness and body size, coupled with the way in which such information is framed. Instructional sets are one way that frames are implemented in experimental research. The psychological processes that underlie the effects of instructional frame are important for understanding the way ads with larger sized models are viewed.

In the case of media images of women, it seems likely that the pervasiveness of thin models in advertising leads consumers to automatically process information about the norms implied by the ads. Research in social cognition supports the frequent role of automatic (nonconscious) processing on both social and non-social judgments when a concept is frequently encountered and activated from memory (e.g., Bargh, 1990). Girls and women may process social norms about
body size and attractiveness at a nonconscious level and, perhaps implicitly, accept those norms. When encountering stimuli that differ from expectations, more controlled or conscious processes may take precedence and override automatic processes. Furthermore, even when people are affected by a stereotype that is primed below the level of conscious awareness (e.g., that the ideal model is thin), they are capable of reducing the stereotype’s impact by being made conscious of the stereotype (e.g., through an instructional frame).

Therefore, it seems likely that when larger sized female images are framed in a way that supports their use and legitimizes them as average, girls and women should be better able to override prior norms about ideal body size, question those social norms, and consciously process the information supportive of average and larger sized women. To the extent that the information is self-relevant, the controlled or conscious processing about the model in the ad and processing about the self should be even more elaborative. Thus, when an instructional frame activates nontraditional stereotypes (e.g., when girls are instructed to evaluate ads for a new women’s magazine that includes larger sized models in ads), a body type that is congruent with that nontraditional stereotype (i.e., the body type of both the larger sized model and the female recipient of the ad) should be perceived more positively than when a frame of reference activates and supports traditional stereotypes (e.g., when girls are instructed to evaluate ads for a traditional women’s magazine with thin models).

Self-Referencing as a Moderating Variable

Throughout our discussion, we have assumed that viewers’ thought processes, particularly the degree to which they think about the information, affect their norms about thinness and consequently their evaluations of both themselves and the female model in the ad. When viewing ads that have women models, female viewers should tend to relate information about body size and attractiveness to perceptions of themselves. When people self-reference, they relate the information they receive to the self as represented in a complex structure in memory (Burnkrant & Unnava, 1995; Krishnamurthy & Sujan, 1999). Activating the self-structure increases the processing linkages between different aspects of the self and aspects of the ad (message), and increases elaboration of the information received (e.g., Klein & Loftus, 1988).

Viewing larger sized models may lead girls to have more positive thoughts about their own body size, especially when they are told that these larger sized models are more reflective of the average woman (which they are). Females have been conditioned culturally to engage in more self-reflection than men with respect to body size. Therefore, when viewing these ads, girls should tend to draw comparisons of the models to themselves and relate the ad information more directly to themselves. A girl’s self-perception (e.g., self-esteem,
self-attractiveness) is generally believed to be affected by others’ perceptions (e.g., Felson, 1993); that is, A’s evaluation of B affects B’s self-evaluations. As Henderson-King, Henderson-King, and Hoffman (2001) argued, it also seems likely that knowing A’s evaluation of B could influence C’s self-evaluation. By presenting images of women in an evaluative context, in which the models in the ad (B) are presented in a positive light (A), the standards and norms are made salient. As a result, the viewer may use the standard communicated in forming evaluations of self (C; Henderson-King et al., 2001). An instructional frame that activates nontraditional stereotypes should provide a supportive setting in which nontraditional norms are made salient, enabling girls to engage in favorable self-referencing.

Type of Self-Referencing

Underlying our arguments for the effects of frame of reference on self-esteem and ratings of the average-size female is the idea that women are elaborating on the information relative to themselves. Prior research in self-referencing generally assumes that the degree to which people elaborate on information and relate it to themselves will affect people’s thoughts positively. Evidence bears out this assumption for ads describing positive product information. However, the situation in which we are measuring self-referencing may trigger both positive and negative thoughts in relation to the self.

In the present research, we differentiate between positive and negative thoughts about the self (i.e., positive and negative self-referencing) and explore the extent to which each mediates evaluation of the self. What is not clear is whether an increase in self-attractiveness or self-esteem would be a result of an increase in positive thoughts about the self, a decrease in negative thoughts about the self, or both.

Overview of Hypothesized Effects

In this research, we expose adolescent girls to four ads directed toward a female market, two of which contain larger sized models and two of which contain the more commonly used thinner sized models. The instructional frame in which these ads are viewed is also varied.

The first set of hypotheses concern the effects of a nontraditional instructional frame on ratings of larger sized females in the ads:

*Hypothesis 1a.* An instructional frame that activates and supports nontraditional female stereotypes about body size will increase ratings of attractiveness of the larger sized female models in the ads, relative to a traditional frame.
Hypothesis 1b. An instructional frame that activates and supports nontraditional female stereotypes about body size will have less impact on ratings of attractiveness of thinner sized female models in the ads, relative to the effects of instructional frame on ratings of attractiveness of the larger sized female models.

In addition to impacting adolescent girls’ ratings of the attractiveness of the model in the ad, the nontraditional frame should also increase adolescent girls’ ratings of themselves:

Hypothesis 2a. An instructional frame that activates and supports nontraditional female stereotypes about body size will increase adolescents girls’ ratings of self-attractiveness, relative to a traditional frame.

Hypothesis 2b. An instructional frame that activates and supports nontraditional female stereotypes about body size will increase adolescent girls’ ratings of self-esteem, relative to a traditional frame.

An explanation proposed for the effects of frames predicted in the first and second sets of hypotheses is that a nontraditional frame of reference that supports the use of larger sized models in ads will lead to more elaborative thinking among girls relating the ad information to the self, especially when viewing larger sized versus thinner models:

Hypothesis 3a. An instructional frame that activates and supports nontraditional female stereotypes about body size will increase the amount of self-referencing in which adolescent girls engage while viewing the ads, relative to a traditional frame.

Hypothesis 3b. An instructional frame that activates and supports nontraditional female stereotypes about body size will have less impact on adolescent girls’ self-referencing when viewing ads with thinner sized females, relative to the effects of instructional frame on viewing ads with larger sized females.

Finally, we examine the role of self-referencing and whether it involves positive or negative thoughts as a mediator of the effects of the instructional frame on self-perceptions:

Hypothesis 4a. The degree to which adolescent girls relate the ad information to themselves will mediate the effects of framing on ratings of their own attractiveness.
Hypothesis 4b. The degree to which adolescent girls relate the ad information to themselves will mediate the effects of framing on ratings of self-esteem.

Method

Study Overview and Participants

Participants were 82 female students in high school classes (Grades 9 through 12), and the age range of participants was 14 to 18 years ($M = 15.9$, $SD = 1.01$). Students participated in the research during class time and, following the study, were debriefed about its purpose. (We also collected the same data for males in the classroom, but these data are not reported here.)

Participants were told that we wanted their opinions regarding some print advertisements. Analysis of women's use of media and eating disorders suggests larger negative effects for print (magazine) media than for television media (Harrison & Cantor, 1997). Each participant was shown four print ads, taken from women's magazines (e.g., Cosmopolitan, MODE), two of which were stimulus ads with larger sized female models, and two of which were traditional ads with thinner sized female models. For each ad, participants were asked to rate the attractiveness of the model in the ad and to rate the ad itself.

The two stimulus ads portrayed models who were larger sized (approximately sizes 16 to 18), close to the average size of females in the United States. The two ads were embedded (presented second and third) within two other ads that had traditional (thin) models (presented first and fourth). We exposed participants to both thinner and larger sized models in both framing conditions in order to draw comparisons across conditions. A realistic scenario for a new magazine that uses larger sized women would probably include some traditional thin models in the same magazine, since many product advertisements are created primarily for traditional magazines, and ads with heavier models are often unavailable (cf. issues of MODE, 2001).

The experiment had two conditions, one designed to activate traditional beliefs or stereotypes about females (a traditional women's magazine), and one designed to activate nontraditional beliefs about females (a nontraditional women's magazine that includes ads with larger sized women). Participants were randomly assigned to one of the two instructional framing conditions. The specific instructions for the traditional frame stated that we would be showing them some ads “from popular women’s magazines” and would like them to answer some questions about each one. In contrast, the instructions for the nontraditional frame stated that we would be showing them some ads from a new magazine for young women that “uses ads with women who are heavier than the traditional model” and “more reflective of average-sized women.” The latter statement was also
meant to enhance self-referencing and to facilitate a shift in the girls’ prior norms. After viewing the ads and evaluating the models, participants completed a few additional questions, including their age, grade in school, and gender.

**Measures**

*Attractiveness of models.* Attractiveness of the model in each print advertisement was measured on three 7-point scales. Specifically, the first question asked “How attractive is the model in this ad with respect to all women in ads?” with endpoints ranging from 1 (not at all attractive) to 7 (extremely attractive). The second and third questions asked “How would you rate the model in this ad?” with endpoints ranging from 1 (looks awful and looks ugly) to 7 (looks great and looks beautiful). For each of the ads, the alpha coefficient for the three items was greater than .90, so the scales were averaged to give one measure of attractiveness of each model.

*General self-referencing, positive thoughts, and negative thoughts.* Participants were asked to rate general self-referencing on two 7-point scales ranging from 1 (strongly disagree) to 7 (strongly agree). The two scale items (Krishnamurthy & Sujan, 1999) were “I could relate myself to the ad” and “I found the ad to be personally relevant.” For each of the four ads, the two general self-referencing scales were averaged ($r > .70, p < .01$).

Measures of both positive and negative self-referencing thoughts were also administered on 7-point agree–disagree scales. To measure positive self-referencing, participants were asked the degree to which “this ad made me think positive thoughts about myself”; and for negative self-referencing, the degree to which “this ad made me think negative thoughts about myself.”

*Self-attractiveness.* In a meta-analysis on attractiveness, Feigold (1992) noted that self-rated physical attractiveness has almost always been measured with single-item self-rating scales. We chose to adopt a multiple-item scale to measure participants’ perceptions of their own attractiveness. The five items of our self-attractiveness scale (SAS) were “I feel I have a number of good physical features,” “I have a positive attitude toward my body,” “I think that I am pretty attractive,” “On the whole, I am satisfied with the way I look,” and “At times, I think I am not attractive at all” (reverse scored). These items were measured on 7-point disagree–agree scales. The items were averaged for a measure of self-attractiveness ($\alpha = .86$).

*Global self-esteem.* Global self-esteem was measured using a 10-item scale from previous research (Rosenberg, 1989). Sample items are “On the whole, I am satisfied with myself” and “I certainly feel useless at times” (reverse-scored). For each item, a 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree) was presented. Alpha for this scale was .87, and the items were averaged for a measure of self-esteem.
Table 1

*Mean Attractiveness, Self-Attractiveness, and Self-Esteem by Instructional Frame*

<table>
<thead>
<tr>
<th>Dependent measures</th>
<th>Traditional frame (n = 43)</th>
<th>Nontraditional frame (n = 39)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Model attractiveness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Larger sized model 1</td>
<td>4.16</td>
<td>1.33</td>
</tr>
<tr>
<td>Larger sized model 2</td>
<td>4.76</td>
<td>1.14</td>
</tr>
<tr>
<td>Thinner sized model 1</td>
<td>4.59</td>
<td>1.29</td>
</tr>
<tr>
<td>Thinner sized model 2</td>
<td>5.36</td>
<td>1.25</td>
</tr>
<tr>
<td>Self-attractiveness</td>
<td>4.27</td>
<td>1.58</td>
</tr>
<tr>
<td>Self-esteem</td>
<td>4.64</td>
<td>1.25</td>
</tr>
</tbody>
</table>

*Note.* Row means sharing subscripts differ significantly at \( p < .05 \).

**Results**

*Attractiveness of Models*

We expected that adolescent girls would evaluate the larger sized models more positively when given the nontraditional instructional frame than when given the traditional frame. ANOVAs supported this conjecture. Adolescent girls found the larger sized models significantly more attractive when the models were evaluated from the reference of a magazine for larger sized models than when the models were evaluated from the traditional magazine frame, \( F(1, 80) = 15.77, \ p = .001 \), for the first model; and \( F(1, 80) = 10.25, \ p = .002 \), for the second model (see Table 1 for means and standard deviations).

Recall that in addition to viewing the two ads with larger sized models, participants also viewed two ads with the traditional thinner sized models. By way of comparison, we examined whether the nontraditional instructional frame would have a supportive or a denigrating effect on evaluations of the thinner sized models. The thinner sized models were rated as equally attractive when evaluated in the context of a magazine with larger sized females as when evaluated in the context of a traditional magazine, \( F(1, 80) = 0.07, \ p = .79 \), for one thinner-sized model; and \( F(1, 80) = 1.44, \ p = .23 \), for the second thinner sized model (Table 1). So, while the nontraditional context boosted the adolescent
girls’ ratings of the attractiveness of the larger sized models, it had no effect on
girls’ ratings of the thinner sized models, thus supporting Hypotheses 1a and 1b.

Self-Attractiveness and Self-Esteem

We expected that the instructional frame in which larger sized models
appeared would affect not only the perception of attractiveness of those models,
but also perceptions of adolescent girls’ self-concepts. In thinking about the
larger sized models in a context that supports the presence of larger sized models,
adolescent girls, in particular, should show positive changes in their ratings of
their own attractiveness, and perhaps even their self-esteem.

In the case of the self-ratings (self-attractiveness and self-esteem), our
expectations were strongly confirmed (supporting Hypotheses 2a and 2b) that the
nontraditional frame would yield positive changes for girls’ self-ratings. In par-
ticular, the girls’ ratings of their own attractiveness significantly improved from
the traditional magazine context to the nontraditional frame, $F(1, 80) = 5.92, p =
.02$ (Table 1).

Similar findings occurred when we evaluated differences in girls’ self-esteem
across the two frames. The girls’ self-esteem improved in the instructional
frame that supported the larger sized models relative to the traditional context,
$F(1, 80) = 4.69, p = .03$ (Table 1).

General Self-Referencing

The findings for model attractiveness, self-attractiveness, and self-esteem
support our hypothesized process by which the ads affect adolescent girls’ per-
ceptions, and enable us to further explore the underlying mechanism of change.
We turn our attention to the proposed mediating variable of self-referencing,
examining both gender and framing differences.

The results, supporting Hypothesis 3a, indicate that girls self-referenced sig-
ificantly more when exposed to the larger sized models in the nontraditional
frame than when exposed to them in the traditional frame: first larger sized
model, $F(1, 80) = 6.82, p = .01$; and second larger sized model, $F(1, 80) = 7.27,$
$p = .01$ (see Table 2 for means and standard deviations).

We also determined whether the effect of the instructions on self-referencing
was confined to the larger sized models, and not the thinner sized models shown
in the other two ads. The results, supporting Hypothesis 3b, confirm that it
occurred for only the ads that contained larger sized models. When viewing the
ads that had thinner sized models, adolescent girls were not more likely to think
about the ad in relation to themselves in the nontraditional than the traditional
instructional frame, for either the first or the second thin model ad: first thinner
sized model, $F(1, 80) = 0.08, p = .78$; and second thinner sized model, $F(1, 80) =
0.31, p = .60$ (Table 2).
Table 2

General, Positive, and Negative Self-Referencing by Model and by Instructional Frame

<table>
<thead>
<tr>
<th>Type of self-referencing</th>
<th>Traditional frame (n = 43)</th>
<th>Nontraditional frame (n = 39)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>General self-referencing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Larger sized model 1</td>
<td>3.02&lt;sub&gt;a&lt;/sub&gt;</td>
<td>1.52</td>
</tr>
<tr>
<td>Larger sized model 2</td>
<td>2.93&lt;sub&gt;b&lt;/sub&gt;</td>
<td>1.28</td>
</tr>
<tr>
<td>Thinner sized model 1</td>
<td>3.29</td>
<td>1.31</td>
</tr>
<tr>
<td>Thinner sized model 2</td>
<td>3.69</td>
<td>1.58</td>
</tr>
<tr>
<td>Positive self-referencing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Larger sized model 1</td>
<td>4.23&lt;sub&gt;c&lt;/sub&gt;</td>
<td>1.89</td>
</tr>
<tr>
<td>Larger sized model 2</td>
<td>4.30&lt;sub&gt;d&lt;/sub&gt;</td>
<td>1.64</td>
</tr>
<tr>
<td>Thinner sized model 1</td>
<td>3.71</td>
<td>1.72</td>
</tr>
<tr>
<td>Thinner sized model 2</td>
<td>3.72</td>
<td>1.72</td>
</tr>
<tr>
<td>Negative self-referencing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Larger sized model 1</td>
<td>2.56&lt;sub&gt;e&lt;/sub&gt;</td>
<td>1.69</td>
</tr>
<tr>
<td>Larger sized model 2</td>
<td>2.26&lt;sub&gt;f&lt;/sub&gt;</td>
<td>1.46</td>
</tr>
<tr>
<td>Thinner sized model 1</td>
<td>2.85</td>
<td>1.76</td>
</tr>
<tr>
<td>Thinner sized model 2</td>
<td>2.73</td>
<td>1.26</td>
</tr>
</tbody>
</table>

Note. Row means sharing subscripts differ significantly at p < .05.

Mediation Analyses

So far, our findings support the predicted processes underlying the effects of instructional frame, that adolescent girls increased their amount of self-referencing when evaluating the larger sized models (but not the thinner sized models) in the nontraditional frame. Further mediation analyses were performed to determine whether greater amounts of self-referencing mediated the effects of magazine frame (traditional or nontraditional) on ratings of self-attractiveness and reported self-esteem. We will not examine mediation processes for ads with thinner sized models since these ads were not affected by magazine frame.

The regression procedure for mediation described by Baron and Kenny (1986) was used. The procedure involves estimating three equations. In Step 1, the
mediator is regressed on the independent variable (traditional or nontraditional frame) and should be found to have a significant effect. Note that this condition was met for our mediating variable, general self-referencing. In Step 2, the dependent variable (self-attractiveness) is regressed on the independent variable (traditional or nontraditional frame) and should be significant. Again, this condition was met for both of our independent variables, self-attractiveness and self-esteem. Finally, in Step 3, the dependent variable is regressed on the independent variable and the mediator. In order to support mediation, the effects of the independent variables on the dependent variable must decrease in magnitude (ideally to non-significance) when the mediator is added to the third equation (i.e., the mediator is “carrying” all or part of the variance).

We performed four sets of mediation analyses, two for each of the two larger sized model ads. The results, shown in Table 3, show mixed support for our predictions. We found support for the mediating effects of general self-referencing on the relationship between instructional frame and only one of the two dependent measures, self-esteem, and even here, for only one of the two larger sized model ads. The degree to which girls could relate to the second larger sized model ad and believed it to be personally relevant was found to influence the effects of the nontraditional magazine frame on girls’ self-esteem.

Table 3

Mediation Analysis (Step 3): Instructional Frame Regressed on Self-Attractiveness and Self-Esteem, Each Self-Referencing Mediator

<table>
<thead>
<tr>
<th>Mediator</th>
<th>Self-attractiveness</th>
<th></th>
<th></th>
<th>Self-esteem</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>First larger sized model</td>
<td>β</td>
<td>t</td>
<td>Second larger sized model</td>
<td>β</td>
<td>t</td>
</tr>
<tr>
<td>General self-referencing</td>
<td>.26*</td>
<td>2.31</td>
<td>.28*</td>
<td>2.43</td>
<td>.24*</td>
<td>2.10</td>
</tr>
<tr>
<td>Positive self-referencing</td>
<td>.23*</td>
<td>2.04</td>
<td>.24*</td>
<td>2.13</td>
<td>.21</td>
<td>1.85</td>
</tr>
<tr>
<td>Negative self-referencing</td>
<td>.15</td>
<td>1.28</td>
<td>.12</td>
<td>1.04</td>
<td>.12</td>
<td>1.02</td>
</tr>
</tbody>
</table>

*p < .05.
Valenced Self-Referencing: Positive and Negative Thoughts

Next, we examine whether the self-references engaged in by female adolescents, under the different framing conditions, were primarily positive thoughts about the self, primarily negative thoughts, or both. The results, shown in Table 2, indicate that positive thoughts were generated by adolescent girls more when they were exposed to the larger sized models in the nontraditional frame condition than when they were exposed to them in the traditional frame condition. Post hoc analyses, comparing the two frame conditions, were significant for both the first and the second larger sized models: first larger sized model, $F(1, 80) = 7.69, p = .01$; and second larger sized model, $F(1, 80) = 5.18, p = .03$.

Again, we examined whether the effects for instructions were confined to the ads with larger sized models, or whether they would also occur for the ads with thinner sized models. No differences in context occurred for either of the thin models: first thinner sized model, $F(1, 80) = 0.31, p = .58$; and second thinner sized model, $F(1, 80) = 0.22, p = .61$ (Table 2).

With regard to negative thoughts, the nontraditional frame generated them significantly less often than did the traditional frame when girls were viewing the ads with larger sized models: first larger sized model, $F(1, 80) = 23.22, p < .001$; and second larger sized model, $F(1, 80) = 12.21, p = .001$ (Table 2). The same trend is not indicated when girls viewed the thinner sized models. That is, the girls did not generate fewer negative thoughts about themselves when viewing the thinner sized models in the nontraditional frame than in the traditional frame for either of the ads with thin models: first thinner sized model, $F(1, 80) = 0.02, p = .88$; and second thinner sized model, $F(1, 80) = 0.04, p = .83$ (Table 2).

Additional Mediation Analyses of Positive and Negative Thoughts

We performed mediation analyses testing the mediating effects of positive and negative self-referencing, analogous to the analyses performed for the mediating effects of general self-referencing. We performed eight sets of mediation analyses, separately for each of the two types of self-referencing (positive or negative), each of the two larger sized models, and for each of the two dependent measures (self-attractiveness and self-esteem). The conditions of Step 1 and Step 2, described earlier, were met for both positive and negative self-referencing. The results of Step 3 are shown in Table 3. In comparison to the results for mediation effects of general self-referencing, the results that pertain to valenced thoughts were more encouraging. In particular, as found for general self-referencing, both positive and negative thoughts mediated the effects of instructional frame on self-esteem. The relationship between instructional frame and self-esteem dropped to nonsignificance when the effects of positive thoughts (or negative thoughts) were controlled, and this result held for both the first and
the second larger sized model ads. The relationship between framing and self-attractiveness also dropped to nonsignificance (for both model ads), but only when negative thoughts (and not positive ones) were controlled, as shown in Table 3.

In sum, the degree to which the nontraditional instructional frame reduced girls' negative thoughts about themselves also increased their ratings of self-attractiveness and self-esteem. Specifically, when in the context that activated nontraditional beliefs, adolescent girls had fewer negative thoughts about themselves, which in turn elevated their ratings of their own attractiveness and their self-esteem. Increasing positive thoughts also was instrumental in increasing ratings of self-esteem.

Discussion

Despite the growing attention to the problems associated with the effects of print media images on adolescent girls, and growing attention to larger sized models by both the popular press and by individual retailers (and magazines that have used larger sized models), marketers have paid little attention to these issues in research on advertising. Our research addresses some of the positive effects that marketers can have on adolescent girls' perceptions of themselves and supports the use of larger sized female models in advertising. However, the results clearly suggest that the instructions used to frame the ads play an important role in how the models in the ads are perceived and how they will affect girls' perceptions of themselves. Instructions that support the use of larger sized females in ads heightened adolescent girls' ratings of the attractiveness of the larger sized female models in the ads, without changing their perceptions of the thinner sized models. Even more important, a supportive context increased the girls' perceptions of their own attractiveness and their self-esteem. These findings are encouraging in that they provide evidence that girls' perceptions can be altered in a positive manner through media images of women.

*Elaborative Processing*

These findings are consistent with the theory that a nontraditional instructional frame that breaks with normative expectations invites more elaborative thinking with regard to self (self-referencing). This elaborative thinking was less prevalent in the traditional instructional frame, presumably because the frequently encountered images of thin models were processed more automatically (cf. Bargh, 1990). The instructional frame that activated nontraditional images provided a supportive context in which nontraditional norms were made salient, accelerating the degree of girls' favorable self-referencing and lowering their degree of negative self-referencing. As a result, girls were able to adopt an alternative (counternormative) standard in evaluating themselves. As supported
by mediation analyses, when girls elaborated about themselves in this positive manner (more positive thoughts), their self-esteem rose. And the less they elaborated about themselves in a negative manner, their perceptions of their own attractiveness and their self-esteem rose. These processes may help to explain the results of Geis et al. (1984), who found that nontraditional images increased self-confidence. The nontraditional images probably elicited more self-reflection and self-acceptance to the extent that they were presented in a supportive context.

**General Versus Valenced Self-Referencing**

While other recent research in self-referencing has highlighted the need to determine the type of thoughts generated in relation to self (e.g., Krishnamurthy & Sujan, 1999), prior research has not focused on the valence of these thoughts. Instead, research in self-referencing generally has assumed that the effects of self-referencing are positive because the thoughts generated about the self (or prior personal experiences) are positive.

In a typical research scenario involving self-referencing, consumers are reminded of prior personal experiences with the product, or task instructions are used to encourage the participant to relate the information to oneself. In the present research, we used a print advertising scenario that encouraged self-referencing by virtue of the product advertised (fashion, perfume), the audience to which it was directed (young females), and instructions that supported the use of realistic images in ads. Our research contributes to earlier research in suggesting a theoretical need for considering the valence of the self-referenced thoughts. While it is no doubt the case that most advertising encourages positive prior experiences to be elicited and associated with the product, the present results clearly indicate that the thoughts generated in product ads and that mediate the effects of advertising are not exclusively positive.

Mediation analyses provided only mixed support for general self-referencing as an underlying process variable contributing to changes in self-perceptions (perhaps one type of thought cancelled out the effect of the other type). The results for positive and negative thoughts were more insightful. Negative thoughts, even more than positive ones, were found to explain the effects of framing on both self-attractiveness and self-esteem. The nontraditional instructional frame increased girls' ratings of self-attractiveness only to the extent that it reduced their negative thoughts about themselves. Increasing positive thoughts impacted self-esteem, but not self-attractiveness. People have strong motivations to maintain favorable concepts of themselves (Baumeister, 1998; Sedikides, 1993), and perhaps reducing one's negative self-thoughts is a way of avoiding a bad view of the self (especially self-attractiveness), a motivation found to be more prevalent than claiming a good view of the self (Goodhart, 1986; Shah, Higgins, Friedman, & Kruglanski, 1999).
Our findings suggest that when ads are presented in an instructional frame that supports the use of larger sized female models, adolescent girls’ ratings of their own attractiveness and self-esteem are significantly improved, relative to a more traditional frame. Anecdotal evidence is also consistent with this claim. *Vogue*’s April 2002 edition, called “The Shape Issue,” featured “the female form in all its glorious variety,” including plus-sized models in fashion layouts. The magazine’s editor reported that readers’ response to the issue was strongly favorable. Heavier models were presented in a context that reinforced heavier models (the diversity of the female shape and size), and the layouts had an extremely positive response. Our research suggests that if this same layout had been placed in the magazine without this positive context (i.e., if it had appeared in the traditional *Vogue* layout), the response would not have been as positive. So, according to our research, presenting ads with heavier models in a supportive context, as was done in the *Vogue* special issue, is critical to ads’ effectiveness.

Despite the encouraging results obtained for the use of larger sized models in ads, a broader concern may also exist that larger sized models may present an unhealthy role model. The use of heavier models (albeit average in size) may pose the risk of presenting an overweight ideal that could increase the health risks associated with obesity. Alternatively, portraying diverse body sizes (both thinner and larger sized) may enhance self-esteem (as in the present results) and even provide a buffer against unhealthy weight gain or loss, especially since low self-esteem and the propensity for an eating disorder are related (Neumark-Sztainer & Hannon, 2000). These issues, while beyond the scope of the present research, would be important to investigate in future research.

The effects of framing on perceptions among adolescent girls are very encouraging. Simply by being presented more realistic portrayals of women with a nontraditional frame, adolescent girls’ ratings of both their self-attractiveness and their self-esteem increased. Our research contributes to a growing body of research that attempts to determine strategies that may be useful for combating some of the negative effects of the media on adolescent girls.

References


