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Evaluating Persuasion-Enhancing Techniques from a Resource-Matching Perspective

LAURA A. PERACCHIO
JOAN MEYERS-LEVY*

This article examines how two ad execution characteristics intended to heighten persuasion can influence the resources required to process an ad under high and low motivation conditions. These ad execution characteristics include (1) whether the ad copy is narrative or factual and (2) whether the ad layout either physically integrates or separates the ad picture and ad claims. Results reveal that under low motivation, persuasion is unaffected by these two execution characteristics but instead is affected by heuristic aspects of the ad photo. Under high motivation, whether persuasion is heightened or undermined appears to depend on the extent to which the ad execution characteristics render the resources needed to process the ad equal to, in excess of, or inadequate compared with those that motivated viewers have available for processing the ad.

Advertisers attempt to heighten persuasion by employing different ad execution approaches. One such approach is exemplified by an ad for NEC computers. This highly fact-laden ad identifies in an extremely clear, straightforward manner many product features and benefits, such as its 133MHz Pentium processor, a 28.8 modem, PCI and CardBus architecture, and a 1.44GB hard drive, by superimposing such ad claims on a picture of the computer monitor. Hence, this ad execution approach is characterized by the use of highly factual, to-the-point, and patently clear ad copy. Moreover, the placement in this ad of the factual ad copy on the ad picture complements the ad's presumed intent of presenting the clearly and simply relayed product benefits in a way that enables viewers to easily locate visual testimony in the ad picture that can validate the product assertions (Frey and Halterman 1970; Keding and Bivins 1991; Wallace 1990).

Other advertisers embrace an approach that is guided by just the opposite intuition. Illustrative of this approach is an ad for a Hitachi portable computer, which relates an intriguing and contextually rich narrative about how mobilized computing can assist the business traveler. That is, the product assertions or features, such as the Hitachi 28.8 modem and built-in LANport are cloaked in story-like prose. Also noteworthy is the observation that this narrative ad is isolated physically from the portion of the ad picture that displays the touted product. Hence, this narrative ad attempts to maximize persuasion by actively drawing ad recipients into an ad and luring or challenging them to invest considerable effort processing the ad content (Baker 1988; Sandage, Fryburger, and Rotzoll 1979). The physical isolation of the ad's copy from the ad picture serves to further challenge those who wish to validate the product assertions, requiring them to forge this distance with an effort to cross-reference the product assertions with the ad picture elements.¹

In this article, we examine the extent to which these very different strategies for developing highly persuasive ads are likely to achieve their intended persuasion goal. We do this by investigating specifically how the two previously mentioned practical ad execution variables are

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¹Presumably the logic underlying the use of this type of ad layout is akin to that which supports the use of open-ended conclusions in ads (Sawyer and Howard 1991), occluded objects in ad pictures (Peracchio and Meyers-Levy 1994), or ambiguous verbal material in ad copy (Meyers-Levy and Tybout 1989). The logic is that viewers will find the ad materials more compelling if they expend the effort required to and experience the satisfaction of successfully cross-referencing the relevant materials, self-generating the ad's implied conclusions, mentally completing objects in satisfying ways, or resolving ambiguities.

*Laura A. Peracchio is an associate professor of marketing at the School of Business Administration, University of Wisconsin—Milwaukee. Joan Meyers-Levy is an associate professor of marketing at the Graduate School of Business, University of Chicago. This work was supported by the School of Business, the University of Wisconsin—Milwaukee and the Bozell, Jacobs, Kenyon, and Eckhardt Faculty Research Fund at the Graduate School of Business, the University of Chicago.
likely to influence persuasion under both high and low processing motivation conditions. These variables are: (1) whether the key product assertions conveyed in an ad are expressed in clear, to-the-point factual ad copy as opposed to contextually richer, yet more encumbered narrative ad copy and (2) whether the layout of an ad either physically integrates or separates the ad’s visual and verbal material, thereby facilitating or impeding, respectively, a processor’s potential attempts to cross-reference these materials and substantiate the product assertions.

We explore this issue by drawing on resource-matching theory (Anand and Sternthal 1989), which suggests that persuasion should be heightened when the supply of cognitive resources ad recipients make available for ad processing matches, rather than either exceeds or falls short of, those required to process the ad in a way that enables ad recipients to achieve their goals. It is important to note that this theory implies that when ad recipients are highly motivated to verify the product’s assertions and evaluate the advertised product in a well-reasoned manner, neither of the ad execution approaches discussed earlier may produce the desired goal of significantly heightening persuasion. This is so because ad recipients’ ample resources for processing are likely to exceed the few required when an ad employs factual, easily processed ad copy that is integrated with (rather than separated from) an ad picture, whereas such resources may fall short of the many required when the ad employs narrative ad copy that is isolated from (rather than integrated with) the ad picture. On the other hand, when ad recipients lack the motivation to process or verify the ad assertions effortlessly, the resource requirements imposed by the nature of the ad copy and the placement of the copy in relation to the ad picture are likely to be immaterial. This follows because ad recipients are likely to evaluate the advertised product on the basis of a heuristic that is insensitive to the processing demands imposed by more substantive aspects of the ad (e.g., the ad copy or the ease with which elements in the ad picture can be located to corroborate the product assertions).²

### THE INFLUENCE OF AD EXECUTION TECHNIQUES ON RESOURCE DEMANDS

Among the factors that are likely to influence the level of resources that an ad recipient needs to process an ad are the goal and means of attaining goal achievement pursued by the individual. Highly motivated ad recipients are thought to pursue an onerous goal. Typically they strive to form well-reasoned attitudes that are based on the products’ true merits and that they can hold with reasonably high certainty (Chaiken, Liberman, and Eagly 1989; Petty, Cacioppo, and Schumann 1983). Such a goal appears to necessitate completing several tasks, including (1) processing the ad copy with an eye focused on identifying the key product assertions, (2) cross-referencing these product assertions with relevant elements in the ad picture to substantiate and achieve reasonable certainty about the validity of each assertion, and (3) assessing the overall degree of substantiation the product assertions receive and the assertions’ inherent plausibility (e.g., their internal consistency, degree of apparent exaggeration, etc.) so that a well-reasoned product attitude can be derived. Given the number and complexity of these tasks, this goal is likely to impose substantial resource demands on these motivated individuals who engage or make available a relatively high level of resources for ad processing.

However, complicating matters further, the executional characteristics of an ad can combine with such goals and further influence either positively or negatively the resources needed to process the ad. One such ad execution characteristic is whether the key assertions made about the product are expressed in factual versus narrative ad copy. According to Milton (1974, pp. 134–135), factual ad copy presents assertions about a product’s features and benefits in a clear, “direct, logical” and to-the-point expository style, while in narrative ads, “the copywriter cloaks the selling message [product assertions] . . . in a story-like sequence” characterized by more encumbered episodic prose. For motivated individuals who seek to identify and effortfully process product assertions with the goal of assessing the product’s true merits, ad processing should be more resource demanding if the ad copy conveys the key product assertions in a narrative rather than a factual manner (Reder and Anderson 1982).

A second ad execution characteristic that also may influence the resource demands imposed on highly motivated ad recipients is the physical layout of the ad. An ad layout that physically separates the ad copy from the ad picture imposes a clear boundary between such materials. This would seem likely to impede motivated ad recipients from cross-referencing the two types of materials, thereby undermining identification of relevant ad picture elements that might substantiate the product assertions. On the other hand, an ad layout that integrates such materials by superimposing the ad copy on the ad picture should facilitate both such cross-referencing and product assertion substantiation because the picture should appear in the consumer’s field of vision as the ad copy is processed. Thus, an ad layout that separates rather than integrates the ad copy with the ad picture should impose higher resource demands on motivated ad recipients as they attempt to substantiate the ad copy.

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²In this article, we regard substantive or “central” information as either verbal or visual data that pertain to the product and its relatively tangible benefits. Data that do not relate to the product and such benefits are regarded as nonsubstantive (e.g., superficial) or “peripheral.” As Petty, Cacioppo, and Schumann (1983) point out, it often is impossible to determine unambiguously precisely which elements within an ad consumers will view as substantive/central or superficial/peripheral. This is so because the distinction between central and peripheral cues need not correspond with a simple dichotomy, such as that between message versus source information, verbal versus visual information, or tangible feature versus intangible image information.
Although the potential consequence of such ad execution characteristics is likely to be substantial when ad recipients’ processing motivation is high, this should not be the case when their processing motivation is low, as much research attests that relatively unmotivated ad recipients generally seek an extremely limited goal (Chaiken et al. 1989). These individuals attempt to form an overall impression of the target product quickly while conserving cognitive resources (Shanteau 1988). In accordance with this goal, such meagerly motivated individuals typically seek to simply identify a salient or highly accessible convenient heuristic cue, such as the overall attractiveness of the ad picture, that suggests an easily applied decision rule for forming an impression (Chaiken et al. 1989; Petty et al. 1983). Because this procedure requires minimal effort, ad processing should impose very low resource demands on unmotivated viewers, generally matching the impoverished level of resources that these individuals make available for ad processing. Thus, unmotivated ad recipients should be insensitive to the use of factual or narrative ad copy in an ad given that product assertions generally exert little influence on their evaluations (Shanteau 1988). In addition, as such ad recipients generally refrain from substantiating the product assertions, they also should be relatively unaffected by variation in the ad layout.

Taken together, these observations suggest that the two aforementioned ad execution characteristics should jointly influence the processing demands imposed on relatively high but not more modestly motivated ad recipients. Moreover, by shedding light on whether the resource demands imposed for ad processing by these ad execution characteristics are likely to match, fall short of, or exceed motivated viewers’ available resources, the preceding discussion offers insight into how effective the two general advertising approaches discussed previously should be in enhancing persuasion. Based on resource-matching theory (Anand and Sternthal 1989), which posits that ad recipients should exhibit heightened persuasion when their supply of available resources is commensurate with but neither overwhelmed by nor in excess of those required for achieving their ad processing/substantiation goals, the following predictions emerge.

Though motivated ad recipients presumably make available a large supply of cognitive resources for ad processing (Petty et al. 1983), when ad copy expresses key product assertions in a factual manner and the ad layout physically integrates rather than separates the ad copy from the ad picture, very few resources should be needed for such ad recipients to process the ad and achieve their desired goal (i.e., identifying, cross-referencing, and substantiating the product assertions). Accordingly, when factual ad copy appears in an integrated ad layout, motivated viewers are likely to have available a surplus of resources, while their resources may approximately match those required when such copy is displayed in a separated ad layout.

Assuming that this inference is accurate, at least two additional deductions emerge. First, when ads convey product assertions in a factual manner and the ad layout integrates rather than separates the ad copy and picture, motivated viewers should generate more idiosyncratic inferences to ad picture elements. This follows because such conditions may lead motivated viewers to expend their surplus resources processing a broad assortment of elements in the ad picture. In fact, an integrated ad layout actually may invite the processing of ad copy/ad assertion-nonrelevant, extraneous ad picture elements by placing the ad picture directly in the viewer’s field of vision. Second, these idiosyncratic inferences or thoughts are likely to be rather unpredictable, such that, on average, they should be relatively unfavorable compared with product assertion-relevant thoughts (Baumgartener, SuJan, and Bettman 1992; Cacioppo and Petty 1979; Edell and Staelin 1983; Kiesielius and Sternthal 1984), which are designed specifically to spawn favorable associations. Hence, these relatively unfavorable idiosyncratic thoughts are likely to offset some of the favorable thoughts generated about the product assertions. As a result, motivated viewers who receive an ad containing factual ad copy are anticipated to produce product evaluations that are more favorable when the ad layout separates rather than integrates the ad copy and picture.

Different outcomes are expected, however, when motivated ad recipients receive ads in which the key product assertions are expressed via narrative ad copy. In this case, an ad layout that separates rather than integrates the ad copy and ad picture should impose extremely high resource demands on motivated ad recipients because both identification of the product assertions as well as cross-referencing and substantiating these assertions with ad picture elements should be obstructed. As such, the resources that motivated ad recipients have available for ad processing may fall short of those needed to accomplish their goal, potentially impairing their attempts to substantiate the product assertions.

The implication that emerges from this analysis is that inadequate resources may impede motivated ad recipients from cross-referencing relevant ad picture elements with product assertions when narrative ad copy is separated physically from the picture. Instead, ad recipients are likely to generate both some favorable product-related inferences and some less favorable extraneous or idiosyncratic inferences elicited either from frustration or from processing product assertion-nonrelevant ad picture elements when attempting to identify and process relevant ones (Szlichcinski 1979). In turn, these relatively unfavorable idiosyncratic thoughts should at least in part counterbalance ad recipients’ assertion-reinforcing favorable thoughts. Thus, when ads convey product assertions in a narrative manner, motivated viewers’ product evaluations should be less favorable in this highly resource demanding, separated-ad layout condition than they would be if the narrative ad copy appeared in an integrated, substantiation-facilitating ad layout where available re-
sources should be relatively commensurate with those
needed.
Different outcomes should be observed, however,
among less motivated viewers. Because these viewers
tend to base their product attitudes on heuristic aspects
of an ad, such as salient or highly accessible ad picture
elements, their evaluations should be unaffected by varia-
tions in such ad execution characteristics.

OVERVIEW OF EXPERIMENT 1
AND HYPOTHESES

The purpose of experiment 1, which examined only
relatively motivated viewers’ ad responses, was twofold.
One was to establish whether the ad execution character-
istics in question (i.e., product assertions conveyed using
narrative or factual ad copy, an ad layout that separates
or integrates the ad copy and picture) affect the match
between motivated viewers’ available and required re-
sources in the intended manner. This was accomplished
by assessing viewers’ reaction times to a secondary task
that was administered simultaneously as subjects viewed
the ads. As ad processing demands more of one’s cogni-
tive resources, the resources available for a secondary
 task should atrophy and cause reaction times to this task
to be lengthened (Britton, Westbrook, and Holdridge 1978;
Moore, Hausknecht, and Thamodaran 1986). This implies
that subjects’ reaction times to the secondary task should
be longest, indicating a scarcity of available relative to
required resources, in the narrative ad copy condition
when the ad layout separates the ad copy and picture. On
the other hand, subjects’ reaction times to the secondary
task should be shortest, indicating a surplus of available
relative to required resources, in the factual ad copy con-
dition when the ad layout integrates the ad copy and
picture. Finally, reaction times to the narrative copy in
the integrated ad layout condition and the factual ad copy
in the separated ad layout condition should fall between
these two extremes, reflecting a balance between available
and required resources.

A second purpose of experiment 1 was to examine
whether motivated ad recipients’ product evaluations fol-
lowed the anticipated pattern. Print ads for two different
products were employed to assess the robustness of such
effects.

The logic presented earlier implies that a two-way in-
teraction of ad copy by ad layout should emerge on moti-
vated subjects’ product evaluations. When motivated
viewers receive an ad that conveys the key product asser-
tions using narrative ad copy, product evaluations should
be more favorable when the ad layout facilitates substi-
tiation of the assertions by physically integrating the ad
copy with the ad picture as opposed to separating these
items. However, when motivated viewers receive an ad
that relays the product assertions using factual ad copy,
the product should be evaluated more favorably when the
ad layout displays the ad copy and ad picture as separated
rather than integrated.

In addition, the content of subjects’ thoughts in re-
response to the ads was expected to provide evidence of
the process underlying these effects. Interactions of ad
copy and ad layout should emerge on thoughts that re-
fect motivated viewers’ goal-related ideation, namely,
thoughts that relate directly to product assertions and
those that cross-reference product assertions and ad pic-
ture material. Such interactions also should emerge on
thoughts that capture idiosyncratic, extraneous ideation
as well as on heuristic thoughts, which reflect efforts to
simplify the evaluation process.

Specifically, when an ad conveys product assertions
using narrative ad copy, motivated viewers should gener-
ate larger proportions of thoughts that relate directly to
the product assertions and cross-reference ad copy with
ad picture elements when the ad layout integrates rather
than separates the ad copy and ad picture. This follows
because identification and substantiation (via cross-ref-
erring) of product assertions should be more successful
when viewers’ available resources match (rather than fall
short of) those needed for such tasks. Yet, greater propor-
tions of idiosyncratic thoughts that concern extraneous
(non-product-related) ad picture elements and thoughts
that reflect heuristics prompted by ad pictures were ex-
pected in the separated rather than integrated ad layout
condition when narrative ad copy is employed. These
deductions follow because such thoughts are indicative
of less goal relevant or substantive ideation. As such,
they should be more evident when available resources
fall short of, rather than match, those required for ad
processing.

On the other hand, when an ad conveys product asser-
tions in a factual manner, no treatment effects should
emerge on the proportions of motivated viewers’ thoughts
that pertain directly to the product assertions and cross-
reference ad copy with ad picture elements, as such goal-
relev ant thoughts are likely to be generated equally, re-
gardless of whether viewers’ available resources match
or exceed those needed for goal-focused processing. Like-
wise, treatment differences should be absent on the pro-
portion of thoughts that reflect ad picture-elicted heuris-
tics because such thoughts, which tend to be generated
when evaluation simplification is sought, are unlikely to
ensue when motivated viewers possess either commensu-
rate or more resources than necessary for thorough ad
processing. However, when ads convey product assertions
using factual ad copy, motivated viewers should generate
a greater proportion of idiosyncratic thoughts concerning
extraneous, non-product-related ad picture elements when
the ad layout integrates rather than separates the ad copy
and picture. This is so because when available resources
exceed rather than match those needed for ad processing,
motivated individuals are likely to expend their excess
resources processing whatever material happens to be ac-
cessible, regardless of its relevance to their particular
goals. This is likely to be manifested by their generation
of idiosyncratic thoughts spawned by accessible nonrele-
vant ad picture elements.
EXPERIMENT 1

Method

Stimuli. Print ads were created for two products, beer and cross-country skis. For each product, two versions of the ad copy were developed that varied in whether the product assertions were presented using narrative or factual ad copy. The factual ad copy relayed assertions about the product's relatively concrete features and/or benefits in an unencumbered, straightforward factual manner (e.g., "It's masterfully processed in specially designed hops. And each batch is made using a unique brewing method."). The narrative version of the ad copy conveyed these same product features but did so by means of a conversation-like story or narrative that contained much contextual material concerning the product's creator, use, and development (e.g., "As a perfectionist, however, he designed his own hops, [and] employed his family-inspired superior brewing methods."). Both ad copy versions were equal in length and contained a common set of four product assertions that are identified in the Appendix.

The ads for each product contained a color ad picture adapted from an existing ad. By scanning the ad pictures into a computer and using software that allowed the ad copy and pictures to be manipulated, two layouts for each ad were developed. In one version, the ad copy was integrated physically with the ad picture by superimposing it over the picture. In the second ad layout version, the ad copy appeared in a white rectangular block that was placed below the ad picture and was separated physically from it. In this manner, four ads for each product were created that contained the key product assertions expressed via factual or narrative ad copy, and the ads were arranged in either an integrated or separated ad layout. All ads were duplicated in full color.

A pretest conducted among 36 subjects assessed the extent to which the key product assertions contained in the ad copy were expressed in a relatively straightforward manner. On a computer monitor subjects read in paragraph form one of the two versions of the ad copy for each of the beer and the ski ads. No ad picture was presented. Product order was counterbalanced for each subject as were the factual versus narrative versions of the ad copy. The amount of time subjects spent reading the two ad copy versions was recorded unobtrusively. In addition, after reading the ad copy for each product, subjects indicated the degree to which they agreed that the ad copy conveyed the key product information in a straightforward way (1 = strongly disagree, 7 = strongly agree). Results indicated that, as anticipated, subjects spent less time processing the ad copy that relayed the product assertions in a factual manner than ad copy that related the product assertions in a narrative manner for the beer ($\bar{X} = 63.44 \text{ vs. } \bar{X} = 79.28 \text{ seconds, } F(1, 34) = 8.13, p < .01$) and the skis ($\bar{X} = 55.00 \text{ vs. } \bar{X} = 61.67 \text{ seconds, } F(1, 34) = 4.47, p < .04$). Further, subjects rated the product assertions as more straightforward when they were expressed via factual rather than narrative ad copy (for beer, $\bar{X} = 6.06 \text{ vs. } \bar{X} = 5.28, F(1, 34) = 5.06, p < .03$; for skis, $\bar{X} = 4.78 \text{ vs. } \bar{X} = 3.56, F(1, 34) = 5.89, p < .02$).

A second test assessed whether ad recipients comprehended the same way the underlying meaning of the four product assertions that were relayed in the narrative and factual ad copy. Thirty-four highly motivated subjects read one of the two versions of the ad copy for each of the products without viewing the ad picture. Then, subjects indicated whether each of several statements represented or paraphrased material actually communicated in the ads. These consisted of eight valid statements from the beer ad and seven valid ones from the ski ad. Specifically, two accurate statements were presented from each product assertion except for the technology assertion for the ski ad, which was too brief to allow for the development of a second statement. Interspersed among these valid statements were five foil statements for each product that were plausible but were not contained in the ad copy.

Subjects assessed the validity of each of the statements on a seven-point scale labeled (1) "not conveyed clearly" and (7) "conveyed clearly in the copy." Two summated scales were created, one for the valid and another for the foil statements for each product (all $\alpha$’s between .69 and .74). Results revealed that subjects felt that the valid statements were conveyed fairly clearly and equally for both the narrative and factual ad copy versions (for beer, $\bar{X}’s = 5.34 \text{ vs. } 5.22, F < 1$; for skis, $\bar{X}’s = 5.21 \text{ vs. } 5.23, F < 1$). Subjects indicated that the foil items were not conveyed clearly in either the narrative or factual ad copy versions (for beer, $\bar{X} = 1.65 \text{ vs. } 1.61, F < 1$; for skis, $\bar{X} = 1.82 \text{ vs. } 2.11, F < 1$). Further, they felt that the foil statements were conveyed significantly less clearly than the valid statements (for beer, $\bar{X} = 1.63 \text{ vs. } 5.28, t(33) = 17.70, p < .01$; for skis, $\bar{X} = 1.96 \text{ vs. } 5.22, t(33) = 17.70, p < .01$). Hence, these findings suggest that comprehension of the underlying meaning was the same for the narrative and the factual ad copy.

Another pretest examined the degree to which subjects found it resource demanding to cross-reference and thus substantiate the ad copy by examining the ad picture. Sixty-three subjects viewed one ad for each product that conveyed the product assertions using either factual or narrative ad copy and either integrated or separated the ad copy and ad picture. Each of these factors was counterbalanced for each subject as was the order of product presentation. Subjects viewed each ad for a maximum of one and a half minutes and then completed a seven-point, four-item scale that assessed the ease with which they were able to relate the ad copy to the ad picture. Specifically, subjects rated the extent to which they referred to the ad picture as they examined the product’s features, how easy/difficult it was to relate the ad copy to the ad picture, the extent to which the placement of the ad copy facilitated examining the picture, and the extent to which the ad picture was examined as the ad copy was reviewed. Higher numbers indicated greater ease of substantiation. Responses to the four items were averaged for each prod-
uct (for beer, $\alpha = .70$; for skis, $\alpha = .80$). As anticipated, subjects’ responses revealed only a main effect of ad layout for the beer ($F(1, 59) = 6.11, p < .02$) and the skis ($F(1, 59) = 5.91, p < .02$). Cross-referencing and substantiating the ad copy was viewed as easier (less resource demanding) when the ad copy and ad picture were integrated rather than separated ($\bar{X} = 4.21$ vs. $\bar{X} = 4.81$ and $\bar{X} = 4.14$ vs. $\bar{X} = 4.82$, respectively).

Next, a pretest conducted among 41 subjects assessed whether the thoughts stimulated by extraneous, non-product-related ad picture elements tended to be less favorable than those prompted by the picture of the featured product. Subjects received a beer ad and a ski ad that relayed the product assertions using either factual or narrative ad copy. This ad copy was always integrated in an ad picture that displayed either the featured product in the contextual setting used in the experimental ad or the product alone. After viewing each ad, subjects listed all thoughts that occurred to them when they examined the ad. Though no treatment effects emerged on the proportion of subjects’ positive thoughts ($F$’s < 1), the proportion of negative thoughts elicited revealed a single effect, namely, a main effect for the manner in which the product was displayed (for beer, $F(1, 37) = 4.91, p < .03$; for skis, $F(1, 37) = 5.04, p < .03$). Consistent with expectations, subjects generated a larger proportion of negative thoughts when the ad picture displayed the product in a context containing many extraneous items rather than one in which the product was displayed alone ($\bar{X} = .37$ vs. $\bar{X} = .15$ and $\bar{X} = .28$ vs. $\bar{X} = .08$, respectively).

A final pretest assessed whether the ad pictures for each product were equally relevant to the ad copy regardless of whether the product assertions were conveyed via factual or narrative ad copy. Fifty-one subjects viewed one of the four (i.e., ad copy by ad layout) versions of each ad and on a seven-point, four-item scale assessed how relevant the ad picture was to the ad copy (higher numbers indicated greater relevance; $\alpha = .91$ for beer and $\alpha = .92$ for skis). Specifically, subjects rated the extent to which the picture was or was not relevant to the copy, the copy was or was not relevant to the picture, the picture and copy did or did not contain the same information, and the picture was or was not pertinent to the ad copy. No significant effects emerged on the ratings for either product ($X$’s ranged from 4.62 to 4.81, $p$’s > .22). Hence, as intended, subjects perceived the picture to be equally relevant to the ad copy, regardless of treatment variations.

Procedure. Fifty-nine students in marketing classes participated in the study, which was administered on a computer. Subjects were told that they would view ads for some products that might be introduced and that their judgments of them were sought. All students were assigned randomly to treatments.

Subjects first received instructions similar to those used by Cacioppo and Petty (1979) to enhance their motivation to process the ads carefully. All subjects were informed that they were part of a small group of people participating in the study at their university. Because their opinions were of extreme importance to the manufacturers, participants purportedly would be offered special discounts on any advertised products that they wished to purchase.

Subjects then viewed, on the computer monitor, full color ads for the beer and the skis for a maximum of one and a half minutes each, though they could (and often did) spend less time. Pretests indicated that this time was sufficient for subjects to examine the ad and read the lengthy copy. The order of presenting the ads for the two products was rotated. The two ads each subject viewed represented different ad copy and ad layout conditions; thus, any carryover effects that might have occurred would be expected to actually reduce the likelihood that our predicted outcomes would emerge. As subjects read the ads, a secondary task was administered using a procedure employed by Britton et al. (1978). This entailed having subjects press the return key each time they heard a beep, which sounded approximately every 20 seconds. Subjects’ latencies in responding to the beeps were measured and recorded to one hundredth of a second.

After viewing each ad, subjects evaluated the featured product and listed all thoughts that occurred to them while viewing the ad. The order of these two tasks was varied. Evaluations were obtained on a seven-point, five-item scale labeled “extremely low/high quality,” “poor/excellent value,” “not a/a worthwhile purchase,” “unappealing/appealing product,” and “extremely poorly/well made” (for skis, the last item read “extremely poorly/well designed”). Higher ratings were more favorable. Because these five items loaded on a single factor for each product, they were averaged to form separate beer and ski evaluation indices ($\alpha$'s = .85 and .92, respectively).

Subjects also completed several other measures. Subjects were asked to recall the messages for the two ads. Because no effects emerged on this measure, it is not discussed further. Subjects also rated the extent to which they found the ads interesting and involving (1 = not at all, 7 = extremely; Meyers-Levy and Peracchio 1995). As these latter two items were highly correlated ($r = .79$), they were averaged to form a processing motivation manipulation check. Finally, subjects answered some demographic and several product interest and knowledge questions. After being debriefed, study participants were compensated for their time by entering their names into a lottery for several cash prizes.

Results

Preliminary analysis revealed no significant effects for the order in which either the ads or the evaluation and thought-listing tasks were administered. Thus, the experiment was analyzed as a 2 (ad copy: factual, narrative) × 2 (ad layout: ad copy and ad picture integrated or separated) between-subjects factorial design. Degrees of freedom for all evaluation and thought measures are 1 and 55 unless indicated otherwise, and treatment means for all measures appear in Table 1.


<table>
<thead>
<tr>
<th></th>
<th>Beer product</th>
<th></th>
<th>Ski product</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Narrative copy</td>
<td>Factual copy</td>
<td>Narrative copy</td>
</tr>
<tr>
<td>Integrated ad layout</td>
<td>Separated ad layout</td>
<td>Integrated ad layout</td>
<td>Separated ad layout</td>
</tr>
<tr>
<td>Evaluations</td>
<td>5.01 (.80)</td>
<td>4.21 (.84)</td>
<td>4.06 (.83)</td>
</tr>
<tr>
<td>Average reaction time for secondary task</td>
<td>1.57 (.41)</td>
<td>2.30 (.49)</td>
<td>1.32 (.26)</td>
</tr>
<tr>
<td>Total thoughts</td>
<td>3.06 (1.44)</td>
<td>3.36 (1.55)</td>
<td>3.43 (1.91)</td>
</tr>
<tr>
<td>% of thoughts about product assertions discussed in ad copy</td>
<td>.42 (.55)</td>
<td>.14 (.19)</td>
<td>.34 (.35)</td>
</tr>
<tr>
<td>% of thoughts cross-referencing picture and copy</td>
<td>.36 (.41)</td>
<td>.05 (.15)</td>
<td>.34 (.35)</td>
</tr>
<tr>
<td>% of idiosyncratic thoughts concerning ad picture</td>
<td>.16 (.25)</td>
<td>.38 (.33)</td>
<td>.41 (.40)</td>
</tr>
<tr>
<td>% of heuristic thoughts relating to ad picture</td>
<td>.09 (.17)</td>
<td>.27 (.35)</td>
<td>.08 (.18)</td>
</tr>
<tr>
<td>Total recall</td>
<td>3.71 (1.90)</td>
<td>3.53 (2.36)</td>
<td>3.31 (2.02)</td>
</tr>
</tbody>
</table>

**Note.**—Standard deviations are in parentheses.

**Manipulation Check.** Analysis of the processing motivation manipulation check revealed no treatment effects ($F$'s $< 1$). As intended, all subjects appeared to be quite motivated or involved in the study as indicated by the motivation scale ($X = 4.98$).

**Secondary Task Data.** By collapsing subjects' average response times to the secondary task across the ad copy and ad layout manipulations as follows, the three levels of resources that ad processing was expected to require were represented: low (factual ad copy/integrated ad layout), moderate (factual ad copy/separated ad layout and narrative ad copy/integrated ad layout), and high (narrative ad copy/separated ad layout) demands. Analysis of subjects' response times indicated that the ads varied in how demanding they were to process (main effects of resource demands for beer, $F(2, 56) = 24.03$, $p < .01$; for skis, $F(2, 56) = 13.21$, $p < .01$). As anticipated, subjects in the moderate resource demands conditions exhibited longer reaction times to the secondary task than did those in the low resource demands condition (for beer, $\bar{X} = 1.62$ vs. $\bar{X} = 2.30$ seconds, $F(1, 56) = 29.15$, $p < .01$; for skis, $\bar{X} = 1.73$ vs. $\bar{X} = 2.07$ seconds, $F(1, 56) = 7.94$, $p < .01$). Hence, the results conform to the level of resource matching expected for each ad treatment condition.

**Evaluations.** Subjects' product evaluations exhibited two-way interactions of ad copy by ad layout for the beer ($F = 14.86$, $p < .04$) and the skis ($F = 13.97$, $p < .01$). As anticipated, when the product assertions were expressed using narrative ad copy, subjects evaluated the beer ($\bar{X} = 5.01$ vs. $\bar{X} = 4.21$; $F = 5.86$, $p < .02$) and the skis ($\bar{X} = 5.09$ vs. $\bar{X} = 4.27$; $F = 4.69$, $p < .03$) more favorably when the ad layout displayed the ad copy and ad picture as integrated rather than separated. But when the product assertions were conveyed using factual ad copy, subjects' evaluations were more favorable when the ad layout displayed the ad copy and ad picture as separated rather than integrated (for beer, $\bar{X} = 5.07$ vs. $\bar{X} = 4.06$; $F = 9.12$, $p < .001$).

\[^3\]The number of reaction times generated by the subjects ranged from one to four and averaged 2.5 for the beer ad and 2.6 for the ski ad. Analysis was performed on the average reaction time for subjects in each treatment.
< .01; for skis, $\bar{X} = 5.21$ vs. $\bar{X} = 4.05$; $F = 9.77$, $p < .01$).

**Thoughts.** Next, the content of subjects’ thoughts was examined for evidence of the process believed to underlie subjects’ evaluations. Two judges who were blind to the treatments coded subjects’ thoughts reliably ($r = .93$) into several categories, including: thoughts about the product assertions discussed in the ad copy (e.g., “The beer is aged longer and uses a special brewing process”), thoughts that cross-referenced the ad picture with the ad copy (“The words describe [the] beer as a special treasure and the picture made [the] bottle look like something special”), relatively idiosyncratic thoughts ostensibly inspired by the ad picture elements other than the product (“The name on the beer glass should be easier to read”), and thoughts that seemingly reflected heuristic-inspired inferences spawned by the ad picture (“The picture looks great so the product must be good”). Idiosyncratic and product assertion thoughts were coded for favorableness, and all proportions were subjected to arcsin-transformations for purposes of analysis. The judges maintained an extensive list of examples of thoughts according to category to ensure consistent coding.

To assess the assumption that idiosyncratic thoughts tend to be less favorable than those fostered intentionally by the ad, the net favorableness of subjects’ product assertion versus idiosyncratic thoughts (the proportions of subjects’ positive minus negative thoughts of each type) were compared. As expected, subjects’ product assertion thoughts tended to be more favorable than their idiosyncratic thoughts. This difference was significant for beer ($\bar{X} = .28$ vs. $\bar{X} = .02$, $t(58) = 2.77$, $p < .01$), though it was only directional for skis ($\bar{X} = .20$ vs. $\bar{X} = .05$, $t(58) = 1.62$, $p = .11$).

The expected interactions generally emerged on subjects’ content-specific thoughts. The anticipated two-way interaction of ad copy and ad layout did not achieve significance on subjects’ thoughts about the product assertions ($p’s > .21$), but this interaction for beer ($F = 3.18$, $p < .08$) though not skis ($p > .25$) was marginal on subjects’ thoughts that reflected cross-referencing of the ad copy and ad picture. Nonetheless, all planned contrasts upheld the predictions. Specifically, when the ad copy conveyed the product assertions in a narrative manner, larger proportions of product assertion thoughts (for beer, $\bar{X} = .42$ vs. $\bar{X} = .14$, $F = 7.02$, $p < .01$; for skis, $\bar{X} = .36$ vs. $\bar{X} = .12$, $F = 7.08$, $p < .01$) and thoughts that cross-referenced the ad copy with the ad pictures (for beer, $\bar{X} = .36$ vs. $\bar{X} = .05$, $F = 5.13$, $p < .03$; for skis, $\bar{X} = .22$ vs. $\bar{X} = .06$, $F = 6.64$, $p < .01$) emerged when the ad layout integrated rather than separated the ad copy and ad picture. Yet, when the product assertions were expressed using factual ad copy, equivalent proportions of both types of thoughts obtained, regardless of the ad layout used ($F’s < 1$).

Subjects’ idiosyncratic thoughts engendered by the ad picture also revealed two-way interactions of ad copy and ad layout for beer ($F = 8.46$, $p < .01$) and skis ($F = 5.23$, $p < .03$). As predicted, when the ad conveyed the product assertions using narrative ad copy, subjects produced a smaller proportion of such thoughts when the ad layout displayed the ad copy and ad picture as integrated rather than separated (for beer, $\bar{X} = .16$ vs. $\bar{X} = .38$, $F = 4.63$, $p < .04$; for skis, $\bar{X} = .13$ vs. $\bar{X} = .36$, $F = 4.03$, $p < .05$). Yet, when the product assertions were presented using factual ad copy, for beer ($\bar{X} = .17$ vs. $\bar{X} = .41$, $F = 3.88$, $p < .05$) but not skis ($p > .22$), a smaller proportion of such idiosyncratic thoughts emerged when the ad layout displayed the ad copy and ad picture as separated rather than integrated.

Finally, subjects’ heuristic-inspired thoughts ostensibly spawned by the ad picture also exhibited the anticipated pattern. Though the two-way interaction of ad copy and ad layout was marginal for beer ($F = 3.12$, $p < .08$) and approached significance for skis ($F = 2.47$, $p < .12$), planned contrasts revealed that when the ad copy relayed the product assertions in a narrative manner, subjects generated a smaller proportion of such heuristic-related thoughts when the ad layout displayed the ad copy and ad picture as integrated rather than separated (for beer, $\bar{X} = .09$ vs. $\bar{X} = .27$, $F = 5.04$, $p < .03$; for skis, $\bar{X} = .02$ vs. $\bar{X} = .13$, $F = 5.12$, $p < .03$). Further, and also as anticipated, no differences were obtained when the product assertions were conveyed using factual ad copy, regardless of whether the ad layout separated or integrated the ad copy and ad picture ($F’s < 1$).

**Discussion**

The results of experiment 1 suggest that in the absence of any modification, the two general advertising approaches exemplified at the outset of this article are unlikely to be effective in maximizing persuasion. Moreover, by elucidating the effects on persuasion of the two ad execution techniques, namely, the type of ad copy and the ad layout, the results support our proposed theorizing about how these techniques can affect the match between the resources that motivated viewers make available for processing versus those that are needed. Motivated viewers’ product evaluations and the content of their thoughts generally conform to our predictions, though the overall interaction effects on several thought measures were weak. For this reason, we conducted a second study in which we sought both to replicate the results and to extend our findings by examining low as well as high motivation viewers’ responses to ads that varied along the same dimensions.

As the reasoning developed earlier implies, a three-way interaction of processing motivation, ad copy, and ad layout was anticipated on subjects’ product evaluations. When processing motivation is high, the same outcomes observed in experiment 1 should emerge. However, when viewers’ processing motivation is low, we expected that product evaluations would be based on some simple heuristic, perhaps one implied by a salient aspect of the ad.
picture or the ad picture’s overall attractiveness. As such, the evaluations of viewers who are relatively unmotivated to process the ads were expected to be unaffected by either the type of ad copy or the ad layout.

Effects also were anticipated on the content of the thoughts that subjects elicited. While no effects of ad copy and ad layout were expected among viewers who possessed low processing motivation, for more motivated viewers all the effects observed on the thought measures in experiment 1 should replicate. Thus, three-way interactions of processing motivation, ad copy, and ad layout were expected on each of the content-specific thought measures.

Beyond this, main effects of processing motivation were expected on several thought measures. Such effects are noteworthy because they should offer evidence that cues prompted by the ad picture, and not subjects’ validation of the product assertions, underlie low motivation viewers’ product evaluations. Specifically, less motivated ad recipients should generate a larger proportion of thoughts that capture heuristics associated with the ad picture, but they should generate a smaller proportion of product assertion thoughts and thoughts that cross-reference the ad copy with the ad picture. At the same time, no effect of processing motivation was expected on the proportion of idiosyncratic thoughts that subjects generated.

**EXPERIMENT 2**

**Method**

Study participants consisted of 128 students enrolled in marketing classes. Subjects’ motivation to process the ads effortlessly was manipulated. In the high motivation condition, subjects received the same instructions used in experiment 1. In the low motivation condition, they were told that they were among a large number of students at many universities who were participating in the study and that their opinions might be used after aggregating them with those of other students. No mention was made of special discounts. In general, the procedure used in this study paralleled that employed in experiment 1 with two exceptions: subjects did not perform a secondary task, and all materials and tasks were administered or obtained in paper and pencil questionnaire form. As in experiment 1, subjects’ ad viewing time was limited to no more than a minute and a half.

**Results**

No significant effects occurred for the order in which either the ads or the evaluation and thought-listing tasks were administered. Thus, the data were analyzed as a 2 (processing motivation: high, low) × 2 (ad copy: factual, narrative) × 2 (ad layout: ad copy and ad picture integrated or separated) between-subjects factorial design. Only the highest-order and predicted lower-order effects are reported. Unless noted, all degrees of freedom were 1 and 120. Treatment means for all measures are presented in Table 2 for beer and Table 3 for skis.

**Manipulation Check.** Analysis of the motivation manipulation check revealed only a main effect of processing motivation (F(1, 119) = 6.47, p < .01). Overall, subjects were more interested and involved in ad processing when processing motivation was relatively high (X̄ = 5.01) rather than low (X̄ = 4.54).

**Evaluations.** Analysis of subjects’ product evaluations revealed a three-way interaction of processing motivation by ad copy by ad layout for beer (F = 10.02, p < .01) and skis (F = 5.74, p < .02). Examination of the interactions revealed the anticipated outcomes. When processing motivation was high, ad copy and ad layout jointly influenced evaluations for the beer (F = 13.24, p < .01) and the skis (F = 9.69, p < .01). But when motivation was low, subjects’ product evaluations were unaffected jointly and independently by either the ad copy or the layout of the ad (F’s < 1).

Specifically, when processing motivation was high, subjects who received an ad that conveyed the product assertions using narrative ad copy evaluated the beer (X̄ = 5.44 vs. X̄ = 4.41, F = 7.79, p < .01) and the skis (X̄ = 4.55 vs. X̄ = 3.76, F = 4.60, p < .03) more favorably when the ad layout displayed the ad copy and ad picture as integrated rather than separated. But when motivated subjects viewed an ad that relayed the product assertions using factual ad copy, their product evaluations were more favorable when the ad layout displayed the ad copy and ad picture as separated rather than integrated (for beer, X̄ = 5.41 vs. X̄ = 4.47, F = 5.62, p < .02; for skis, X̄ = 4.99 vs. X̄ = 4.10, F = 5.09, p < .03).

**Thoughts.** Subjects’ thoughts were classified reliably (r = .93) into the same categories used in experiment 1. Comparison of the net favorableness of subjects’ product assertion versus idiosyncratic thoughts (the proportions of subjects’ positive minus negative thoughts of each type) supported the expectation that idiosyncratic thoughts would be less favorable than those fostered intentionally by ad assertions (for beer, X̄ = -.57 vs. X̄ = .26, t(127) = 16.60, p < .01; for skis, X̄ = -.46 vs. X̄ = .26, t(127) = 12.63, p < .01).

Three-way interactions of processing motivation, ad copy, and ad layout emerged on the proportion of subjects’ product assertion thoughts and on their thoughts that cross-referenced ad copy with the picture. For product assertion thoughts, the interaction was marginal for skis (F = 3.69, p < .06) but nonsignificant for beer (p > .23), while for cross-referencing thoughts the interaction was significant for beer (F = 5.48, p < .02) and skis (F = 5.00, p < .03). Moreover, ad copy and ad layout tended to influence both types of subjects’ thoughts when processing motivation was high (product assertion thoughts: for beer, F = 2.51, p < .12, for skis, F = 9.76, p < .01; cross-referencing thoughts: for beer, F = 7.17, p < .01,
### TABLE 2
TREATMENT MEANS AND STANDARD DEVIATIONS FOR EVALUATION, THOUGHTS,
AND MEMORY MEASURES—EXPERIMENT 2: BEER

<table>
<thead>
<tr>
<th></th>
<th>Low processing motivation</th>
<th></th>
<th>High processing motivation</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Narrative ad copy</td>
<td>Factual ad copy</td>
<td>Narrative ad copy</td>
<td>Factual ad copy</td>
</tr>
<tr>
<td></td>
<td>Integrated ad layout</td>
<td>Separated ad layout</td>
<td>Integrated ad layout</td>
<td>Separated ad layout</td>
</tr>
<tr>
<td>Beer evaluations</td>
<td>4.96 (2.21)</td>
<td>4.99 (2.21)</td>
<td>4.87 (2.11)</td>
<td>4.50 (2.14)</td>
</tr>
<tr>
<td></td>
<td>3.50 (1.67)</td>
<td>3.31 (1.67)</td>
<td>3.28 (1.64)</td>
<td>3.22 (1.67)</td>
</tr>
<tr>
<td>Total thoughts</td>
<td>.24 (0.20)</td>
<td>.22 (0.20)</td>
<td>.28 (0.23)</td>
<td>.17 (0.27)</td>
</tr>
<tr>
<td>% of thoughts about</td>
<td>.07 (0.20)</td>
<td>.08 (0.18)</td>
<td>.06 (0.16)</td>
<td>.02 (0.08)</td>
</tr>
<tr>
<td>product assertions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>discussed in ad</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>copy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of thoughts</td>
<td>.07 (0.14)</td>
<td>.18 (0.35)</td>
<td>.11 (0.18)</td>
<td>.11 (0.21)</td>
</tr>
<tr>
<td>cross-referencing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>picture and copy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of idiosyncratic</td>
<td>.47 (0.26)</td>
<td>.48 (0.45)</td>
<td>.47 (0.39)</td>
<td>.51 (0.43)</td>
</tr>
<tr>
<td>thoughts concerning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ad picture</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total recall</td>
<td>2.94 (1.65)</td>
<td>3.25 (1.95)</td>
<td>4.17 (2.62)</td>
<td>3.61 (1.61)</td>
</tr>
</tbody>
</table>

**Note.**—Standard deviations are in parentheses.

### TABLE 3
TREATMENT MEANS AND STANDARD DEVIATIONS FOR EVALUATION, THOUGHTS,
AND MEMORY MEASURES—EXPERIMENT 2: SKIS

<table>
<thead>
<tr>
<th></th>
<th>Low processing motivation</th>
<th></th>
<th>High processing motivation</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Narrative ad copy</td>
<td>Factual ad copy</td>
<td>Narrative ad copy</td>
<td>Factual ad copy</td>
</tr>
<tr>
<td></td>
<td>Integrated ad layout</td>
<td>Separated ad layout</td>
<td>Integrated ad layout</td>
<td>Separated ad layout</td>
</tr>
<tr>
<td>Ski evaluations</td>
<td>4.06 (0.70)</td>
<td>4.50 (1.06)</td>
<td>4.22 (1.40)</td>
<td>4.57 (1.40)</td>
</tr>
<tr>
<td>Total thoughts</td>
<td>2.63 (1.41)</td>
<td>3.06 (1.91)</td>
<td>2.32 (1.40)</td>
<td>2.94 (1.51)</td>
</tr>
<tr>
<td>% of thoughts about</td>
<td>.13 (0.22)</td>
<td>.03 (0.10)</td>
<td>.11 (0.25)</td>
<td>.09 (0.23)</td>
</tr>
<tr>
<td>product assertions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>discussed in ad</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>copy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of thoughts</td>
<td>.09 (0.20)</td>
<td>.12 (0.28)</td>
<td>.06 (0.16)</td>
<td>.02 (0.06)</td>
</tr>
<tr>
<td>cross-referencing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>picture and copy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of idiosyncratic</td>
<td>.32 (0.37)</td>
<td>.29 (0.39)</td>
<td>.35 (0.37)</td>
<td>.26 (0.28)</td>
</tr>
<tr>
<td>thoughts concerning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ad picture</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of heuristic thoughts relating to ad picture</td>
<td>.58 (0.33)</td>
<td>.67 (0.60)</td>
<td>.62 (0.77)</td>
<td>.41 (0.36)</td>
</tr>
<tr>
<td>Total recall</td>
<td>2.44 (1.32)</td>
<td>2.75 (1.57)</td>
<td>3.83 (1.69)</td>
<td>3.11 (1.37)</td>
</tr>
</tbody>
</table>

**Note.**—Standard deviations are in parentheses.
for skis, $F = 6.34, p < .01$), but no effects emerged when processing motivation was low ($F's < 1$).

All planned contrasts upheld our predictions. When highly motivated subjects received an ad that conveyed the product assertions using narrative ad copy, they elicited a larger proportion of product assertion thoughts (for beer, $\bar{X} = .28$ vs. $\bar{X} = .08$, $F = 4.26, p < .04$; for skis, $\bar{X} = .34$ vs. $\bar{X} = .04$, $F = 12.46, p < .01$) and thoughts that cross-referenced the ad copy and ad picture (for beer, $\bar{X} = .34$ vs. $\bar{X} = .06$, $F = 11.15, p < .01$; for skis, $\bar{X} = .35$ vs. $\bar{X} = .06$, $F = 11.68, p < .01$) when the ad layout integrated rather than separated the ad copy and ad picture. But for motivated subjects who received an ad in which the product assertions were conveyed using factual ad copy, equal proportions of both types of thoughts were elicited, regardless of the layout of the ad ($p's > .32$).

The proportion of idiosyncratic thoughts subjects elicited in response to the ad picture also revealed a three-way interaction of processing motivation, ad copy, and ad layout for each product (for beer, $F = 5.28, p < .02$; for skis, $F = 4.25, p < .05$). Follow-up examination of these effects indicated that such thoughts were influenced jointly by ad copy and ad layout when processing motivation was high (for beer, $F = 17.33, p < .01$; for skis, $F = 9.86, p < .01$), but neither factor affected evaluations when motivation was low ($p's > .28$). As anticipated, when processing motivation was high and subjects received an ad in which the key product assertions were expressed using narrative ad copy, they produced a smaller proportion of idiosyncratic thoughts when the ad layout displayed the ad copy and ad picture as integrated rather than separated (for beer, $\bar{X} = .03$ vs. $\bar{X} = .25$, $F = 7.91, p < .01$; for skis, $\bar{X} = .07$ vs. $\bar{X} = .31$, $F = 5.99, p < .02$). But when motivation was high and the product assertions were conveyed via factual ad copy, subjects produced a smaller proportion of idiosyncratic thoughts when the ad layout displayed the ad copy and ad picture as separated rather than integrated (for beer, $\bar{X} = .07$ vs. $\bar{X} = .32$, $F = 9.43, p < .01$; for skis, $\bar{X} = .11$ vs. $\bar{X} = .34$, $F = 3.89, p < .05$).

Subjects’ heuristic-inspired thoughts also exhibited a three-way interaction of processing motivation by ad copy by ad layout for both beer ($F = 3.88, p < .05$) and skis ($F = 4.77, p < .03$). As expected, ad copy and ad layout significantly influenced the proportion of heuristic thoughts subjects generated under high (for beer, $F = 5.31, p < .02$; for skis, $F = 6.03, p < .01$) but not low processing motivation conditions ($F's < 1$). Specifically, when subjects’ processing motivation was high and the product assertions were conveyed via narrative ad copy, subjects generated a smaller proportion of heuristic thoughts when the ad layout displayed the ad copy and ad picture as integrated rather than separated (for beer, $\bar{X} = .03$ vs. $\bar{X} = .27$, $F = 9.82, p < .01$; for skis, $\bar{X} = .03$ vs. $\bar{X} = .32$, $F = 9.19, p < .01$). But when motivated subjects received an ad that conveyed the product assertions using factual ad copy, no differences were evidenced regardless of whether the ad layout separated or integrated the ad copy and ad picture ($F's < 1$).

Finally, several outcomes offered insight into how evaluations were formed when people’s processing motivation was limited. As anticipated, a main effect of processing motivation emerged on the proportion of product assertion thoughts that subjects generated (for skis only, $\bar{X} = .09$ vs. $\bar{X} = .20$, $F = 7.85, p < .01$; for beer, $F < 1$) and on thoughts that cross-referenced the ad copy with the ad picture (for beer, $\bar{X} = .06$ vs. $\bar{X} = .26$, $F = 43.06, p < .01$; for skis, $\bar{X} = .07$ vs. $\bar{X} = .25$, $F = 31.45, p < .01$). As processing motivation declined, subjects produced fewer thoughts related to the product assertions and fewer that cross-referenced the assertions with the ad picture. On the other hand, a main effect of processing motivation on subjects’ heuristic thoughts that related to the ad picture indicated that for beer ($\bar{X} = .49$ vs. $\bar{X} = .10$, $F = 74.77, p < .01$) and skis ($\bar{X} = .57$ vs. $\bar{X} = .12$, $F = 46.69, p < .01$) a larger proportion of such thoughts were elicited when processing motivation was low rather than high. These observations suggest that, as predicted, low motivation subjects generally did seem to base their product evaluations on picture-related heuristics.

**GENERAL DISCUSSION**

The findings from this research suggest that potentially counterproductive consequences may emerge when advertisers attempt to maximize persuasion either by designing ads that are so easy to comprehend and substantiate that they require a bare minimum of resources to process or by employing ads that lure, draw in, and highly challenge ad recipients’ processing capabilities and thereby risk overwhelming the resources ad recipients make available for processing. This conclusion appears to hold true to the extent that ad recipients are motivated to process ad content thoughtfully and actively assess the validity of assertions made about the product, but not when ad recipients eschew such processing and resort to using heuristics as a basis for rendering product judgments.

The two studies reported support this conclusion by showing that the type of ad copy used in an ad along with the physical layout of the ad can affect the degree to which a balance is achieved between the resources one makes available for processing versus those required by the ad for processing. As implied by previous theorizing (Anand and Sternthel 1989), persuasion is heightened when such a balance occurs. Accordingly, we found that when motivated viewers encountered an ad in which identification of the product assertions required substantial resources because they were embedded in contextually rich narrative ad copy, persuasion was greater when the ad copy and ad picture were physically integrated rather than separated. As our thought measures implied, this apparently occurred because the integrated ad layout eased the process of cross-referencing and substantiating the verbal product assertions with relevant ad picture elements and thereby reduced the otherwise extremely high
resource demands imposed by the ad. Thus, the resources motivated viewers needed to process the ad were made more commensurate with those available for processing. On the other hand, when motivated viewers received an ad that featured product assertions that required few resources to process because they were presented in to-the-point, factual ad copy, persuasion was greater when the ad copy and ad picture were physically separated and thereby heightened the resources required to cross-reference and visually substantiate the product assertions, as opposed to when these ad components were integrated and thereby facilitated such processes. Again, the outcomes observed on subjects’ types of thoughts were consistent with this interpretation.

The results we report in this article contribute to prior research in several ways. First, they suggest that resource-matching principles do not apply only to the domain of verbal processing, which previous work has established. Rather, echoing the implications of research by Meyers-Levy and Peracchio (1995), our findings suggest that assorted aspects of pictorial ad material (e.g., the layout of an ad, the use of color vs. black and white in ads and their pictures) also can influence resource demands and thus the extent to which a balance is struck between the resources that are available for processing and those that are required.

Second, our findings suggest that prior research that has investigated both how the cropping of objects in pictures (Peracchio and Meyers-Levy 1994) and the omission of conclusions in ads (e.g., Sawyer and Howard 1991) can affect persuasion may need to be qualified. Although the extant work in these two areas suggests that encouraging motivated audiences to mentally complete their own images or generate their own conclusions to ad messages should heighten persuasion, our findings indicate that this outcome is likely to occur only if the resources required to self-generate such material together with those required to process other aspects of the ad do not either exceed or fall short of the amount of resources that audience members have available for processing.

A third contribution of our work is that it offers further support for the view that ad pictures need not contain obvious or explicit product-relevant information to exert a potent influence on ad persuasion when targeted consumers are highly involved or motivated processors. Rather, it seems that pictures can influence motivated viewers’ persuasion not only by serving as a form of visual rhetoric, as Scott (1994) argues convincingly, but also by serving as a stimulus for idiosyncratic, product-nonsalient thought that can undermine persuasion by offsetting the more favorable thoughts typically prompted by product-relevant ad information.

Finally, our research underscores that one’s ability and motivation (i.e., available resources) to process an ad may be situationally dependent. Indeed, both the resources required to process goal-relevant ad information and whether required resources are less than, in excess of, or commensurate with those that are available for use during processing are dependent on the specific situation. To this point, our research shows that under high motivation, product evaluations may be based predominantly on so-called “central” information (Petty et al. 1983), namely, ad copy and substantiation-enhancing ad picture elements, provided that the resources required to use such information match those that are available for processing (e.g., narrative ad copy/integrated ad layout condition). But if detecting and processing such “central” information requires more resources than are available (e.g., narrative ad copy/separated ad layout condition), nonrelevent so-called peripheral material (e.g., extraneous ad picture components) also may exert an influence on evaluations. This latter outcome also may occur if the resources highly motivated processors have available for ad processing exceed those that are needed to process the “central” information (e.g., ad copy is factual and the ad layout is integrated rather than separated).

Despite the progress made by this research, a number of issues remain unanswered. Note that in the studies we report, ad recipients received only two ads, and these ads did not appear within editorial or programming material as they would in most actual advertising contexts. Thus, future research should examine the extent to which our findings hold in more typical, cluttered media contexts. A second issue that should be examined is whether and how ad repetition might affect our findings. If less motivated subjects were exposed to our ads repeatedly, we suspect that they might come to process aspects of the ads beyond the easily accessed heuristic cues. On the other hand, the effects observed among motivated viewers might disappear with ad repetition because, after many exposures, these viewers might tire of the ads and respond to them by generating relatively negative thoughts and product evaluations that reflect such tedium. Yet, a final issue that merits attention concerns the identification of factors that may qualify our results. Along these lines, we suspect that if an ad picture is very complex, integrating ad copy with it actually may complicate rather than simplify ad processing. We hope that future research will investigate this and other factors that may moderate our findings.

APPENDIX

Common Concepts in the Beer Ad That Contained Factual (F) or Narrative (N) Product Assertions

1. Product Heritage

F: Perhaps you long for a beer that’s made the way beer once was. If so, consider Stella Artois. . . . First, there’s the family-inspired process by which the beer is made. N: Back in 1907 down in the depths of his basement, Stella Artois began brewing beer for his family . . . [and] employed his family-inspired superior brewing methods.
2. Use of Special Equipment and Methods

F: It's masterfully processed in specially designed vats. And each batch is made using a unique brewing method. . . . It's made from ingredients that have been carefully screened to guarantee they are all natural. Only the finest ingredients to be had are used.

N: As a perfectionist, however, he designed his own vats, employed his family-inspired superior brewing methods, and personally scoured the market to ensure that only the finest, all natural ingredients were used.

3. Superior Product Taste

F: Third, and perhaps most important, is the result of the painstaking labor that goes into the beer. The flavor is a truly special one. Refreshing yet refined. The beer is fully fermented and aged longer than other beer so it offers a less sweet, lighter, yet fully satisfying taste.

N: You see, for Stella, brewing beer was not a mundane domestic task but rather a labor of love or an art to be cultivated and truly mastered. That's why each year he convened the elder members of his family to judge his creation . . . until Stella decided to ferment and age his beer longer to give it a decidedly refreshing, less sweet, lighter, yet fully satisfying taste.

4. Summary of Product's Point of Difference

F: So look for Stella Artois and enjoy a beer that's reminiscent of the quality you thought was extinct. Its smooth satisfying flavor is savored by those who can appreciate such a refined and special treasure. Once you try it you'll understand why people often refer to it as the beer that's the way you wish things were.

N: Today you can still enjoy the fruits of such labor with the beer that bears the maker's name. It's called Stella Artois. . . . Its smooth satisfying flavor is savored by those who can appreciate such a refined and special treasure. Just try it and you'll understand why people often refer to it as the beer that's the way you wish things were.

REFERENCES


Edell, Julie A. and Richard Staelin (1983), "The Information