

How Ambiguous Cropped Objects in Ad Photos Can Affect Product Evaluations

LAURA A. PERACCHIO
JOAN MEYERS-LEVY*

Research in both the consumer and aesthetics literatures suggests that the ambiguity created by a cropped or incomplete object may prompt people to seek closure by supplying the missing part. In turn, this process of resolving the ambiguity can enhance affect. Applying this notion to advertisements, a study is reported that examines whether and when severe cropping of key objects in ads will influence people's product evaluations. The results indicate that severe cropping of objects in ads can enhance product evaluations if people are sufficiently motivated to complete the cropped object and the cropped object does not impede people's attempts to verify the ad claims.

Recent research suggests that consumers' affect toward a product can have its origin in factors other than the value of the product's attributes. Rather, it appears that affect can emerge from the very process of relieving the ambiguity present in a verbal product description (Mandler 1982; Meyers-Levy and Tybout 1989; Stayman, Alden, and Smith 1992). The recent introduction of Crystal Pepsi, a product described as a clear, cola-flavored soft drink, exemplifies the sort of context in which this effect has been observed. Such previous research suggests that consumers will attempt to reconcile the moderately ambiguous combination of features used to describe Crystal Pepsi (e.g., cola flavor yet clear color). Moreover, the process of successfully resolving such ambiguity should produce positive affect that can enhance consumers' evaluations of the product.

While this theory seems to account nicely for ambiguity effects that arise from inconsistent verbal descriptors of a product, it remains uncertain whether the theory also might apply more broadly to very different types of ambiguities. Faier and Unger (1987) report that 44 percent of ads contain ambiguities or instances in which information is unresolved or incomplete, thereby rendering it open to multiple interpretations. Yet these

ambiguities frequently appear to result from unresolved or incomplete visual rather than verbal ad information. For example, ads often create visual ambiguity when objects of some relevance to the touted product appear severely cropped within an ad photo (Aaker 1982). Consider two such ads. One, a recent ad for Diet Coke, bears several verbal ad claims concerning the product's quality and depicts a smartly dressed woman holding a can of Diet Coke. The woman's face in the ad is severely cropped so that only the portion below her nose is visible. Thus, her face is ambiguous, as it can be interpreted or completed in any number of ways. A second ad for Bugle Boy jeans simply announces that "Few things will make you want to take them off" and shows a below-the-thigh-only photo of the front of a man's jeans-clad legs coupled with the back of a woman's naked legs. As such, whether the couple is embracing or spurning each other is ambiguous.

In this article we examine whether consumers' product evaluations can be enhanced in response to their resolving visual (e.g., object-cropping-induced) ambiguity, just as has been observed in response to their resolving verbal ambiguity. In addition, this research extends such previous work by exploring two factors that seem likely to qualify when such evaluation effects will occur, namely, the level of people's processing motivation and the relevance of the ambiguous visual information to the ad claims. To begin, we briefly review some research that provides a basis for believing that product evaluations can be influenced by visual ambiguity derived from object cropping.

THE IMPACT OF OBJECT CROPPING ON PRODUCT EVALUATIONS

The aesthetics literature provides reason to believe that positive affect can be generated by the relief of am-

*Laura A. Peracchio is assistant professor of marketing at the School of Business Administration, University of Wisconsin—Milwaukee. Joan Meyers-Levy is associate professor of marketing at the Graduate School of Business, University of Chicago. The authors would like to thank Chris Biebel, Steve Ostrowski, Sheila Romana, Terry Buss Russo, and Nora Thompson for their work as research assistants. This work was supported by the Bozell, Jacobs, Kenyon, and Eckhardt Faculty Research Fund at the Graduate School of Business, the University of Chicago, and the School of Business Administration, the University of Wisconsin—Milwaukee. Black and white copies of the ad stimuli used in this research are available on request.

biguity created by a visually cropped or incomplete figure. In discussing incomplete figures, such as a triangle without an apex that can be completed into either a trapezoid or a triangle, Kreitler and Kreitler (1972, pp. 87, 99) contend that "the pressure to straighten out, to improve, or to perfect the perceived figure may be so potent that it can be neither disregarded nor withstood by the spectator . . . until it is resolved by a proper perceptual act." Moreover, they purport that "such forms with an indeterminate identity offer the thrill of unsolved problems or undeciphered riddles." Thus, it seems that enacting closure by mentally supplying the missing part of an incomplete figure potentially can enhance evaluation by stimulating the pleasure of resolution.

This analysis might be applied to ads that depict markedly or severely cropped objects as opposed to objects that are either uncropped or more subtly, normally cropped.¹ The implication is that a severely cropped or incomplete object in an ad photo might be seen as ambiguous, prompting more extensive ad processing as well as a search for closure, which, if successful, could elicit positive affect. Moreover, because extensive processing is thought to intensify people's affective responses (Tesser 1978), this resulting positive affect should be relatively extreme, thereby translating into more favorable product evaluations than would occur if the object were uncropped and thus prompted no-nnextensive processing and no closure.

There is reason to suspect, however, that such object cropping in ads may not always enhance evaluations. This is so because the task of mentally completing objects is likely to require substantial cognitive resources that in some instances may exceed the level of resources an individual evokes in processing the ad (Aaker 1982). This implies that only perceivers who possess a high level of processing motivation are likely to perceive the ambiguity, be sufficiently motivated to complete the figure, and thereby display positive affect in response to the cropped object. When processing motivation is low, viewers' affect or evaluations are likely to reflect their use of any number of easily applied heuristics (Petty, Cacioppo, and Schumann 1983). For example, under low motivation, viewers might simply transfer the affect they associate with the focal product's category to the product (Alba and Hutchinson 1987).

The notions developed up to this point suggest that whether an affective advantage is associated with a cropped object may be contingent on an ad recipient's sufficient processing motivation. Yet, it would seem that the influence of motivation itself may be compromised by the particular role the severely cropped object plays in the ad.

More specifically, motivated processors are thought to process all ad-contained material carefully and to scrutinize ad copy or verbal ad claims (Petty et al. 1983). This scrutiny is likely to entail visually substantiating or otherwise amplifying the verbal ad claims by examining visual components depicted in the ad that are relevant to these claims (Barry 1990; Unnava and Burnkrant 1991). For example, to corroborate verbal function-oriented ad claims that tout a beer's superior quality, a motivated consumer may examine the ad's photo of the beer as it provides relevant information about the richness and uniformity of the beer's color, the extent to which quality is connoted by the beer label, and so on. Or, to substantiate verbal image-oriented ad claims concerning a beer's exotic origins or the lifestyle of the type of person who consumes it, the motivated consumer might examine relevant components of the ad photo, such as those depicting how exotic or seductive the consumption context or beer user is. However, if the object that is relevant to substantiating the verbal ad claims is severely cropped and thus ambiguous, ad claim substantiation is likely to be impaired or limited. As such, the intense affective advantage that otherwise might be associated with the severely cropped object should be obliterated or offset by intense negative affect spawned by the viewer's unsuccessful attempts to substantiate the verbal ad claims. Such an analysis suggests that object cropping should heighten product evaluations only if the object that is severely cropped is not the one that is directly relevant to, and hence potentially serves to, substantiate the verbal ad claims.

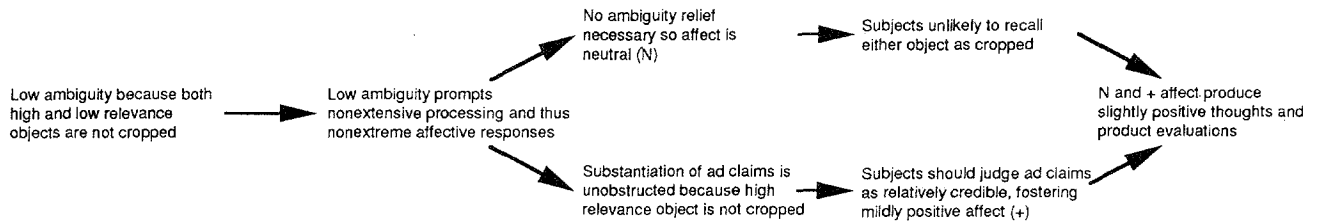
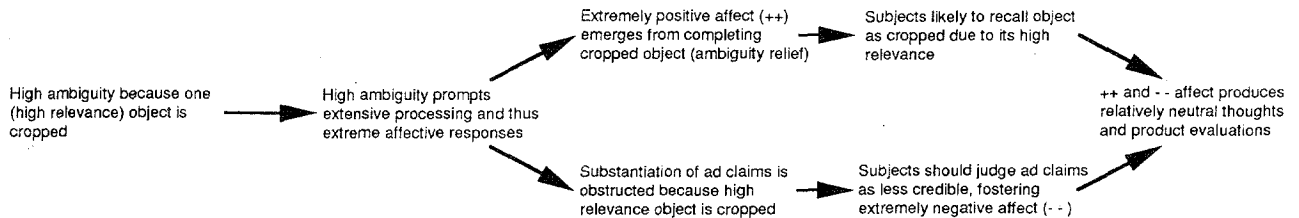
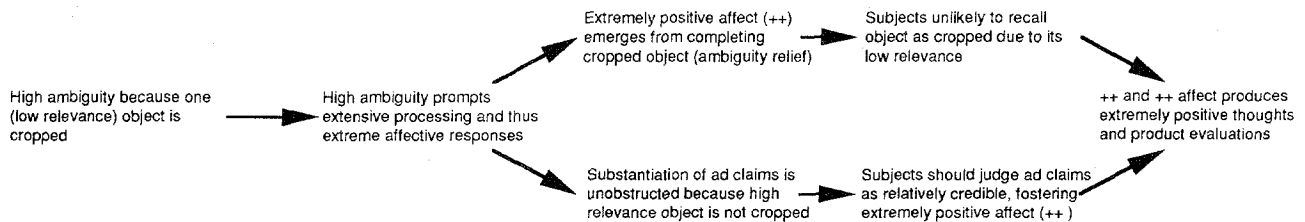
The implication is that, under high processing motivation conditions, product evaluations will be mediated by two processes: (1) whether an ambiguous (incomplete) object is present, which should foster both extensive affect-intensifying ad processing as well as the positive affect that is elicited by mental closure or resolution of the ambiguous object, and (2) whether an ambiguous object obstructs substantiation of the verbal ad claims and thus engenders negative affect. This logic, which is depicted in Figure 1 for each condition, holds that product evaluations should be enhanced by object cropping if (1) consumers' motivation to process an ad extensively and thus complete the incomplete or cropped object is high rather than low and (2) the ambiguous, severely cropped object in the ad is of low relevance to the verbal ad claims, while the object of high relevance to the ad claims is uncropped or unambiguous. In the absence of these conditions, ads containing photos of ambiguously cropped objects should produce product evaluations that are either equivalent to or perhaps less favorable than those elicited by ads that feature only uncropped objects.²

¹For simplicity, in the remainder of this article we refer to objects as not cropped when they are either literally uncropped or cropped in a relatively subtle, nonextreme manner. Further, we use the term "cropped object(s)" to refer to those that are severely cropped.

²Under high motivation, the impaired ad claim substantiation presumably wrought by the cropping of a high relevance object may or may not produce evaluations that are significantly less favorable than those resulting if no object is cropped. That is, it is uncertain whether

FIGURE 1

PROCESSES MEDIATING EVALUATIONS WHEN PROCESSING MOTIVATION IS HIGH

IF NO OBJECT IS CROPPED:IF ONLY OBJECT THAT IS HIGHLY RELEVANT TO SUBSTANTIATING AD CLAIMS IS CROPPED:IF ONLY OBJECT THAT IS OF LOW RELEVANCE TO SUBSTANTIATING AD CLAIMS IS CROPPED:

Note.—The + and - signs in the figure refer to the extremity of affect.

OVERVIEW OF THE STUDY

A study was designed to test these predictions using ads for two products, beer and jeans. Subjects' motivation to process the ads in detail was manipulated. Further, two additional factors were manipulated to vary the extent to which the object that was cropped in the ad was relevant to substantiating the ad claims. These factors were (1) whether the verbal ad claims were function-oriented, focusing on the intrinsic merits (e.g., quality) and functional value of the product, or whether they were image-oriented, emphasizing the image of the product and its use (Park, Milberg, and Lawson 1991; Snyder and DeBono 1985), and (2) whether the object that was cropped in the ad specifically portrayed the product's function- (quality-) oriented benefits or its image-oriented benefits.

the combination of neutral and mildly positive affect engendered when no object is cropped will foster more or equally favorable evaluations than the combination of extremely positive and extremely negative affect elicited when an ad features a cropped object that is of high relevance to the ad claims (see Fig. 1).

To clarify how these two factors varied relevance, note that the beer and jeans ads contained verbal ad claims that were either function-oriented (quality focused) or image-oriented, as well as a photograph that depicted both a functional component (a shot of the featured product) and an image component (a contextual object). In the beer ad, the functional component was a bottle and glass of the advertised beer, while the image component was an exotic-looking woman who appeared to be consuming the product. In the jeans ad the functional component was the jeans as modeled on a young man, while the image component was a pickup truck against which the young man was leaning.

Which of these two ad components in the photo was severely cropped was varied. Either the function-oriented object (e.g., the beer bottle and glass) but not the image-oriented component (e.g., the exotic woman's face) was severely cropped and rendered ambiguous, or vice versa. Thus, the relationship between the type of ad claims presented verbally (function- or image-oriented) and the type of object that was cropped in the photo (function- or image-oriented object) determined whether the cropped object was of high or low relevance

to the ad claims. The relevance of the cropped object to the ad claims was high when these items were both image-oriented or both function-oriented. The relevance was low when these items represented different aspects of the advertised product as one was function-oriented while the other was image-oriented. Figure 2 illustrates how the relevance of the cropped object was operationalized.

Based on the theorizing presented earlier, a three-way interaction of processing motivation, type of ad claims, and type of object cropped was anticipated on product evaluations and the process-tracing valenced thought measures. Figure 3 shows the pattern of this interaction on evaluations and on a composite index of positive less negative thoughts that efficiently captures the net favorableness of viewers' thoughts.

H1: When viewers are highly motivated to process an ad, they should produce more favorable product evaluations and a larger proportion of positive less negative thoughts when the severely cropped object in the ad photo is the one that is of low relevance to the ad claims, as compared to when the cropped object is of high relevance to the ad claims or neither object is cropped.

H2: When viewers possess little motivation to process an ad, their product evaluations as well as their generation of positive less negative thoughts are likely to be unaffected by variations in object cropping, regardless of the relevance of the cropped object to the ad claims.

Though the ambiguity-relief and ad claim substantiation processes described earlier are thought to account for the preceding hypotheses, an alternative explanation is possible. Under the ad conditions thought to produce an affective advantage for ads with cropped objects (the object of low relevance to the ad claims is cropped, while the object of high relevance is not cropped), the cropping or partial occlusion of the ad-claim-low-relevance object may minimize this object's salience. As such, the ad photo may more clearly and saliently portray the object that is highly relevant to the ad claims as that object is uncropped. By contrast, such a salience advantage of the ad-claim-high-relevance object is absent both when the object of high relevance to the ad claims is cropped and when the ad photo contains no cropped objects. In the latter case, this is so because both the ad-claim-high-relevance and ad-claim-low-relevance objects compete for visual attention. Thus, it is possible that highly motivated viewers will exhibit more favorable product evaluations when the object of low relevance to the ad claims is cropped for reasons independent of the ambiguity-relief process. That is, they may judge the product more favorably simply because the ad photo more easily and saliently

FIGURE 2
OPERATIONALIZATION OF RELEVANCE OF THE
CROPPED OBJECT

		Ad Claims	
		Function-Oriented	Image-Oriented
Cropped Object	Function-Oriented	High Relevance	Low Relevance
	Image-Oriented	Low Relevance	High Relevance

allows examination of the object that is highly relevant to the ad claims.

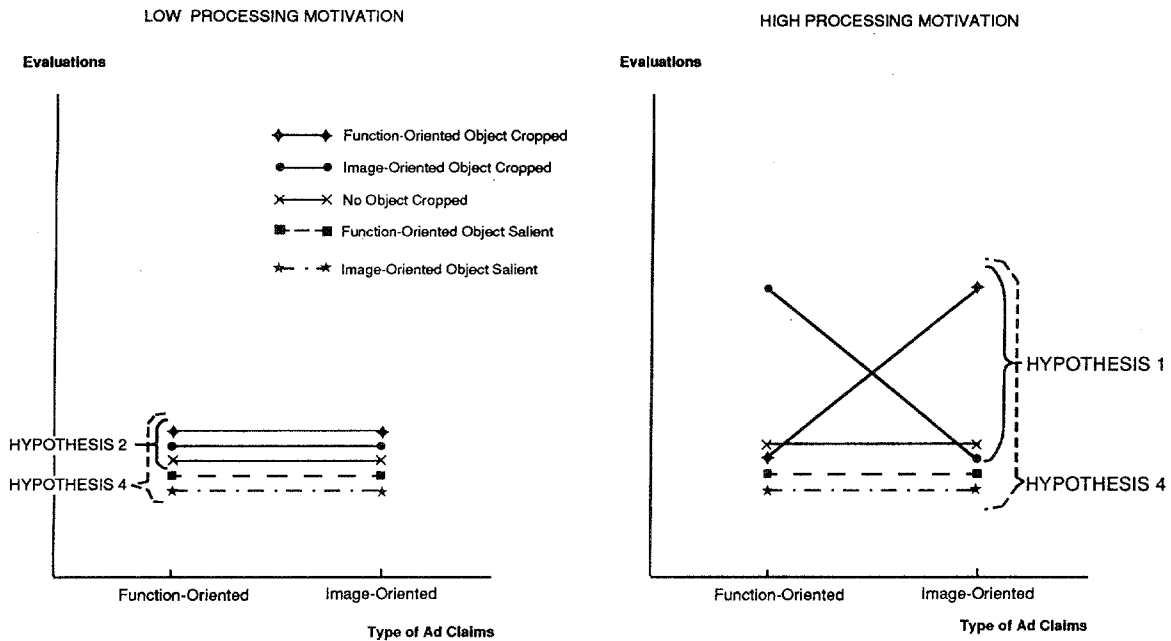
We assessed the viability of this rival explanation by adding several conditions to the experiment that involved no object cropping but simply varied the relative salience of the objects featured in the ad photo and their relevance to the verbal ad claims. Specifically, we developed two ad photos that contained the same elements as those used in the other ad versions except that either the function-oriented (e.g., the bottle and glass of the advertised beer) or the image-oriented (e.g., the exotic-looking woman) object in the ad photo was focal, while the counterpart component (the image- or function-oriented object, respectively) was greatly reduced in size and thus rendered considerably less salient. Neither object was cropped in these ads, yet the ads varied in whether they contained the function- or image-oriented ad copy. The resulting four additional ads represented conditions whereby no objects were cropped but either the object that was highly relevant to the ad claims was visually salient in the ad photo or alternatively the object of low relevance to the ad claims was visually salient.

If, as the alternative explanation suggests, viewers simply evaluate products more favorably when objects highly relevant to the ad claims are salient, the following outcome should occur. High motivation viewers who receive one of the two additional ads containing a photo of an uncropped salient object that is of high relevance to the ad claims will produce evaluations that are favorable, matching those produced by high motivation viewers who receive an ad featuring a cropped object that is of low relevance to the ad claims. However, if the favored ambiguity-relief explanation of the treatment effects is accurate, high motivation viewers who receive such ads will evaluate the product less favorably than will those who receive an ad containing a cropped object of low relevance to the ad claims.

H3: When viewers are highly motivated to process an ad, they will produce more favorable product evaluations and a larger proportion of positive less negative thoughts when the ad photo features a cropped object that is of low relevance to the ad claims than when the ad features a larger, more salient object that is either of high or low relevance to the ad claims

FIGURE 3

PREDICTIONS FOR THREE-WAY INTERACTION OF PROCESSING MOTIVATION, TYPE OF AD CLAIMS, AND OBJECT CROPPED/SALIENT



and no cropped objects. However, when viewers possess little motivation to process an ad, product evaluations and their generation of positive less negative thoughts are unlikely to be affected by variations in object cropping and the high or low relevance of the salient uncropped object. (See Fig. 3 for a depiction of this hypothesis.)

Finally, people's visual recall of the object that was cropped in the ad photo should provide mediational evidence of the process thought to underlie the effects anticipated under high processing motivation. It was expected that, when the cropped and thus ambiguous object was of low rather than high relevance to the ad claims, motivated individuals would be more likely to falsely recall the ambiguous cropped object as complete. The reason is that, in this low relevance condition, motivated individuals should relieve the ambiguity by mentally completing the cropped object (which in turn enhances their evaluations), yet they are likely to lack conscious awareness that it is only because they themselves mentally completed the object that they falsely envision/recall it as complete. On the other hand, when the ambiguous cropped object is of high relevance to the ad claims, the cropping of the object should impair motivated individuals' goal of substantiating the ad claims and, in turn, heighten their awareness that this object, in fact, was shown as cropped. Thus, in this condition, people should recall the cropped object correctly as having been shown in the ad as incomplete.

Much research supports this logic. Studies reveal that people often internally generate schema-based inferences about low relevance unobserved information, and these inferences are stored and become confused with traces of observed information. As a result, people often erroneously recall these low relevance items as having been present (Abelson 1981). On the other hand, because people attend greatly to high relevance items, such as those that bear importantly on or interrupt their goals (i.e., the goal of substantiating ad claims), they typically correctly recall these items (Anderson and Pichert 1978; Martin 1986).

H4: When viewers are highly motivated to process an ad, they should more frequently falsely recall the cropped object as complete when that object is of low rather than high relevance to the ad claims. However, when viewers' processing motivation is low, the incidence of falsely recalling the cropped object as complete should be unaffected by variations in the relevance of the cropped object to the ad claims.

Last, the overall number of thoughts that motivated viewers generate should offer evidence whether, as implied by the proposed theorizing, the presence of an ambiguous or incomplete object fosters more extensive ad processing. Overall, motivated viewers should generate more thoughts if a high or low relevance object is cropped than if no object is cropped.

METHOD

Subjects and Stimuli

Four hundred-ninety-three students in marketing classes completed the study during class time. All subjects were randomly assigned to treatments.

Print ads were created for beer and jeans products using color photographs. Two versions of a headline and ad claims were written for each product. These versions focused either on the product's functional (quality) features (e.g., "all ingredients are 100% natural and the finest to be had") or the image associated with the product or its user (e.g., "it's reminiscent of a seductive journey to a land with strong beams of sunshine"). The function- and image-oriented versions of the ad claims were equivalent in length.

The photos selected for use were scanned into a computer, and the following versions of the ad photos were created, each containing the same basic elements: (1) the function-oriented object or photo of the featured product was severely cropped (the bottle and glass of the advertised beer or the jeans), while the image-oriented object was largely intact, (2) the image-oriented object was severely cropped (an exotic-looking woman in the beer ad and a truck in the jeans ad), while the function-oriented object was intact, (3) neither the function- nor image-oriented object was severely cropped, (4) the function-oriented object was salient and large, while the image-oriented object was nonsalient and small, though neither object was severely cropped, (5) the image-oriented object was salient and large, while the function-oriented object was nonsalient and small, though neither object was severely cropped. Thus, each ad version depicted both the same function- and image-oriented objects, although one of these objects was severely cropped or rendered highly salient in certain conditions. Each of the five types of photos were combined with the two types of ad claims, and all resulting 10 versions of the ads were printed and duplicated in full color. Ads employing photos 1, 2, and 3 were used to test hypotheses 1, 2, and 4, whereas photos 4 and 5 were used to assess hypothesis 3, which related to the rival explanation.

Pretests established that, as intended, the severely cropped function- or image-oriented objects shown in the ads were perceived as ambiguous. The beer and jeans ads were viewed by 122 subjects, and either the function- or image-oriented object was cropped while the counterpart object was uncropped or neither object was cropped. The ad claims varied in whether they were function- or image-oriented. In an open-ended question subjects were asked what if anything in the ad they felt was ambiguous. Percentages were calculated of subjects who identified the cropped object rather than an uncropped object or no object as ambiguous. Analyses of the data revealed only main effects of cropping for both the beer ($F(2,116) = 91.61, p < .001$) and the jeans

($F(2,116) = 40.61, p < .001$) ads, indicating that, for subjects who received ads featuring a severely cropped object, the majority identified the cropped object as ambiguous. Specifically, 71 percent (79 percent) of subjects who saw the beer (jeans) ad identified the severely cropped object as ambiguous. By contrast, the majority (73 percent) of subjects who viewed an ad with no cropped object felt that no object was ambiguous.

A second pretest established that the function- (image-) oriented object in the ad photo was more relevant to substantiating the function- (image-) oriented ad claims. Versions of the beer and jeans ads that contained no cropped object were shown to 28 subjects who rated the extent to which the function- and image-oriented objects in the ad photo were relevant to or helped substantiate the ad claims (1 = not at all, 7 = very much). For the beer ad, subjects found the function-oriented object more relevant to the ad claims when the claims were function- rather than image-oriented ($\bar{X}s = 5.79$ vs. 4.75, $F(1,26) = 5.17, p < .03$). Yet they felt that the image-oriented object was more relevant to the ad claims when the claims were image- rather than function-oriented ($\bar{X}s = 4.04$ vs. 1.96, $F(1,26) = 20.30, p < .001$). Similar outcomes obtained for the jeans ad: the function-oriented object was rated as more relevant to the ad claims when the claims were function- rather than image-oriented ($\bar{X}s = 5.54$ vs. 2.82, $F(1,26) = 33.92, p < .001$), whereas the image-oriented object was more relevant to the ad claims when they were image- rather than function-oriented ($\bar{X}s = 5.86$ vs. 4.04, $F(1,26) = 11.30, p < .002$).

Finally, evidence was sought that the cropping of an object of high relevance to the ad claims would undermine the perceived validity of the ad claims.³ Seventy-seven subjects received beer and jeans ads representing all treatments created by fully crossing the uncropped ad or cropped function- or image-oriented object ads with the function- or image-oriented ad claims. Then, on seven-point scales, subjects rated the extent to which they felt the ad claims were valid, substantiated, credible, and believable (1 = not at all, 7 = very much). Interactions of type of ad claims by object cropped emerged on the mean ratings of these scales for both the beer ($F(2,71) = 5.07, p < .01$) and jeans ($F(2,68) = 7.11, p < .01$) products. Subjects felt that the perceived validity of the function-oriented ad claims was lower when the cropped object was of high rather than low relevance to the ad claims (function- rather than image-oriented; for beer $\bar{X}s = 2.83$ vs. 3.95, $F(1,71) = 5.83, p < .02$; for jeans $\bar{X}s = 3.79$ vs. 4.88, $F(1,68) = 6.58, p < .02$). Likewise, the perceived validity of the image-oriented ad claims was lower when the cropped object was of high rather than low relevance to the ad claims (image- rather than function-oriented; for beer $\bar{X}s = 3.17$ vs. 4.09, $F(1,71) = 3.83, p < .05$; for jeans

³This test was conducted during the review process based on the advice of a reviewer.

TABLE
TREATMENT MEANS AND STANDARD DEVIATIONS FOR

	Function-oriented ad claims				
	Function-oriented object cropped (high relevance)	Image-oriented object cropped (low relevance)	No object cropped	Function-oriented object salient (high relevance)	Image-oriented object salient (low relevance)
Low processing motivation:					
Beer evaluations	4.82 (.95)	4.24 (.97)	4.23 (1.24)	3.94 (1.16)	4.16 (1.30)
% of positive-negative thoughts	-.14 (.41)	-.22 (.40)	.51 (.41)	-.19 (.59)	-.16 (.55)
% of neutral thoughts	.59 (.31)	.64 (.29)	.40 (.29)	.41 (.37)	.54 (.37)
Object completion in recall	.00 (.00)	.00 (.00)	1.00 (.00)	1.00 (.00)	1.00 (.00)
High processing motivation:					
Beer evaluations	4.08 (1.36)	4.74 (1.01)	4.03 (1.13)	4.06 (1.33)	4.06 (1.35)
% of positive-negative thoughts	-.21 (.54)	.17 (.50)	-.34 (.33)	-.40 (.39)	-.18 (.57)
% of neutral thoughts	.47 (.37)	.42 (.30)	.49 (.28)	.44 (.24)	.48 (.35)
Object completion in recall	.04 (.20)	.40 (.50)	1.00 (.00)	1.00 (.00)	1.00 (.00)

\bar{X} s = 2.58 vs. 3.98, $F(1,68) = 6.81$, $p < .01$). Further, the perceived validity of the function- and the image-oriented ad claims was lower when the high relevance object was cropped as opposed to when no object was cropped (in latter condition \bar{X} s = 4.21 and 4.00 for beer, \bar{X} s = 4.81 and 4.00 for jeans; all p s $< .03$ except in beer ad for image-oriented ad claims condition where $p = .08$). There were no significant differences between the low relevance object cropped and the no cropped conditions (F s < 1).

Procedure

Subjects were told that the purpose of the study was to obtain their judgments of several new products that might be introduced in the marketplace. They were informed that they would be viewing ads for these products, and they should consider all the material contained in the ads in forming their judgments. Then, using a variant of Petty et al.'s (1983) manipulation, subjects' motivation to process the ad materials extensively was manipulated by varying their expectations for winning a lottery in which winners would be awarded one of the products being examined. Specifically, subjects assigned to the high (low) processing motivation condition were informed that only five small classes (at least 100 large classes) of students at their university (at nationwide universities) were participating in the study and lottery, and since, purportedly, they had "a good (some) chance" to win the lottery, as they viewed the ads they should (could) consider which particular featured product they might want.

Next, subjects viewed each of four print ads contained in a booklet. The target beer and jeans ads always appeared as the first and third ads, though which of these ads was presented first varied. For each subject, these two ads always represented different treatment conditions. The second and fourth ads were filler ads simply included to clear memory.

After viewing each ad, subjects evaluated the featured product on a series of five seven-point scales concerning purchase likelihood, the product's superiority, quality, value, and construction or design. For both the beer and the jeans, the five items loaded on single factors. Thus, they were averaged to form two separate beer and jeans evaluation indices ($\alpha = .89$ for both).

After completing the scaled items for each product, subjects performed a thought-listing task in which they recorded all thoughts about the featured product that occurred to them while reading the ad. To adjust for differences in the total number of thoughts subjects generated, subjects' valenced thoughts were examined as a proportion of total thoughts. Moreover, to examine the favorableness of subjects' thoughts efficiently, analysis is reported for the net proportion of subjects' positive thoughts less their negative thoughts.

Following thought listing, subjects completed a visual recall task for both ads. This entailed providing subjects with a 4 $\frac{3}{4}$ -inch by 6-inch frame in which they were asked to reproduce the ad layout. In addition, subjects were allotted ample space in which they were to list as much of the message as they could recall.⁴

⁴Examination of subjects' message recall revealed a number of lower

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EVALUATION, THOUGHTS, AND MEMORY MEASURES, BEER

Image-oriented ad claims				
Function-oriented object cropped (low relevance)	Image-oriented object cropped (high relevance)	No object cropped	Function-oriented object salient (low relevance)	Image-oriented object salient (high relevance)
4.59	4.49	3.90	4.58	3.98
(1.02)	(1.00)	(1.13)	(1.02)	(1.35)
-.09	-.14	-.06	.00	-.15
(.55)	(.40)	(.42)	(.38)	(.41)
.49	.60	.68	.50	.63
(.35)	(.37)	(.31)	(.32)	(.32)
.19	.25	1.00	1.00	1.00
(.40)	(.44)	(.00)	(.00)	(.00)
5.14	4.31	3.71	4.20	3.89
(.75)	(1.11)	(1.48)	(1.24)	(1.25)
.21	-.07	-.30	-.19	-.25
(.50)	(.46)	(.40)	(.55)	(.53)
.39	.49	.54	.46	.49
(.29)	(.28)	(.32)	(.36)	(.35)
.58	.30	1.00	1.00	1.00
(.50)	(.47)	(.00)	(.00)	(.00)

Finally, several manipulation check measures were administered. To assess their processing motivation, subjects indicated how interesting and involving they found the ad materials (1 = not at all, 7 = extremely). These two highly correlated scales ($r = .70$) were averaged to form a motivation index. For each product, subjects also rated on a seven-point scale whether they felt that the copy for the product focused more on the image associated with the product and its user (1) or the product's quality features and functional value (7).

RESULTS

Initial analyses that included order of target ad exposure as a factor in the design revealed no significant effects involving this variable ($ps > .16$). This factor was dropped, and the data were analyzed as a 2 (processing motivation: high, low) by 2 (type of ad claims: function-oriented, image-oriented) by 5 (object type severely cropped or made salient: function-oriented object cropped, image-oriented object cropped, no object cropped, function-oriented object salient but no cropping, image-oriented object salient but no cropping) between-subjects design. Hereafter, this latter factor will be referred to as object cropped/salient. It should be kept in mind that all ad photos contained both the same function-oriented and image-oriented objects. Treat-

ment means for all evaluation, thought, and visual recall measures are presented in Table 1 for beer and in Table 2 for jeans.

Manipulation Checks

Analysis of the motivation index revealed only a main effect of processing motivation ($F(1,476) = 25.36, p < .01$). Overall, under high ($\bar{X} = 5.08$) rather than low ($\bar{X} = 4.47$) processing motivation, subjects reported being more motivated to process the ad materials. The successful manipulation of motivation was further confirmed by a main effect of processing motivation observed on the overall number of thoughts generated during thought listing for beer ($F(1,463) = 19.90, p < .001$) and for jeans ($F(1,468) = 3.28, p < .07$). As would be expected, more thoughts about the products were elicited when processing motivation was high rather than low (for beer, $\bar{X}s = 3.91$ vs. 3.22 ; for jeans, $\bar{X}s = 3.68$ vs. 3.37).

The overall number of thoughts generated during thought listing also provided evidence for the extensiveness of processing. The proposed theorizing implies that under high motivation more extensive processing should occur when an object is cropped than in the no object cropped and object salience conditions. Consistent with this, motivated subjects generated more thoughts about the beer and jeans in the two object cropped conditions than in the no object cropped condition or the function- or image-oriented object salience conditions (for beer, $F(1,465) = 16.29, p < .001$; for jeans, $F(1,466) = 9.75, p < .01$).

order effects, including main effects of processing motivation for both products, which, as might be expected, indicated that higher processing motivation enhanced recall. As the other effects on this measure were of no theoretical consequence, they will not be discussed further.

TABLE
TREATMENT MEANS AND STANDARD DEVIATIONS FOR

	Function-oriented ad claims				
	Function-oriented object cropped (high relevance)	Image-oriented object cropped (low relevance)	No object cropped	Function-oriented object salient (high relevance)	Image-oriented object salient (low relevance)
Low processing motivation:					
Jeans evaluations	4.66 (1.08)	4.65 (.86)	4.56 (1.00)	4.90 (.66)	4.41 (.94)
% of positive-negative thoughts	.17 (.52)	-.06 (.50)	-.09 (.27)	.26 (.46)	-.01 (.45)
% of neutral thoughts	.57 (.36)	.61 (.35)	.73 (.31)	.53 (.32)	.48 (.36)
Object completion in recall	.00 (.00)	.14 (.36)	1.00 (.00)	1.00 (.00)	1.00 (.00)
High processing motivation:					
Jeans evaluations	3.73 (.93)	4.82 (.97)	3.85 (1.28)	3.94 (1.57)	3.99 (.87)
% of positive-negative thoughts	-.17 (.46)	.19 (.44)	-.20 (.41)	-.04 (.64)	-.11 (.50)
% of neutral thoughts	.51 (.33)	.41 (.36)	.51 (.36)	.32 (.32)	.46 (.31)
Object completion in recall	.11 (.32)	.65 (.49)	1.00 (.00)	1.00 (.00)	1.00 (.00)

An ANOVA performed on the measure that assessed the ad claim's function- or image-oriented focus revealed main effects of type of ad claim for beer ($F(1,450) = 42.74, p < .01$) and for jeans ($F(1,452) = 85.78, p < .01$). Compared to subjects who received the image-oriented (function-oriented) copy, those who received the function-oriented (image-oriented) copy felt it generally stressed the product's functional (image) aspects (for function-oriented copy, $\bar{X} = 3.94$ for beer and $\bar{X} = 4.08$ for jeans; for image-oriented copy, $\bar{X} = 2.75$ for beer and $\bar{X} = 2.45$ for jeans).

Finally, to provide evidence that the cropping of objects in ads would lead motivated ad viewers to regard these objects as ambiguous, we analyzed subjects' spontaneous mention of such ambiguity in their thoughts (e.g., "The ad is slightly ambiguous. I can only see part of the bottle"). Consistent with this premise, subjects expressed more thoughts implying that the cropped object was ambiguous when motivation to process the beer and jeans ads was high (\bar{X} s = .64 and .72) rather than low (\bar{X} s = .35 and .32; $F(1,203) = 34.43, p < .001$ and $F(1,204) = 17.66, p < .001$, beer and jeans ads, respectively). At the same time, when viewers received ads that contained no cropped objects, they expressed no thoughts suggesting that any object was ambiguous.

Product Evaluations

Analysis of subjects' evaluations revealed a main effect of object cropped/salient ($F(4,465) = 6.05, p < .01$) for beer and main effects of each of the three manipu-

lated variables (all $ps < .05$) as well as two-way interactions of processing motivation by object cropped/salient ($F(1,466) = 14.99, p < .01$) and type of ad claims by object cropped/salient ($F(4,466) = 2.54, p < .04$) for jeans. These effects were qualified, however, by three-way interactions of processing motivation by type of ad claims by object cropped/salient for beer ($F(4,465) = 2.78, p < .03$) and for jeans ($F(4,466) = 3.58, p < .01$), which are illustrated in Figures 4 and 5.

Further examination of this interaction revealed that, consistent with Hypothesis 1, high motivation subjects evaluated the products more favorably when the ad photo depicted a cropped object that was of low relevance to the ad claims (the cropped object and ad claims were of different types as one was function-oriented while the other was image-oriented) rather than when the cropped object was highly relevant to the ad claims or no object was cropped. Moreover, as anticipated by Hypothesis 2, low motivation subjects were unaffected by any of the manipulations. Figures 4 and 5 provide a visual depiction of these results.

Follow-up examination of the three-way interactions indicated that, under high motivation, a significant interaction of type of ad claims by object cropped/salient emerged for each product (for beer, $F(4,465) = 3.54, p < .01$; for jeans, $F(4,466) = 5.77, p < .01$). No effects emerged for beer under low processing motivation ($ps > .21$), but for jeans a single main effect of type of ad claims emerged ($F(1,466) = 22.54, p < .001$), indicating that subjects' jeans evaluations were more favorable when the ad claims were function- rather than image-oriented. Presumably these subjects rendered their

2

EVALUATION, THOUGHTS, AND MEMORY MEASURES, JEANS

Image-oriented ad claims				
Function-oriented object cropped (low relevance)	Image-oriented object cropped (high relevance)	No object cropped	Function-oriented object salient (low relevance)	Image-oriented object salient (high relevance)
4.14 (.64)	4.27 (.86)	3.83 (.92)	4.07 (1.21)	3.68 (1.40)
-.13 (.44)	-.10 (.39)	-.28 (.47)	-.09 (.43)	-.19 (.43)
.62 (.37)	.68 (.35)	.48 (.36)	.57 (.28)	.55 (.30)
.23 (.43)	.19 (.40)	1.00 (.00)	1.00 (.00)	1.00 (.00)
4.74 (.86)	3.89 (.80)	4.08 (.82)	4.09 (1.23)	4.01 (1.43)
.25 (.36)	-.28 (.50)	-.04 (.43)	-.11 (.53)	.08 (.46)
.47 (.26)	.48 (.29)	.57 (.31)	.51 (.34)	.62 (.31)
.42 (.50)	.12 (.33)	1.00 (.00)	1.00 (.00)	1.00 (.00)

evaluations heuristically, reasoning that the jeans were superior when the ad contained more substantive, function- (quality-) oriented ad claims rather than less concrete image-oriented ad claims.

When the ad claims were function-oriented, highly motivated individuals evaluated the products more favorably when the cropped object was of low relevance to the ad claims than when it was of high relevance (for beer, $F(1,465) = 3.92, p < .05$; for jeans, $F(1,466) = 14.21, p < .01$) or no object was cropped (for beer, $F(1,465) = 4.44, p < .04$; for jeans, $F(1,466) = 10.95, p < .01$). Subjects' evaluations were similar in these latter two conditions for both products ($F_s < 1$). Internally replicating these effects, when the ad claims were image-oriented, motivated individuals rendered more favorable evaluations when the cropped object was of low relevance to the ad claims than when it was of high ad-claim relevance (for beer, $F(1,465) = 6.72, p < .01$; for jeans, $F(1,466) = 8.81, p < .01$) or no object was cropped (for beer, $F(1,465) = 19.17, p < .01$; for jeans, $F(1,466) = 5.04, p < .03$). For beer, marginally more favorable evaluations emerged when the cropped object was of high relevance to the ad claims than when no object was cropped ($F(1,465) = 3.43, p < .06$). For jeans, evaluations were similar in these latter two conditions ($F < 1$). For a visual presentation of these results, see Figures 4 and 5.

The three-way interaction also offered support for Hypothesis 3 by suggesting that, consistent with the ambiguity-relief account of the data rather than the alternative explanation, high motivation subjects evaluated the products more favorably when the ad photo

depicted a cropped object that was of low relevance to the ad claims than when either the high or low ad-claim-relevance object was salient in the ad though neither object was cropped. Under low motivation conditions, no significant effects emerged.

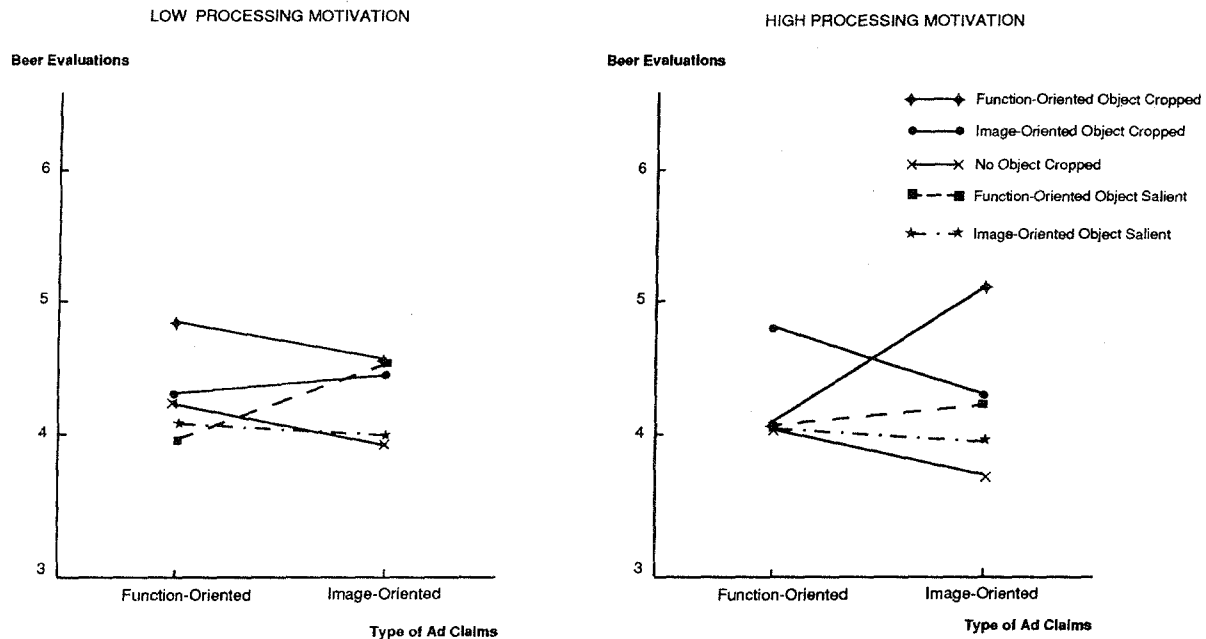
Specifically, when the ad claims were function-oriented, highly motivated individuals judged the products more favorably when the cropped object was of low relevance to the ad claims than when either the function- (for beer, $F(1,465) = 3.81, p < .05$; for jeans, $F(1,466) = 8.08, p < .01$) or image-oriented (for beer, $F(1,465) = 3.81, p < .05$; for jeans, $F(1,466) = 7.08, p < .01$) object was salient though neither object was cropped. Evaluations in these latter two treatments were not significantly different for either product ($F_s < 1$). Similarly, when the ad claims were image-oriented, motivated individuals evaluated the products more favorably when the cropped object was of low relevance to the ad claims than when either the function- (for beer, $F(1,465) = 7.73, p < .01$; for jeans, $F(1,466) = 10.89, p < .01$) or image-oriented (for beer, $F(1,465) = 13.69, p < .01$; for jeans, $F(1,466) = 5.74, p < .02$) object was salient but neither was cropped. Again, subjects' evaluations were similar in the latter two conditions for both products ($F_s < 1$). Figures 4 and 5 provide a visual presentation of these results.

Thoughts

Subjects' thoughts were examined for evidence of the process thought to underlie the observed cropping effects on evaluations. Two judges who were blind to

FIGURE 4

THREE-WAY INTERACTION OF PROCESSING MOTIVATION, TYPE OF AD CLAIMS, AND OBJECT CROPPED/SALIENT FOR BEER



treatments coded thoughts reliably (.94) into the proportion of positive, negative, and neutral thoughts elicited. These proportions were subjected to arcsine transformation for purposes of analysis.

The proportion of neutral thoughts generated exhibited only a main effect of processing motivation for the beer ad ($F(1,463) = 6.97, p < .01$) and the jeans ad ($F(1,468) = 9.34, p < .01$). Overall, subjects generated a greater proportion of neutral thoughts when processing motivation was low rather than high (for beer, $\bar{X}s = .55$ and $.47$; for jeans, $\bar{X}s = .58$ and $.48$).

Indices of the proportions of positive minus negative thoughts that subjects generated about the beer and the jeans ads were computed. Though each of these indices revealed a number of lower order effects, they were qualified by three-way interactions of processing motivation by type of ad claims by object cropped/salient for beer ($F(4,463) = 2.71, p < .03$) and for jeans ($F(4,468) = 5.55, p < .001$).

The patterns of these effects were similar to those observed on evaluations and predicted by Hypotheses 1, 2, and 3. Significant effects of type of ad claims by object cropped/salient emerged under high processing motivation for beer ($F(4,463) = 3.62, p < .01$) and for jeans ($F(4,468) = 6.93, p < .001$). Under low processing motivation, no treatment effects were significant for either product ($ps > .17$).

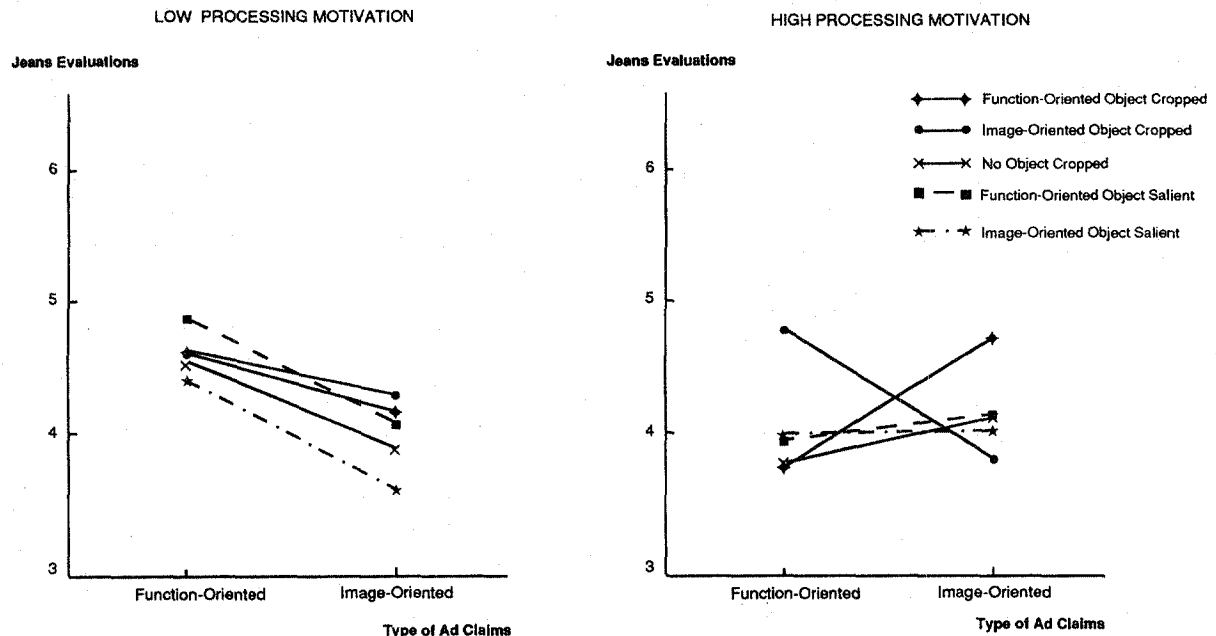
When the ad claims were function-oriented, the proportion of positive less negative thoughts high motivation individuals generated about each of the products was greater when the cropped object was of low rele-

vance to the ad claims than when it was of high relevance to the ad claims (for beer, $F(1,465) = 8.23, p < .01$; for jeans, $F(1,468) = 8.16, p < .01$) or no object was cropped (for beer, $F(1,465) = 14.08, p < .001$; for jeans, $F(1,468) = 9.43, p < .01$). Subjects' thought indices were similar in these latter two conditions ($Fs < 1$). Internally replicating these effects, when the ad claims were image-oriented, the proportion of positive less negative thoughts high motivation individuals generated about each of the products was greater when the cropped object was of low relevance to the ad claims than when it was of high relevance to the ad claims (for beer, $F(1,465) = 4.44, p < .04$; for jeans, $F(1,468) = 17.19, p < .001$) or no object was cropped (for beer, $F(1,465) = 15.02, p < .001$; for jeans, $F(1,468) = 4.85, p < .03$). Positive less negative thoughts were marginally greater when the object of high ad claim relevance was cropped than when no object was cropped (for beer, $F(1,465) = 3.33, p < .07$; for jeans, $F(1,468) = 3.46, p < .06$). Thus, overall these effects uphold Hypotheses 1 and 2.

The three-way interaction also offered support for Hypothesis 3, by suggesting that, consistent with the ambiguity-relief rather than the alternative explanation, a higher proportion of positive less negative product thoughts also emerged among high motivation subjects when the ad photo depicted a cropped object that was of low relevance to the ad claims than when either the high or low ad claim-relevance object was salient in the ad though neither object was cropped. Under low motivation conditions, no significant effect emerged.

FIGURE 5

THREE-WAY INTERACTION OF PROCESSING MOTIVATION, TYPE OF AD CLAIMS, AND OBJECT CROPPED/SALIENT FOR JEANS



Specifically, when the ad claims were function-oriented, the proportion of positive less negative thoughts high motivation individuals generated about each product was greater when the cropped object was of low relevance to the ad claims than when either the function- (for beer, $F(1,465) = 16.24, p < .001$; for jeans, $F(1,468) = 3.08, p < .08$) or image-oriented (for beer, $F(1,465) = 6.28, p < .01$; for jeans, $F(1,468) = 5.18, p < .02$) object was salient though neither object was cropped. The thought indices were similar in these latter two treatments ($ps > .13$). Similarly, when the ad claims were image-oriented, the proportion of positive less negative thoughts that highly motivated individuals generated about each product was greater when the cropped object was of low relevance to the ad claims than when either the function- (for beer, $F(1,465) = 8.70, p < .01$; for jeans, $F(1,468) = 7.12, p < .01$) or image-oriented (for beer only, $F(1,465) = 11.71, p < .001$; for jeans, $F(1,468) = 1.76, p > .19$) object was salient but neither was cropped. Subjects' thought indices were similar in these latter two treatments ($ps > .19$).

Visual Recall of Cropped Objects in Ads

For both the beer and jeans ads, the extent to which subjects depicted the cropped object as either complete (coded 1) or cropped (coded 0) in their visual ad recall was assessed by two judges who were blind to the treatments. Because all subjects drew both the function-oriented and image-oriented objects as complete when they

received ad versions depicting these objects as such, analysis of visual recall was performed only among subjects exposed to ads that featured either the function- or image-oriented object as cropped. For the analysis, subjects' visual recall scores were arcsine transformed.

As outlined in Hypothesis 4, subjects' visual recall of the ad photo provided mediational support for the view that only highly motivated individuals would show evidence of the ambiguity-relief process when the cropped object was of low rather than high relevance to the ad claims.⁵ Specifically, while subjects' false completion of the cropped object in their recall of the beer and jeans ads revealed several lower order effects, these effects were qualified by three-way interactions of

⁵We thank a reviewer for identifying an alternative process that may have led to the same outcomes as we predicted. For motivated individuals, the sight of an ambiguous cropped object may have led subjects to think about and seek relevant information about that object. When the ad claims provided such information, these individuals may have felt no need to mentally complete the object and did not do so. However, when the ad claims provided no relevant information, these individuals may have felt obliged to complete the object and did so, which in turn heightened their attitudes because they resolved the ambiguity. We explored the viability of this alternative process, by presenting to 53 subjects versions of our stimulus ad photos containing cropped and uncropped objects of different types and then asking subjects to write ad copy for the ads. Contrary to the logic of the alternative process, the ad claims generated by subjects in all conditions were just as likely to be relevant to product- or image-oriented features ($ps > .26$). Moreover, subjects' ad claims were no more frequently relevant to the cropped object than to the uncropped object ($Fs < 1$). Thus, these data as well as those reported in our study are more consistent with our proposed explanation.

processing motivation by type of ad claims by object cropped for the beer ad ($F(1,203) = 11.82, p < .001$) and the jeans ad ($F(1,205) = 10.30, p < .002$).

Object completion differed as a function of the relevance of the cropped object to the ad claims when subjects possessed high processing motivation (for beer, $F(1,203) = 19.24, p < .001$; for jeans, $F(1,205) = 32.82, p < .001$) but not low motivation ($ps > .22$). When the ad claims were function-oriented, highly motivated individuals more frequently falsely recalled the cropped object as complete when it was of low relevance rather than of high relevance to the ad claims (for beer, $F(1,203) = 11.97, p < .001$; for jeans, $F(1,205) = 26.43, p < .001$). Likewise, when the ad claims were image-oriented, such individuals more frequently falsely recalled the cropped object as complete when it was of low relevance rather than of high relevance to the ad claims (for beer, $F(1,205) = 7.06, p < .01$; for jeans, $F(1,205) = 8.51, p < .01$).

DISCUSSION

The data from this study suggest that visual ambiguity can occur in an ad when the visual depiction of either the consumption context/user or the physical product is severely cropped or incomplete. More specifically, our findings indicate that such cropping-induced ambiguity can enhance people's product evaluations if ad recipients are sufficiently motivated to mentally complete the ambiguous image of the cropped object. However, this enhancement of evaluations will only occur when the object that is cropped is not directly relevant to the ad claims, while the object that is relevant to and reinforces the ad claims remains largely uncropped and thus unambiguous. Yet, if motivated viewers encounter an ad containing an ambiguous cropped object that is relevant to but impairs their attempts to substantiate those ad claims, cropping-induced ambiguity produces product evaluations that are no more favorable than they would be if no object was cropped. Overall, the findings suggest that the enhancement of product evaluations observed previously in response to viewers' resolution of verbal ambiguity (Meyers-Levy and Tybout 1989; Stayman et al. 1992) can generalize to situations that involve pictorial ambiguity, though, in this latter case, evaluation enhancement may be contingent on the relevance of the ambiguous pictorial material to the verbal ad claims.

When viewers lack sufficient motivation to complete the cropped object, however, it seems that product evaluations are likely to be based on some easily applied heuristic or decision rule. In the current study, it appears that viewers who possessed limited processing motivation made judgments about the advertised jeans based simply on the nature of the ad claims, evaluating the jeans more favorably when the ad claims were seemingly more substantive or function- (quality-) oriented than when they were image-oriented. Though the precise

heuristic that low motivation viewers used in evaluating the beer is less clear, it seems likely that such viewers simply transferred the affect they associated with the (beer) product category to the advertised beer, thereby resulting in an absence of treatment effects on their beer evaluations.

It seems unlikely that the outcomes we observed are attributable to a salience advantage enjoyed by the ad-claim-high-relevance uncropped object relative to the cropped object. Conceptually this explanation seems implausible because previous research implies that it is more likely that heuristic processing-prone low motivation viewers rather than high motivation viewers would be affected by the simple enhanced salience of the object that is relevant to the ad claims (Borgida and Howard-Pitney 1983). Yet even more compelling is the lack of empirical support this explanation received, as we found that ads depicting a highly salient uncropped object that was relevant to the ad claims elicited no evaluation advantage.

A more likely explanation is that the outcomes are dependent on the level of subjects' processing motivation and, under high motivation conditions, are mediated by the composite effect of two processes. One process is determined by whether an ambiguous or cropped object appears in an ad photo. If present, this object presumably fosters extensive and affect-intensifying ad processing as well as intense positive affect as ad recipients should attempt to mentally complete the object and thus resolve the ambiguity. The second process concerns whether the ad photo contains an ambiguous object that obstructs subjects' attempts to substantiate the verbal ad claims. More specifically, it seems that the ambiguity of a cropped object is likely to prompt ad viewers to engage in heightened processing and complete the cropped object provided that they possess sufficient motivational resources. This process of resolving the ambiguity apparently evokes intense positive affect that greatly heightens these viewers' product evaluations so long as the cropping of the object does not impair viewers' efforts to substantiate or amplify the ad claims. Yet if the cropped object is highly relevant to the ad claims and thus impairs viewers' efforts to obtain claim-relevant information from it, any positive affect stimulated by the resolution process seems to be nullified by the negative affect generated by subjects' inability to successfully substantiate the ad claims.

The thought-listing and visual recall data provide mediational support for the hypothesized underlying processes. The composite index of subjects' positive thoughts less negative thoughts generally conformed with the evaluation effects and appeared to support the ambiguity-relief process. Nonetheless, this support must be regarded cautiously as subjects' valenced thoughts could have been subject to reactivity caused by the evaluation measures. In addition, the veracity of such thoughts is open to question because thoughts were as-

sessed retrospectively. Thus, future research should address these limitations by varying the timing and order in which evaluation and thought measures are administered.

More convincing mediational evidence that supports the ambiguity-relief process was obtained in subjects' visual recall of the object that was cropped in the ads. As would be expected, subjects in the high processing motivation condition frequently falsely recalled the cropped object as intact or uncropped when that object was of low relevance to the ad claims. Such false recall was infrequent both when processing motivation was insufficient to enable object completion and when motivation was high but the cropped object was of high ad claim relevance, presumably because in this case the ambiguous cropped object limited subjects' attempts to substantiate or amplify the ad claims, rendering subjects acutely aware of the object cropping.

It is noteworthy that the cropping effects we observed were quite consistent across both the beer and jeans products. Moreover, the observation that the same pattern of outcomes internally replicated, emerging for both function-oriented and image-oriented ads that contained the same basic pictorial components, further speaks to the robustness of the findings.

Also noteworthy is the consistency of our findings with those reported by Sawyer and Howard (1991) in two studies that varied both ambiguity and processing motivation. These researchers manipulated ambiguity verbally by varying whether or not an ad closed by explicitly drawing the conclusion that consumers should choose the advertised brand. Concordant with our findings, high motivation viewers evaluated the brand more favorably when the ad was more ambiguous due to the absence (versus the presence) of an explicit conclusion. By contrast, low motivation subjects apparently used some simple heuristic in judging the brand as their evaluations were unaffected by variations in ad ambiguity.⁶ These findings seem to suggest that verbal and visual ambiguity may operate in similar ways, though of course future research may reveal important differences between these forms of ambiguity given that resolving verbal ambiguity may be more cognitively demanding.

While our findings are concordant with those of Sawyer and Howard (1991), they also extend them both by examining how ambiguous items that are of high as well as low relevance to ad copy can affect evaluations and by providing a better understanding of how am-

biguity presumably operates. Further, the findings offer more compelling evidence that under high motivation and presumably "central route" processing conditions, evaluations can be influenced by more than substantive, central cues, such as the perceived validity of the ad copy. Indeed, it appears that to some extent evaluations also can be influenced by peripheral cues, such as a partially visible object that ostensibly would seem to be of low relevance to the ad copy. This observation is consistent with Chaiken, Liberman, and Eagly's (1989) assertion that systematic and heuristic processing can co-occur.

At the same time, a number of issues concerning cropping effects remain to be addressed. Future research should investigate whether repetition of ads that depict severely cropped versus uncropped objects will show different wearout effects. Perhaps because ads depicting severely cropped objects that are of low ad claim relevance are considerably intriguing or involving, they may wearout more slowly than ads with no cropped objects. Also meriting attention is whether the effects we observed are robust across varying levels of cropping severity or given nonforced versus forced ad exposure. If an object of considerable relevance to ad copy is only moderately cropped, the cropped object might still intensify viewers' processing yet not impede viewers' substantiation of the ad claims. If so, people's product evaluations may be comparable regardless of whether the ad contains a moderately cropped object that is of high or low relevance to the ad claims. Moreover, if ad exposure is not forced, the effects observed under high motivation may be weaker as the ad may stimulate less extensive processing.

Finally, it remains uncertain whether product evaluations will be enhanced if a low relevance object that is cropped in an ad invites negative associations or images when a motivated viewer mentally completes it. This and other possible limits of the cropping effects we observed need to be investigated.

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⁶Note that, as was the case in our study where the object deemed of low relevance was so called as it was not needed to interpret or substantiate the ad claims, it appears that in the Sawyer and Howard (1991) study the ad conclusion was of low relevance, rendering the findings consistent with ours under low relevance conditions. The authors' assertion that the ad claims were detailed and allowed any reader to draw a clear conclusion about the advertised brand's merits implies that the ad conclusion was of low relevance as it was needed neither to understand nor to substantiate the ad claims.

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