Ad Repetition in a Cluttered Environment: The Influence of Type of Processing

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ABSTRACT

Advertising repetition is frequently used to influence consumers' judgments of an advertised product. Several studies have found that when the target ad is repeated in a cluttered environment, repetition may not affect judgments. These findings have provoked little interest because they seem to be attributable to the interference introduced by the cluttered environments. The implication is that a substantial number of exposures to the target ad would be needed before an effect of ad repetition on product judgments would be observed. Based on recent research, this article offers and tests an alternative account. The hypothesis is that the nature of the environment in which an ad is repeated can affect the occurrence of two types of target ad processing: item-specific and relational. The type(s) of processing the ad receives, in turn, affects ad recipients' learning and judgments of ad-related information. © 1999 John Wiley & Sons, Inc.

There is substantial evidence that varying the number of exposures to an advertising message influences its persuasive impact when the target ad is the only stimulus to which subjects are exposed (Anand &

Psychology & Marketing
Vol. 16(2):99–118 (March 1999)

CCC 0742-6046/99/020099-20

Sternthal, 1990; Cacioppo & Petty, 1979). However, this repetition effect is far less reliable when the target ad is presented in a cluttered environment that includes other ads and program material (Belch, 1982; Burke & Srull, 1988; Ray & Sawyer 1971; Rethans, Swasy, & Marks, 1986; for exceptions, however, see Batra & Ray, 1986, and Calder & Sternthal, 1980). For example, Burke and Srull (1988) found that varying the number of exposures to a target ad in a context that featured ads for other products had no effect on product judgments. Moreover, this outcome occurred even though ad repetition enhanced people's learning of the target ad content.

The absence of a repetition effect on judgments when a target ad is presented in a context with other ads would seem to be an important observation, because such cluttered environments are typical of most marketing settings. For example, inspection of three issues of *Fortune* magazine revealed the presence of an average of 70 ads per issue. Ads fell into 18 product or service categories, with six or more ads representing each of three categories, and between two and five ads representing each of eight categories. Similar observations emerged from an inspection of both *Time* magazine and *Ladies Home Journal.*

The ubiquity of cluttered advertising environments raises questions about the applicability of theorizing that is supported empirically only in uncluttered or isolated advertising contexts. Little research has considered why repetition of a presumably persuasive ad is unlikely to affect product judgments in cluttered contexts. Perhaps this is the case because the reason for the null effect of ad repetition may seem obvious: It simply may be that more exposures to the ad are needed to enhance judgments when the target ad is cluttered by other ad messages than when it is presented alone (Anand & Sternthal, 1990; Rethans et al., 1986). Thus, it is possible that ad repetition would affect judgments in an encumbered setting if a sufficient number of exposures to the target ad were employed. Although this calibration explanation appears to be consistent with the results of some repetition studies (Calder & Sternthal, 1980), growing evidence suggests that another explanation for the failure to observe an effect of ad repetition on judgments in cluttered environments is possible.

This article describes and explores this alternative account for the absence of a repetition effect on judgments in cluttered advertising environments. As a starting point, the present research adopts the view advanced in previous theorizing; namely, that repeated exposures to a persuasive target ad are likely to provide additional opportunities for processing and elaborating on the message (Petty & Cacioppo, 1986). This notion is extended by hypothesizing that the context in which a target ad is repeated influences the particular *type* of message processing that occurs during these exposures. Along these lines, researchers have identified two types of processing—item specific and relational processing—that may be fostered by target and/or contextual material

(Hunt & Einstein, 1981; Hunt & Seta, 1984; Meyers-Levy, 1991). Further, there is evidence that the joint presence of substantial levels of both of these types of processing may be needed to render highly favorable judgments of a persuasive advertising message (Malaviya, Kisielius, & Sternthal, 1996). These observations suggest the possibility that repetition of a target ad in a cluttered ad context may not affect judgments if this context is such that sufficient levels of both types of processing are not induced. This hypothesis is tested in the present research.

TYPES OF PROCESSING, LEARNING, AND JUDGMENT

The notion that people may engage in at least two types of cognitive processing is reported in several studies (Hunt & Einstein, 1981; Klein, Loftus, & Schell, 1994; Malaviya et al., 1996; Meyers-Levy, 1991). *Relational processing* emphasizes similarities that unite, connect, or serve to categorize individual pieces of information. For example, when people are exposed to several ads for toiletries intermixed with several ads for jewelry, there is likely to be spontaneous elaboration of the toiletry and jewelry categories as well as related category information. These ads might also sensitize people to other commonalties that unite the content within or between other ads that are featured in the context and, as such, prime relational processing more generally.

Evidence that a particular stimulus has induced relational processing can be obtained by examining outcomes on indicators of relational processing that have been documented across a large number of studies. Because relational processing makes category information salient, it reliably enhances the number of themes or categories that are recalled as being represented among a group of items (e.g., Hunt, Ausley, & Schultz, 1986; Hunt & Seta, 1984). Further, the recall of categories represented in a stimulus provides cues that can facilitate recall of the items that comprise the categories (Ackerman, 1986; Hunt & Einstein, 1981; Hunt & Seta, 1984). Finally, because this sort of item recall is prompted by category cues, items from the same category tend to be recalled contiguously in category clusters (Ackerman, 1986; Hunt & Einstein, 1981; Ritchey & Beal, 1980). Thus, in a context where there are multiple ads for each of several product categories, enhanced product category recall, brand name recall, and the clustering of brand names by category can offer evidence that the stimulus received relational processing.

Item-specific processing is another means by which people might encode product information. Here, processing is focused on the "information that an object is specifically depicted as possessing" (Malaviya et al., 1996, p. 411; see also Ritchey, 1980; Ritchey & Beal, 1980). For example, if an ad for an Epson fax machine promotes its impressive

transmission speed and its ability to store incoming faxes in memory, ad recipients might employ item-specific processing by associating these particular features or benefits with the Epson brand.[1] Thus, item-specific processing occurs to the extent that a particular feature is associated with a specific brand.

Evidence for item-specific processing at encoding can be obtained by examining how accurately people recognize or distinguish between features that a brand has claimed to possess versus those that may be plausible but were not explicitly claimed (Einstein & Hunt, 1980; Hunt & Einstein, 1981; Kent & Machleit, 1990; Meyers-Levy, 1991). This is the case because recognition involves the presentation of both valid and invalid (i.e., foil) items or probes. The provision of these probes makes it unnecessary for people to elicit relationally encoded information that might help them generate a set of plausible message items. However, because recognition requires the discrimination between valid message items and plausible but invalid foils, it will be performed accurately only if a person distinctly associated the particular probed information with the target brand by engaging in item-specific processing (Einstein & Hunt, 1980; Meyers-Levy, 1991). Accordingly, recognition serves as a reliable indicator for the occurrence of item-specific processing.

The distinction between relational and item-specific processing might also be relevant in understanding why repeated exposures to an ad, which increase people's opportunity to process what is presumably persuasive information about a product, are likely to have no influence on product judgments when the ad is viewed in a cluttered environment consisting of many same-category ads. As noted earlier, research indicates that the co-occurrence of both types of processing may be needed for persuasive ad message information to significantly enhance product judgments (Malaviya et al., 1996). That is, exposure to persuasive message information should prompt highly positive product judgments if such judgments are based on a thoughtful comparison of the brand's specific features in relation to those offered by other brands in the category (Lichtenstein & Srull, 1985).

To clarify this point, consider an ad for an Epson fax machine that claims the brand offers a 28-page memory, automatic redial, a paper cutter, and clarity of graphic transmission. Item-specific processing of these features should influence the assessment of the advertised fax machine by facilitating access to these specific features that the brand claims to possess. However, access to this information alone does not provide a basis for inferring whether these features are unique to the target brand, and thus provides a basis for determining preference.

Two additional processing tasks are helpful in assessing preference.

[1]Note that such item-specific associations can occur regardless of whether other objects (e.g., brands) also claim to possess these features, or whether, due to previous item-specific processing, these features are already associated with other objects (e.g., brands) as well.

One is the consideration of the features common to most brands in the product category. This information should be accessible if sufficient relational processing has occurred, because such processing can facilitate thoughts about the shared features of the product category. Suppose, for example, that a message recipient perceives that fax machines typically possess automatic redial, a paper cutter, and reasonably fast and legible graphic transmission on the basis of relational processing. By comparing these category features with those made accessible about the target Epson brand by virtue of item-specific processing, those Epson features that clearly distinguish it from typical brands in the category can be identified (e.g., the fax machine is unique in offering 28-page memory). To the extent that the unique features of the brand are viewed as desirable, judgments should be highly favorable.

Judgments based predominately on one type of processing are likely to result in less certain inferences and thus be less favorable than those based on item-specific and relational processing. For example, if message recipients engage predominately in item-specific processing of a target ad, specific features the brand possesses are likely to be accessible. However, in the absence of adequate relational processing message recipients would not have access to the features possessed by a typical category member and consequently lack the ability to determine the uniqueness of the target brand's features. In this situation, judgments are likely to be based on a general heuristic-like inference, such as the inference that at least some of these target-specific features must be somewhat distinctive given that the advertiser deemed them noteworthy. Or, if primarily relational processing occurred and category-related information predominated, message recipients would lack access to the specific features the target brand possesses, and therefore would be unable to compare these features with those possessed by other category members. In this case, judgments might be based on category-related information, such as message recipients' affect toward the overall product category (Fiske & Neuberg, 1990). Thus, the absence of either relational or item-specific processing is expected to result in judgments that are based on relatively speculative, general inferences, which are likely to be less favorable than those emerging from a more thoughtful comparison process that uses both types of processing.

THE EFFECT OF AD REPETITION IN A CLUTTERED CONTEXT

The preceding theorizing suggests that target ad repetition might not enhance the favorableness of target judgments if in a cluttered advertising context primarily one type of processing is available for judgment formation. Indeed, considerable evidence suggests that in a context that includes ads for brands that share membership in a common set of prod-

uct categories, the type of processing that the target ad receives from repeated exposures is likely to be primarily relational.

Data reported by Hunt et al. (1986) is congenial to this view. These researchers varied the number of statements respondents saw that pertained to three different themes (e.g., a plane trip, a football game, and a circus) and whether the respondents were asked explicitly to engage in relational processing via a relational orienting task. Results indicated that respondents tended to recall more themes when a large rather than a relatively small number of statements represented that theme. However, when asked to perform the relational orienting task, subjects' theme recall was high even for themes that included a small number of statements. Nonetheless, the interaction between the number of statements that represented a theme and the type of processing induced explicitly via an orienting task was not significant in either of two experiments.

A plausible explanation for the absence of a significant interaction might lie in the nature of the stimulus that was presented. Exposure to many same-theme statements might have primed relational processing in general whereby respondents actively processed themes regardless of the number of statements presented per theme. That is, all respondents may have noticed and encoded commonalties and themes even when they were implied by a fairly small set of statements and irrespective of whether a relational orienting task specifically prompted them to do so. Similar outcomes have been observed in other studies (Hunt & Einstein, 1981; Hunt & Seta, 1984; Meyers-Levy, 1991).

Further, there is a substantial body of research to support the notion that particular types of processing may be primed quite generally upon exposure to specific types of stimuli, even when such stimuli are unrelated conceptually to the materials presented subsequently. For example, several studies have shown that exposure to unrelated visual spatial versus verbal material prior to target product exposure (Meyers-Levy, 1989), or simply presenting target data in a visual versus verbal form (Holbrook & Moore, 1991; Meyers-Levy, 1989), can prime more holistic versus detail-sensitive processing, respectively, which then determines how the target is processed.

Thus, although exposure to many same-category contextual brands is likely to invoke considerable relational processing, at the same time viewing a target ad in a cluttered context is expected to limit item-specific processing of the target or any other individual ad to a modest level because exposure to a large number of ads would restrict attention to any particular ad. Further, consistent with previous research (e.g., Hunt & Seta, 1984), an impoverished amount of one type of processing is not expected to be compensated for by additional amounts of the other type of processing. To the extent judgments are likely to be highly favorable when ample levels of both types of processing co-occur, additional relational processing induced as a result of target ad repetition

is likely to be redundant and should not significantly influence people's judgments. Thus, repeated exposure to the target ad is unlikely to enhance the favorableness of product judgments, because judgments are likely to reflect only relational inferences about the product category, regardless of the number of exposures the target ad receives.[2]

If this explanation for why target ad repetition in a context that includes many same-category ads typically has no effect on judgments is correct, the absence of an effect on judgments should be accompanied by an effect of target ad repetition on the indices noted earlier that are sensitive to relational but not item-specific processing. Hence, target ad repetition effects are expected to emerge on recall of the product categories represented in the cluttered context, the generation of brand names presented in these ads, and clustering by product category of the generated brand names.

These outcomes would be consistent with the basic hypothesis that in cluttered contexts target ad repetition generally affects (i.e., heightens) relational processing. However, they would not provide evidence about whether such repetition also influences item-specific processing, which is hypothesized not to occur. To assess this issue, the effect of target ad repetition on recognition of the target brand name was examined. As noted earlier, this measure has been shown to be sensitive to item-specific processing (Einstein & Hunt, 1980; Hunt & Einstein, 1981; Meyers-Levy, 1991). If, as anticipated, target ad repetition does not affect item-specific processing, target brand name recognition should be invariant to differing levels of target ad repetition.

At the same time, support for this prediction alone would not provide compelling evidence of the impact of target ad repetition on item-specific processing. This is because the anticipated absence of a target ad repetition effect on recognition could be attributed to the use of a recognition measure that simply was not sensitive enough to detect the use of item-specific information. More convincing evidence that target ad repetition in cluttered contexts is unlikely to stimulate item-specific processing would emerge if it could be shown that this indicator of item-specific processing (i.e., recognition) was sensitive to another independent variable, even though it revealed no effect of target ad repetition. These observations would be more convincing if the indicators of relational processing were not affected by this new independent variable, as this would rule out the possibility that simple differences in the potency of the independent variable were responsible for the outcomes.

The independent variable selected for this purpose was the presence or absence of ads for brands that competed directly with the target brand: Either two ads for brands that belonged to the same category as

[2]Different outcomes are expected if the repeated exposures to a target ad occur in an isolated context. In this event, repeated exposure is likely to prompt both heightened relational and item-specific processing (and, in turn, greatly enhance judgments), because the isolated context is unlikely to encourage one particular type of processing.

the target brand were present or absent in the ad context. This variable was chosen because it has been found that attention to item-specific information decreases as category size increases (Hunt & Seta, 1984). Thus, introducing ads for brands that compete directly with the target ad should interfere with the learning of specific details of the target ad and thus increase the difficulty of distinguishing among brands that belong to the target product category (Burke & Srull, 1988; Kent & Allen, 1994).[3] Further, research by Myers, O'Brien, Balota, and Toyofuku (1984) has shown that in a context that primes relational processing by presenting many same-theme claims, exposure to up to three related claims does not prompt relational processing in addition to that induced by the context itself, unless a strong causal relationship exists among the claims.

The above studies suggest that introducing ads for brands that compete directly with the target ad should undermine people's ability to distinguish among brands belonging to the target product category. As a result, the presence of directly competing ads should reduce target ad recognition, which is an indicator of item-specific processing (Einstein & Hunt, 1980; Hunt & Seta, 1984; Meyers-Levy, 1991). Further, the presence of such directly competing ads should not have a substantial effect on relational processing because so few (i.e., two) ads that belong to the target category were introduced as part of this manipulation (Hunt & Seta, 1984; Meyers-Levy, 1991; Myers et al., 1984).[4] This latter expectation would be supported if the directly competing ads had no effect on indicators of relational processing, yet these indicators are affected by target ad repetition.

A final, more speculative hypothesis is suggested by the expectation that two ads that compete directly with the target ad will undermine item-specific but not affect relational processing. The hypothesis is that varying whether directly competing ads are present or absent could influence judgments of the target product. Recall that in the absence of competing ads, the target ad is expected to receive a modest amount of item-specific processing and a substantial amount of relational processing, which is presumably prompted by the numerous same-category ads in the context. At the same time, if the target ad is persuasive, more favorable judgments may emerge to the extent that both item-specific

[3]It is possible that the inhibiting or interfering effect of directly competing ads might occur not during encoding, but instead when people attempt to retrieve target ad information that was processed in an item-specific manner. Because the present research is not intended to disentangle which of these processes may be operating in this study, no assumptions are made about the particular process that underlies the interference effects that were anticipated.

[4]If many directly competing and thus same-category ads had been employed, relational processing that focused on the commonality of these ads would be expected to occur (Hunt & Seta, 1984; Meyers-Levy, 1991), in addition to the inhibitory effect that these ads also should have on item-specific processing. As noted earlier, for methodological reasons it was desirable that the directly competing ads in the study affected (i.e., undermined) item-specific processing rather exclusively. Thus, the number of these ads used was intentionally limited.

Table 1. Effect of Level and Type(s) of Processing on Judgments

Experimental Condition	One Target Ad Exposure	Three Target Ad Exposures
Directly competing ads absent	$(i + R)$: Baseline judgments	$(i + R) + R$: Judgments are as favorable as baseline judgments
Directly competing ads present	$(i + R) - i$: Judgments are less favorable than baseline judgments	$(i + R) - i + R$: Judgments are less favorable than baseline judgments

Note: i refers to a modest amount of item-specific processing; R refers to a moderate amount of relational processing.

and relational processing occur at reasonably substantial levels than if only one type of processing occurs (Malaviya et al., 1996). Hence, if this view is accurate and if, as expected, the presence of directly competing ads significantly undermines item-specific processing relative to the amount that would otherwise occur, the presence (versus absence) of directly competing ads may reduce the favorableness of target product judgments, because in this latter case the two types of processing would co-occur to a lesser extent.

Table I clarifies the predictions about how the two independent variables are expected to affect both the types and levels of processing that occur in each experimental condition. These types and levels of processing that message recipients should undertake are represented in the following manner: i indicates the occurrence of a modest level of item-specific processing, and R indicates the occurrence of a substantial level of relational processing, which in the present study is induced by the cluttered nature of the ad context. Thus, it is proposed that because the cluttered advertising environment is composed of many ads that represent a common set of product categories, when the target ad appears only once and ads that compete with the target ad are absent, message recipients are likely to engage in a moderate level of relational processing (R). Yet the cluttered advertising context composed of same-category ads should promote a baseline or modest level of item-specific processing (i) of the target ad. The additional types and levels of processing beyond these that are indicated in the other treatment conditions reflect the impact of the presence of one or more of the independent variables.

In summary, it is hypothesized that because a cluttered advertising context that consists of many same-category ads is likely to prompt considerable relational processing and to sensitize ad recipients to relational processing more generally (while nonetheless eliciting modest item-specific processing), the extra processing that a target ad receives upon repetition in this context should be predominately relational. As a result, target ad repetition in such a cluttered advertising context is expected (a) to enhance performance on indicators of relational process-

ing, namely, recall of the product categories represented by both the target and nontarget ads, generation of the brand names that represent these product categories, and clustering of these brand names by product category; and (b) to have no effect on either judgments of the target brand or accurate recognition of the target brand name. By contrast, the presence of two ads that compete directly with the target brand should undermine item-specific processing, as manifested by (a) a reduction in the accuracy of target brand name recognition, (b) the absence of an effect on indicators that are sensitive to relational processing, and (c) a reduction in the favorableness of target brand judgments. No interactions on any measures are anticipated. These predictions are tested in the following study.

METHOD

Stimulus and Design

Twenty-two, full-page color print ads were shown to research participants. Each ad consisted of a picture and ad copy. The ads were taken from magazines and bound into booklets that subjects examined at their own pace.

In selecting a target product, a product category about which research participants possessed some but not extensive knowledge was chosen. This was desirable because it should enhance the likelihood that subjects base their judgments primarily on the product information presented in the advertising. Discussions with individuals drawn from the respondent population suggested that the Epson fax machine met this criterion. The ad for the Epson fax machine featured a picture of the product and copy that described several of its features, such as transmission speed, gray scale, and dialing features.

Repetition of the target ad was manipulated by varying whether the Epson fax ad was presented once or three times. The procedure of Burke and Srull (1988; Experiment #3) was followed; the Epson ad appeared in position 14 when it was presented once and in positions 4, 9, and 14 when it was presented three times. Moreover, in all cases the target ad was presented in a cluttered context that contained many same-category ads. These included ads for five different brands of toiletries, five brands of jewelry, five brands of cars, three vacation destinations, and three fitness products. For example, ads for the five toiletry items included Revlon moisturizer, Vaseline petroleum jelly, Lubriderm body lotion, Gruene shaving toiletries, and Clinique tanning products. When the target ad was repeated, the Epson ad replaced two nontarget ads, one for a car and one for a vacation destination.

The presence or absence of two ads in the cluttered context that competed directly with the target Epson fax ad was also manipulated. These

competing ads were similar to the Epson ad in that they also showed a picture along with copy describing the product. When these directly competing ads were present, they appeared in positions 17 and 20, replacing two ads, one for a toiletry and one for jewelry, that otherwise appeared in these positions. Hence, all research participants were exposed to a total of 22 ads.

A pretest was conducted to assess the persuasiveness of the target Epson ad and the two directly competing Sharp and Canon fax machine ads. The data indicated that the target ad was quite persuasive. Eleven respondents examined the ads for the three fax machines. After viewing each ad, they were asked to evaluate seven dimensions of the featured product on 9-point scales (e.g., "Overall, how much did you like the product," "if you were in the market for fax machines, how likely would you be to buy this product", and so on). Research participants also were asked to identify the features that the ads discussed and indicate the importance of each feature for evaluating a fax machine (1 = "not at all important," 7 = "extremely important").

Results revealed a tendency for the target Epson fax to be evaluated more favorably than one of the directly competing ads; ($M_{\text{Epson}} = 6.58$; $M_{\text{Sharp}} = 5.18$; F 1,30 = 2.54; $p < .12$) and equally favorable to the other competing ad; $M_{\text{Canon}} = 7.40$; $F(1,30) < 1$. Further, though on average the features discussed in the three fax ads were regarded as equally and quite highly important ($M = 4.96$), the target Epson ad discussed a greater number of features that were important for evaluating a fax machine than did either of the directly competing ads; $M_{\text{Epson}} = 7.91$; $M_{\text{Sharp}} = 6.27$; $M_{\text{Canon}} = 5.82$; Epson versus average of competing ads: $F(1,30) = 3.23$, $p < .08$. These findings imply that because the target Epson fax ad was evaluated favorably and it contained more features that were important than did the directly competing ads, greater processing of the Epson fax's distinguishing features should lead to more favorable judgments.

Procedure

Ninety-one undergraduate students at a large university were contacted by phone and recruited for the study. They participated in the hour-long experiment in groups of 6–10 people and were paid $6 each. Research participants were told that the purpose of the study was to examine advertising effectiveness. They were given a version of the booklet containing the 22 ads that randomly assigned them to the experimental treatments. Participants were asked to read each of the ads carefully, as they would not be allowed to turn back to them later.

After examining all the ads at their own pace, respondents placed the ad booklets face down on a desk and were given a second booklet that contained the dependent measures. Filler questions were administered first to minimize respondents' continued thought about the ads and

thereby eliminate recency effects. Next, they performed a brand-name listing task in which they were asked to generate the brand names featured in as many ads as they could remember seeing in the ad booklet. Research participants' performance on this task was coded in terms of the percentage of brands recalled correctly. In addition, the list of brand names generated by each respondent was used to construct a brand clustering score that measured the extent to which the brand names from the same product category were recalled contiguously. Brand clustering was measured with the use of the adjusted ratio of clustering (ARC) procedure developed by Roenker, Thompson, and Brown (1971). The ARC score can vary from +1 to negative values, such that values close to 0 represent chance clustering, a score of +1 indicates perfect clustering, and negative scores indicate below chance clustering.

Next, research participants completed two more tasks that assessed their memory for the ads that they saw earlier. In the first task, they were asked to recall the product categories represented in these ads. Then, in a brand-name recognition task, 44 brand names were shown, including the target brand name, a foil fax machine brand name, all of the previously presented nontarget product brand names, and foil brand names taken from the same product categories as the nontarget brand names. The foils ensured that respondents did not simply guess the correct brand names by remembering the stimulus ad categories. Research participants' task was to indicate whether or not they had read ads for each brand-name recognition probe.

Finally, respondents reported their judgments of the target Epson fax machine on 13 7-point scales anchored by the following adjectives: "bad/good" product, dislike/like, not useful/useful, "not superior/superior", "bad"/"good value", "few"/many useful features, not convenient/convenient, slow/fast transmission, small/large memory, poor/good print quality, poor/good service, low/high performance product, and lacks/offers important benefits.

RESULTS

The data were analyzed as a 2 (target ad repetition present or absent) $\times$ 2 (directly competing ads absent or present) factorial. Of particular interest in this analysis was whether (a) the presence of ads that competed directly with the target ad but not the target ad repetition manipulation would affect subjects' judgments of the target brand when the target ad was presented in a cluttered advertising environment, and (b) whether this outcome could be best explained in terms of item-specific and relational processing, as indicated by the particular effects these variables had on the indicators of each type of processing. Treatment means and standard deviations for all dependent variables are reported in Table 2.

Table 2. Means and Standard Deviations (in Parentheses)

	Directly Competing Advertising			
	Absent		Present	
Dependent Measures	No Repetition	Three Repetitions	No Repetition	Three Repetitions
Judgment of target product	4.91 (0.42)	5.04 (0.92)	4.72 (0.86)	4.60 (0.57)
Recognition of target and foil brand names	1.91 (0.29)	2.00 (0.00)	1.70 (0.47)	1.65 0.57)
Recognition of nontarget brand names	0.75 (0.16)	0.77 0.13)	0.76 (0.15)	0.79 0.12)
Recognition of nontarget foils	0.88 (0.09)	0.90 (0.07)	0.90 (0.10)	0.93 (0.06)
Product categories recalled	3.91 (0.62)	4.70 (0.98)	4.30 (1.16)	4.63 (1.32)
General listing of brand names (%)	34.78	43.18	36.76	46.74
Clustering in brand listing	0.06 (0.46)	0.23 (0.18)	0.12 (0.53)	0.27 (0.29)
Cell size	23	22	23	23

Target Product Judgment

Because research participants' judgments of the target Epson fax machine on the 13 evaluative items loaded on a single factor ($\alpha = 0.89$), the items were averaged for each subject to form a judgment scale. As anticipated, target ad repetition did not have a significant effect on judgments of the target product ($F < 1$), whereas the presence of directly competing ads resulted in significantly less favorable judgments of the Epson fax machine ($M_{\text{comp.}} = 4.66$) than did the absence of competing ads ($M_{\text{no comp.}} = 4.97$; $F_{1,87} = 4.48$; $p < .04$). The interaction between repetition and competing ads was not significant ($F < 1$).

Indicators of Relational Processing

The effects of the independent variables on measures that reliably indicate relational processing were examined. The expectation was that repetition of the target ad but not directly competing advertising would prompt primarily relational processing. Consistent with this prediction, it was found that repetition of the target ad enhanced the number of product categories that the subjects recalled ($M_{1\text{rep}} = 4.11$; $M_{3\text{reps}} = 4.67$; $F_{1,87} = 6.43$, $p < .01$), the percentage of the total brand names presented that were generated ($M_{1\text{rep}} = 35.8\%$; $M_{3\text{reps}} = 45.0\%$; $F_{1,87} = 9.91$; $p < .002$), and the extent to which subjects' brand name recall was clustered by category ($M_{1\text{rep}} = 0.09$; $M_{3\text{reps}} = 0.25$; $F_{1,87} = 3.93$; $p < .05$).

These outcomes support the view that the effects of target ad repetition were mediated by relational processing. Also as anticipated, variations in the presence of directly competing ads did not have significant effects on any indicator of relational processing (Fs < 1), despite the fact that these indicators were sensitive to target ad repetition. The interaction between the two independent variables on each of these measures did not reach significance (all p's $> .25$).

Indicators of Item-Specific Processing

Treatment effects on several measures of recognition were examined to test the prediction that the effects of varying the presence of directly competing ads but not target ad repetition would affect item-specific processing. Accurate recognition of the target brand name in the presence of a foil fax machine brand name was measured on a 3-point scale. A score of 0 was given when the target Epson brand name was not recognized as the stimulus and the foil fax machine brand name was mistakenly considered to be the stimulus. A score of 2 was given when both the target and foil brand names were recognized accurately, and a score of 1 was assigned when recognition was accurate for either the target or the foil brand name. The expectation was that because target ad repetition was unlikely to prompt item-specific processing in the cluttered ad environment that was employed, recognition of the target brand name would be unaffected by variations in target ad repetition. However, the presence of directly competing ads was expected to reduce the accuracy of target brand-name recognition because it would undermine item-specific processing.

The data are consistent with these expectations. Target ad repetition did not have a significant effect on recognition of the target brand name ($F < 1$). At the same time, directly competing ads had a significant effect on target brand recognition ($F_{1,87} = 11.36, p < .001$): Recognition of the target and foil brand names was more accurate in the absence of directly competing ads ($M = 1.96$) than in the presence of such ads ($M = 1.67$). The interaction between the two independent variables was not significant ($F < 1$).

Recognition was also evaluated by examining research participants' responses for the nontarget brands and their foils. Because the number of nontarget brand names and their corresponding foils differed across experimental conditions, recognition of these brand names was analyzed with the use of the ratio of the number of accurately recognized nontarget and foil brand names divided by the total number of brand names that were viewed. Target ad repetition and competitive advertising had no significant effect on recognition of nontarget brand names either independently or jointly ($F < 1$). These outcomes were expected because repetition of the target brand and the presence of ads that com-

pete directly with the target brand should influence recognition of the target and related brand names but not of brand names in unrelated categories.

In sum, these outcomes, along with those observed on the indicators of relational processing, suggest that all effects of target ad repetition were mediated by relational, but not item-specific processing. However, the presence of ads for brands that competed directly with the target brand influenced the various outcomes via their impact on item-specific processing alone.

DISCUSSION

The findings reported in this article are consistent with existing research concerning relational and item-specific processing, and they help bridge the bodies of literature that have examined memory and judgment effects by showing that the same types of processing (i.e., relational and item specific) play similar roles in either enhancing or undermining both memory and judgment. In addition, this experiment replicates the frequent observation that repeated exposures to a target ad in a cluttered context do not affect persuasion. In the present research, this outcome was accompanied by the finding that target ad repetition had a significant effect on indicators of relational but not item-specific processing. These results can be interpreted by hypothesizing that the persuasive impact of an appeal is likely to be significantly heightened only when the appeal receives substantial levels of both relational and item-specific processing (Malaviya et al., 1996). At the same time, the present investigation extends current knowledge in several important ways.

Perhaps the most important contribution of the present research is to offer a viable explanation for why repeated exposures to a persuasive target ad in a cluttered and seemingly typical advertising context may not have a reliable effect on judgments. The pattern of outcomes observed here implies that the absence of this effect of target ad repetition in cluttered settings cannot be explained adequately by the conventional notion that target ad repetition enhances the resources available to process the target ad and that directly competing ads reduce resource availability. Instead, the observation that target ad repetition and the presence of directly competing advertising have unique consequences implies that these two factors represent different types of processing. Target ad repetition in a cluttered context that contains many same-category ads appears to prompt relational processing of the target ad. However, because target repetition fails to amplify the modest level of item-specific processing that presumably occurs, judgments are unlikely to be affected by this variable. On the other hand, the presentation of

ads that compete directly with a target ad in such a cluttered context seems to undermine item-specific processing and thereby have a detrimental effect on judgments.

Although the findings on indicators of item-specific and relational processing support the view that the null effect of ad repetition on judgments is explained in terms of an absence of item-specific processing, this observation does not deny the importance of the notion that repeated exposures to advertising in some cases may affect resource availability. To the contrary, the concept of different types of processing extends understanding of the judgment process, as it specifies how the resources made available by message repetition are likely to be deployed. Thus, the few demonstrations of significant ad repetition effects on judgments in cluttered environments could be interpreted in terms of the use of resources provided by repetition to engage in item-specific and relational processing. Along these lines, the Calder and Sternthal (1980) demonstration of an ad repetition effect on judgments in a cluttered context could plausibly be attributable to the fact that the repeated exposures to the target advertising within each of the experimental sessions prompted message recipients to engage in relational processing, whereas the repetition of the target advertising across sessions might have stimulated item-specific processing.

Another contribution of this research is to clarify the circumstances under which contextual information is likely to prompt relational and item-specific processing. In contrast to Malaviya et al. (1996), who found that contextual ads for different products that were unrelated to the target product encouraged item-specific processing of the target ad (presumably because the ads shared no commonality), the present work qualifies this finding by demonstrating that unrelated ads can prompt relational processing of the target ad if the contextual ads represent different products such as moisturizer, shaving products, body lotion, which share membership in some superordinate (i.e., toiletry) category. In addition, although Malaviya et al. (1996) found that exposure to a target ad in a context that included four ads that competed directly with the target product prompted relational processing of the target ad (presumably because the sizable number of these same-category ads enhanced attention to the common category each ad represented), the present data indicate that this outcome is qualified if the context includes only two such competing ads. Consistent with work by Myers et al. (1984), exposure to few (i.e., three) same-category ads appears more likely to undermine item-specific processing of the particular claims in these ads, prompting interference or confusion about which features are possessed by the competing products (Burke & Srull, 1988; Kent & Allen, 1994) rather than to draw much attention to common relational information.

Finally, the present work demonstrates for the first time that the context in which a target ad appears can have not only a salutary, fa-

cilitating effect on the type of processing the target ad receives (relational or item specific), but in some cases it can actively undermine one type of processing (e.g., item specific) even when the other (e.g., relational) type of processing has not been elevated. Indeed, this is what was anticipated and observed when the context contained two competing ads and thereby apparently created confusion over whether item-specific features pertained to the target product or to a directly competing brand.

Several limitations of the present work warrant further inquiry. Although the absence of an effect of target ad repetition on judgment can be attributed to the inadequate level of item-specific processing prompted by the cluttered context that was employed, stronger support for this inference would be provided if it were also shown that repetition of a target ad enhances target product judgments when a cluttered context contains materials that prompt considerable item-specific processing as well as relational processing.

Interestingly, evidence reported by Batra and Ray (1986) can be interpreted as being congenial with this prediction. In the Batra and Ray study, message recipients were shown three target ads. In one condition, these ads were for products that belonged to different product categories, but each was a consumable product that offered a clear convenience benefit (e.g., instant coffee, instant chocolate drink mix, and frozen pizza). Repeated exposure to the target ads was found to produce more favorable judgments in this condition alone. From the perspective of the present theorizing, this outcome may have occurred because the common benefit of the three products induced relational processing, whereas the fact that each product. was from a different basic-level product category invited item-specific processing. Thus, the occurrence of both types of processing may have made the distinguishing features of the target products accessible, and repetition might have simply enhanced elaboration of these features, leading to more favorable judgments.

Another limitation of the present research pertains to the particular procedures that were used. The effects of target ad repetition and directly competing ads on responses to only a single target product were examined. The recipients were familiar with this product's category, but they lacked extensive knowledge about it. Further, although the cluttered ad context that was examined was realistic in that it contained ads for many same-category goods, these ads were not embedded in editorial material. Though the null effect of target ad repetition that was observed on judgment replicates the outcome that has been reported in other studies where different products and enriched contexts were used (Burke & Srull, 1988; Rethans et al., 1986), further research might assess how these procedural constants may have affected the impact of repeated message exposure.

Finally, consideration should be given to how the type of processing

prompted by a particular target ad and contextual ad material affects people's choice. Although some research suggests that, like judgment, choice is influenced by the presence of both similar and unique features (Houston & Sherman, 1995), whether the effects observed in this study will generalize to choice remains an empirical question.

Despite these limitations and the questions that require further inquiry, it seems apparent on the basis of the present work that predicting whether target ad repetition will affect judgments requires a consideration of the type of information processing stimulated by the repeated presentation of the persuasive appeal and the context in which the appeal is presented. Persuasion is likely to be greatest when repetition of an ad and its context are complementary in stimulating item-specific and relational processing.

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